



**SOLANO COMMUNITY COLLEGE DISTRICT**

**B300 MODIFICATIONS:  
MAILROOM AND GRAPHICS PROJECT  
DSA #02-117973**

**DSA APPROVED**

**2/4/2020**

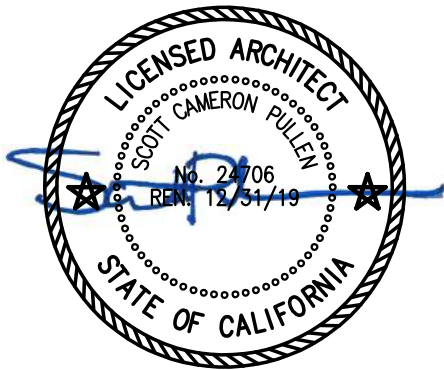
**PROJECT MANUAL**

**PROJECT NUMBER: 20-003**



**SOLANO COMMUNITY COLLEGE**  
**B300 MODIFICATIONS:**  
**MAILROOM AND GRAPHICS PROJECT**  
 4000 SUISUN VALLEY ROAD  
 FAIRFIELD, CA 94534

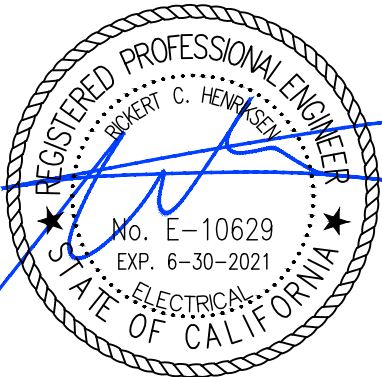
**CONSULTANT STAMPS**



AOR



MEOR



EEOR

IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT

APP. 02-117973    INC:

REVIEWED FOR

SS     DIS     FLS     HES     ACS

DATE: 02/04/20





DOCUMENT 00 01 10

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END OF DOCUMENT

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END OF DOCUMENT



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**LIST OF SCHEDULES**

**BID PHASE SCHEDULE**

- Mandatory Pre-Bid Conference and Site Visit: Thursday, February 20<sup>th</sup>, 2020, 2:00 pm.
- Last date to submit questions: By Monday, February 24<sup>th</sup>, 2020, 2:00 pm.
- Last date to submit Substitution Requests: By Monday, February 24<sup>th</sup>, 2020, 2:00 pm.
- Last addendum will be issued: By Wednesday, February 26<sup>th</sup>, 2020, 2:00 pm.
- Bids Due: By Tuesday, March 3<sup>rd</sup>, 2020, 2:00 pm.
- Mandatory Post Bid Interview: Wednesday, March 4<sup>th</sup>, 2020 at 9:00 am.
- Solano Community College Board of Trustees Approval: Wednesday, March 18<sup>th</sup>, 2020
- Notice of Award: Anticipated by Thursday, March 19<sup>th</sup>, 2020.
- Notice to Proceed: Anticipated by Thursday, March 26<sup>th</sup>, 2020.

**CONSTRUCTION SCHEDULE**

- Project Duration: March 30<sup>th</sup>, 2020 – June 19<sup>th</sup>, 2020 (81 Calendar Days)

END OF DOCUMENT





DOCUMENT 00 11 16

**NOTICE TO BIDDERS**

1. Notice is hereby given that the governing board ("Board") of the Solano Community College District ("District") will receive sealed bids for the following project, **B300 Modifications: Mailroom and Graphics Project, Project No. 20-003**, ("Project" or "Contract"):

2. The Project scope of work includes, but is not limited to:

All labor, materials, equipment, and supplies necessary for the renovation/ conversion of existing spaces in Building 300 into the campus' future mailroom and graphics services area. The project includes the conversion of an organic chemistry lab and adjacent chemistry storage rooms into the new Graphics Services Center. The chemistry prep area will be converted into the campus' Mailroom. Building 300 will be occupied during the duration of the project and all services must be maintained to the building.

Contractor shall include the safe-off of all utilities, including but not limited to all electrical, fire alarm, data, security, and plumbing. The scope of work for this project is further defined in the contract documents. The Contractor will provide and install all security fencing, safety barriers, portable toilets, and debris bins per the contract specifications. Multiple relocations of site fencing/ safety barriers may be required for the completion of this project. All campus pedestrian access shall be maintained and existing buildings shall remain functional during the duration of the project.

3. To bid on this Project, the Bidder is required to possess one or more of the following State of California contractor license(s):

**B – General Building Contractor**

The Bidder's license(s) must remain active and in good standing throughout the term of the Contract.

4. To bid on this Project, the Bidder is required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. The Bidder's and subcontractor's registrations must remain active throughout the term of the Contract.
5. Contract Documents will be available on or after February 6<sup>th</sup>, 2020. Documents can be viewed and downloaded on the Solano College District's website at: <http://www.solano.edu/measureq/vendor.php>
6. Sealed Bids will be received until **2:00 p.m., Tuesday, March 3<sup>rd</sup>, 2020, at Solano Community College, c/o Victoria Lamica, 4000 Suisun Valley Road, Fairfield, California 94534, Building 1103, Bond Conference Room**, at or after which time the bids will be opened and publicly read aloud. Any bid that is submitted after this time shall be non-responsive and returned to the bidder. Any claim by a bidder of error in its bid must be made in compliance with section 5100 et seq. of the Public Contract Code.

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Mailroom and Graphics Project

If mailing, the District suggests delivery one day prior to bid date to allow for sufficient time for receiving, processing and delivery to the appropriate department. **It is each bidder's sole responsibility to ensure its bid is delivered timely and received at the location designated as specified. The District will not be responsible for errors in delivery, including not receiving bids via mail under any circumstance. Any bid received at the designated location after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.**

Bidders choosing to mail bids shall send them to;

**Attn: Victoria Lamica, Director of Purchasing  
B300 Modifications: Mailroom and Graphics Project, Project # 20-003  
4000 Suisun Valley Road, Building 1102  
Fairfield, CA 94534**

7. All pre-bid questions must be submitted in writing to the Project Manager, Noe Ramos, Kitchell, at [noe.ramos@solano.edu](mailto:noe.ramos@solano.edu) . **Pre-bid questions must be submitted on or before 2:00p.m., Monday, February 24<sup>th</sup>, 2020.**
8. All bids shall be on the form provided by the District. Each bid must conform and be responsive to all pertinent Contract Documents, including, but not limited to, the Instructions to Bidders.
9. A bid bond by an admitted surety insurer on the form provided by the District, cash, or a cashier's check or a certified check, drawn to the order of the Solano Community College District, in the amount of ten percent (10%) of the total bid price, shall accompany the Bid Form and Proposal, as a guarantee that the Bidder will, within seven (7) calendar days after the date of the Notice of Award, enter into a contract with the District for the performance of the services as stipulated in the bid.
10. **One mandatory pre-bid conference and site visit will be held on Thursday, February 20<sup>th</sup>, 2020, at 2:00 p.m. at Solano Community College, Building 1103, 4000 Suisun Valley Road, Fairfield, California, a site walk of Building 300 will follow.** All participants are required to sign-in prior to the meeting. Failure to attend or tardiness will render bidder ineligible.
11. The successful Bidder shall be required to furnish a 100% Performance Bond and a 100% Payment Bond if it is awarded the contract for the Work.
12. The successful Bidder may substitute securities for any monies withheld by the District to ensure performance under the Contract, in accordance with the provisions of section 22300 of the Public Contract Code.
13. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to section 1770 et seq. of the California Labor Code. Prevailing wage rates are also available from the District or on the Internet at: <<http://www.dir.ca.gov>>.

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14. This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and subject to the requirements of Title 8 of the California Code of Regulations. The Contractor and all Subcontractors under the Contractor shall furnish electronic certified payroll records directly to the Labor Commissioner weekly and within ten (10) days of any request by the District or the Labor Commissioner. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.
15. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on:
  - A. The total base bid amount only.
16. The Board reserves the right to reject any and all bids and/or waive any irregularity in any bid received. If the District awards the Contract, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

END OF DOCUMENT



DOCUMENT 00 21 13

**INSTRUCTIONS TO BIDDERS**

Bidders shall follow the instructions in this document, and shall submit all documents, forms, and information required for consideration of a Bid.

Solano Community College District ("District") will evaluate information submitted by the apparent low Bidder and, if incomplete or unsatisfactory to District, Bidder's bid may be rejected at the sole discretion of District.

1. Bids are requested for a general construction contract, or work described in general, for the following project ("Project" or "Contract"):  
  
B300 Modifications: Mailroom and Graphics Project
2. Bidder and its subcontractors must possess the appropriate State of California contractors' license and must maintain the license throughout the duration of the project. Bidders must also be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. Bids submitted by a contractor who is not properly licensed or registered shall be deemed nonresponsive and will not be considered.
3. District will receive sealed bids from bidders as stipulated in the Notice to Bidders.
  - a. All bids must be sealed in an envelope, marked with the name and address of the Bidder, name of the Project, the Project Number, and time of bid opening.
  - b. Bids must be submitted to **Solano Community College, c/o Victoria Lamica, 4000 Suisun Valley Road, Fairfield California 94534, Building 1103, Bond Conference Room** by date and time shown in the Notice to Bidders.
  - c. Bids must contain all documents as required herein.
4. Bidders are advised that on the date that bids are opened, telephones will not be available at the District Offices for use by bidders or their representatives.
5. Bids will be opened at or after the time indicated for receipt of bids.
6. Bidders must submit Bids on the documents titled Bid Form and Proposal, and must submit all other required District forms. Bids not submitted on the District's required forms shall be deemed nonresponsive and shall not be considered. Additional sheets required to fully respond to requested information are permissible.
7. Bidders shall not modify the Bid Form and Proposal or qualify their bids. Bidders shall not submit to the District a re-formatted, re-typed, altered, modified, or otherwise recreated version of the Bid Form and Proposal or other District-provided document.

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8. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.
9. Bidders must supply all information required by each Bid Document. Bids must be full and complete. District reserves the right in its sole discretion to reject any Bid as non-responsive as a result of any error or omission in the Bid. Bidders must complete and submit all of the following documents with the Bid Form and Proposal:
  - a. Bid Bond on the District's form, or other security. Specification Section 00 43 13.
  - b. Designated Subcontractors List. Specification Section 00 43 36.
  - c. Site Visit Certification. Specification Section 00 45 01
  - d. Non-Collusion Declaration. Specification Section 00 45 19
10. Bidders must submit with their Bids cash, a cashier's check or a certified check payable to District, or a bid bond by an admitted surety insurer of not less than ten percent (10%) of amount of Base Bid, plus all additive alternates ("Bid Bond"). If Bidder chooses to provide a Bid Bond as security, Bidder must use the required form of corporate surety provided by District. The Surety on Bidder's Bid Bond must be an insurer admitted in the State of California and authorized to issue surety bonds in the State of California. Bids submitted without necessary bid security will be deemed non-responsive and will not be considered.
11. If Bidder to whom the Contract is awarded fails or neglects to enter into the Contract and submit required bonds, insurance certificates, and all other required documents, within **SEVEN (7)** calendar days after the date of the Notice of Award, District may deposit Bid Bond, cash, cashier's check, or certified check for collection, and proceeds thereof may be retained by District as liquidated damages for failure of Bidder to enter into Contract, in the sole discretion of District. It is agreed that calculation of damages District may suffer as a result of Bidder's failure to enter into the Contract would be extremely difficult and impractical to determine and that the amount of the Bidder's required bid security shall be the agreed and conclusively presumed amount of damages.
12. Bidders must submit with the Bid the Designated Subcontractors List for those subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of total Bid. Failure to submit this list when required by law shall result in bid being deemed nonresponsive and the bid will not be considered.
13. All of the listed subcontractors are required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
  - a. An inadvertent error in listing the California contractor license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.

- b. An inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
  - (1) The subcontractor is registered prior to the bid opening.
  - (2) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
  - (3) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
  
- 14. A mandatory pre-bid conference and site visit ("Site Visit") is required as referenced in the Notice to Bidders. Bidders must submit the Site-Visit Certification with their Bid. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions arising at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.
  
- 15. Bidders shall submit the Non-Collusion Declaration with their Bids. Bids submitted without the Non-Collusion Declaration shall be deemed non-responsive and will not be considered.
  
- 16. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the Department of Industrial Relations, are available upon request at the District's principal office. Prevailing wage rates are also available on the internet at <http://www.dir.ca.gov>.
  
- 17. Submission of Bid signifies careful examination of Contract Documents and complete understanding of the nature, extent, and location of Work to be performed. Bidders must complete the tasks listed below as a condition to bidding, and submission of a Bid shall constitute the Bidder's express representation to District that Bidder has fully completed the following:
  - a. Bidder has visited the Site, and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and all local conditions and federal, state and local laws, and regulations that in any manner may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto;
  
  - b. Bidder has conducted or obtained and has understood all examinations, investigations, explorations, tests, reports, and studies that pertain to the

subsurface conditions, as-built conditions, underground facilities, and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance, or furnishing of Work, as Bidder considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time, and in accordance with the other terms and conditions of Contract Documents, including specifically the provisions of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by Bidder for such purposes;

- c. Bidder has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents;
- d. Bidder has given the District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the actual conditions, and the written resolution(s) thereof by the District, is/are acceptable to Bidder;
- e. Bidder has made a complete disclosure in writing to the District of all facts bearing upon any possible interest, direct or indirect, that Bidder believes any representative of the District or other officer or employee of the District presently has or will have in this Contract or in the performance thereof or in any portion of the profits thereof;
- f. Bidder must, prior to bidding, perform the work, investigations, research, and analysis required by this document and that Bidder represented in its Bid Form and Proposal and the Agreement that it performed prior to bidding. Contractor under this Contract is charged with all information and knowledge that a reasonable bidder would ascertain from having performed this required work, investigation, research, and analysis. Bid prices must include entire cost of all work "incidental" to completion of the Work.
- g. Conditions Shown on the Contract Documents: Information as to underground conditions, as-built conditions, or other conditions or obstructions, indicated in the Contract Documents, e.g., on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. However, District only warrants, and Bidder may only rely, on the accuracy of limited types of information.
  - (1) As to above-ground conditions or as-built conditions shown or indicated in the Contract Documents, there is no warranty, express or implied, or any representation express or implied, that such information is correctly shown or indicated. This information is verifiable by independent investigation and Bidder is required to make such verification as a condition to bidding. In submitting its Bid, Bidder shall rely on the results of its own independent investigation. In submitting its Bid, Bidder shall not rely on District-supplied information regarding above-ground conditions or as-built conditions.
  - (2) As to any subsurface condition shown or indicated in the Contract Documents, Bidder may rely only upon the general accuracy of actual



reported locations, actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated. District is not responsible for the completeness of such information for bidding or construction; nor is District responsible in any way for any conclusions or opinions that the Bidder has drawn from such information; nor is the District responsible for subsurface conditions that are not specifically shown (for example, District is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown).

- h. Conditions Shown in Reports and Drawings Supplied for Informational Purposes: Reference is made to the document entitled Geotechnical Evaluation and Geological Hazard Assessment, and the documents listed as Reference Documents (such as as-builts and existing conditions), for identification of:
- (1) Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that have been utilized by Architect in preparing the Contract Documents; and
  - (2) Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that has been utilized by Architect in preparing the Contract Documents.
  - (3) These reports and drawings are **not** Contract Documents and, except for any "technical" data regarding subsurface conditions specifically identified in Geotechnical Data and Existing Conditions, and underground facilities data, Bidder may not in any manner rely on the information in these reports and drawings. Subject to the foregoing, Bidder must make its own independent investigation of all conditions affecting the Work and must not rely on information provided by District.
18. Bids shall be based on products and systems specified in Contract Documents or listed by name in Addenda. Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Bidder may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified. The District is not responsible and/or liable in any way for a Contractor's damages and/or claims related, in any way, to that Contractor's basing its bid on any requested substitution that the District has not approved in advance and in writing. Contractors and materials suppliers who submit requests for substitutions prior to the award of the Contract must do so in writing and in compliance with Public Contract Code section 3400. All requests must comply with the following:
- a. District must receive any notice of request for substitution of a specified item a minimum of **TEN (10)** calendar days prior to bid opening. The Successful Bidder will not be allowed to substitute specified items unless properly noticed.

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B300 Modifications:  
Mailroom and Graphics Project

- b. Within 35 days after the date of the Notice of Award, the Successful Bidder shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the Specifications. Insufficient information shall be grounds for rejection of substitution.
  - c. Approved substitutions, if any, shall be listed in Addenda. District reserves the right not to act upon submittals of substitutions until after bid opening.
  - d. Substitutions may be requested after Contract has been awarded only if indicated in and in accordance with requirements specified in the Special Conditions and the Specifications.
19. Available "as-built" drawings of previous work have been included as Reference Documents. District will not be responsible for accuracy of "as-built" drawings. The documents entitled Existing Conditions applies to all supplied "as-built" drawings.
20. All questions about the meaning or intent of the Contract Documents are to be directed via email to Noe Ramos, [noe.ramos@solano.edu](mailto:noe.ramos@solano.edu) . Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and emailed to all parties recorded by the District as having received the Contract Documents and posted on the District's website at <http://www.solano.edu/measureq/vendor.php> . Questions received less than **TEN (10)** calendar days prior to the date for opening Bids will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
21. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.
22. Each Bidder must acknowledge each Addendum in its Bid Form and Proposal by number or its Bid shall be considered non-responsive. Each Addendum shall be part of the Contract Documents. A complete listing of Addenda may be secured from the District.
23. This Contract may include alternates. Alternates are defined as alternate products, materials, equipment, systems, methods, or major elements of the construction that may, at the District's option and under terms established in the Contract and pursuant to section 20103.8 of the Public Contract Code, be selected for the Work.
24. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on the criteria as indicated in the Notice to Bidders. In the event two or more responsible bidders submit identical bids, the District shall select the Bidder to whom to award the Contract by lot.
25. Time for Completion: District may issue a Notice to Proceed within **NINETY (90) days** from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.

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- a. In the event that the District desires to postpone issuing the Notice to Proceed beyond this 90-day period, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed.
  - b. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed beyond a 90-day period. If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to the Contractor, the Contractor may terminate the Contract. Contractor's termination due to a postponement beyond this 90-day period shall be by written notice to District within **TEN (10)** calendar days after receipt by Contractor of District's notice of postponement.
  - c. It is further understood by the Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement and which the District had in writing authorized Contractor to perform prior to issuing a Notice to Proceed.
  - d. Should the Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.
26. The Bidder to whom Contract is awarded shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award. Failure to properly and timely submit these documents entitles District to reject the bid as non-responsive.
- a. Agreement: To be executed by successful Bidder. Submit three (3) copies, each bearing an original signature.
  - b. Escrow of Bid Documentation: This must include all required documentation. See the document titled Escrow Bid Documentation for more information.
  - c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
  - d. Payment Bond (Contractor's Labor and Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
  - e. Insurance Certificates and Endorsements as required.
  - f. Workers' Compensation Certification.
  - g. Prevailing Wage and Related Labor Requirements Certification.
  - h. Drug-Free Workplace Certification.

- i. Tobacco-Free Environment Certification.
  - j. Hazardous Materials Certification.
  - k. Lead-Based Materials Certification.
  - l. Sex Offender Registration Act Certification.
  - m. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.
27. Any bid protest by any Bidder regarding any other bid must be submitted in writing to the District, before 5:00 p.m. of the **THIRD (3rd)** business day following bid opening.
- a. Only a Bidder who has actually submitted a bid, and who could be awarded the Contract if the bid protest is upheld, is eligible to submit a bid protest. Subcontractors are not eligible to submit bid protests. A Bidder may not rely on the bid protest submitted by another Bidder.
  - b. A bid protest must contain a complete statement of any and all bases for the protest and all supporting documentation. Materials submitted after the bid protest deadline will not be considered.
  - c. The protest must refer to the specific portions of all documents that form the basis for the protest.
    - (1) Without limitation to any other basis for protest, an inadvertent error in listing the California contractor's license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
    - (2) Without limitation to any other basis for protest, an inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
      - (i) The subcontractor is registered prior to the bid opening.
      - (ii) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
      - (iii) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
  - d. The protest must include the name, address and telephone number of the person representing the protesting party.

- e. The party filing the protest must concurrently transmit a copy of the protest and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
  - f. The procedure and time limits set forth in this paragraph are mandatory and are each bidder's sole and exclusive remedy in the event of bid protest. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.
28. District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional bids, to re-bid, and to reject the bid of any bidder if District believes that it would not be in the best interest of the District to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by District. District also reserves the right to waive any inconsequential deviations or irregularities in any bid. For purposes of this paragraph, an "unbalanced bid" is one having nominal prices for some work items and/or enhanced prices for other work items.
29. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of figures or numerals.
30. It is the policy of the District that no qualified person shall be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract, based on race, color, gender, sexual orientation, political affiliation, age, ancestry, religion, marital status, national origin, medical condition or disability. The Successful Bidder and its subcontractors shall comply with applicable federal and state laws, including, but not limited to the California Fair Employment and Housing Act, beginning with Government Code section 12900, and Labor Code section 1735.
31. Prior to the award of Contract, District reserves the right to consider the responsibility of the Bidder. District may conduct investigations as District deems necessary to assist in the evaluation of any bid and to establish the responsibility, including, without limitation, qualifications and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to District's satisfaction within the prescribed time.

END OF DOCUMENT



DOCUMENT 00 31 19

**EXISTING CONDITIONS**

**1. Summary**

This document describes existing conditions at or near the Project, and use of information available regarding existing conditions. This document is **not** part of the Contract Documents. See General Conditions for definition(s) of terms used herein.

**2. Reports and Information on Existing Conditions**

- a. Documents providing a general description of the Site and conditions of the Work may have been collected by Solano Community College District ("District"), its consultants, contractors, and tenants. These documents may, but are not required to, include previous contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding underground facilities.
- b. Information regarding existing conditions is included in this Request for Bid as Reference Documents. These reports, documents, and other information are **not** part of the Contract Documents. These reports, documents, and other information do **not** excuse Contractor from fulfilling Contractor's obligation to independently investigate any or all existing conditions or from using reasonable prudent measures to avoid damaging existing improvements.
- c. Prior to commencing this Work, Contractor with the District's representative shall survey the Site, to document the condition of the Site. Contractor will record the survey in digital video format and provide an electronic copy to the District within fourteen (14) days of the survey.
- d. Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.
- e. The reports and other data or information regarding existing conditions and underground facilities at or contiguous to the Project are the following, and are included as Reference Documents:
  - (1) Not Applicable

**3. Use of Information**

- a. Information regarding existing conditions was obtained only for use of District and its consultants for planning and design and is **not** part of the Contract Documents.
- b. District does not warrant, and makes no representation regarding, the accuracy or thoroughness of any information regarding existing conditions. Bidder represents and agrees that in submitting a bid it is not relying on any information regarding existing conditions supplied by District.

- c. Under no circumstances shall District be deemed to warrant or represent existing above-ground conditions, as-built conditions, or other actual conditions, verifiable by independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform as a condition to bidding and Bidder should not and shall not rely on this information or any other information supplied by District regarding existing conditions.
- d. Any information shown or indicated in the reports and other data supplied herein with respect to existing underground facilities at or contiguous to the Project may be based upon information and data furnished to District by the District's employees and/or consultants or builders of such underground facilities or others. District does not assume responsibility for the completeness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information.
- e. District shall be responsible only for the general accuracy of information regarding underground facilities, and only for those underground facilities that are owned by District, and only where Bidder has conducted the independent investigation required of it pursuant to the Instructions to Bidders, and discrepancies are not apparent.

#### **4. Investigations/Site Examinations**

- a. Before submitting a Bid, each Bidder is responsible for conducting or obtaining any additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the Site or otherwise, that may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or that Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of Contract Documents.
- b. On request, District will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as each Bidder deems necessary for submission of a Bid. Bidders must fill all holes and clean up and restore the Site to its former condition upon completion of its explorations, investigations, tests, and studies. Such investigations and Site examinations may be performed during any and all Site visits indicated in the Notice to Bidders and only under the provisions of the Contract Documents, including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such work, and District's prior approval.

END OF DOCUMENT



DOCUMENT 00 41 13  
**BID FORM AND PROPOSAL**

To: Solano Community College District ("District" or "Owner")

From: \_\_\_\_\_  
(Proper Name of Bidder)

The undersigned declares that Bidder has read and understands the Contract Documents, including, without limitation, the Notice to Bidders and the Instructions to Bidders, and agrees and proposes to furnish all necessary labor, materials, and equipment to perform and furnish all work in accordance with the terms and conditions of the Contract Documents, including, without limitation, the Drawings and Specifications of **Bid No. 20-003**,

PROJECT: **B300 Modifications: Mailroom and Graphics Project**

("Project" or "Contract") and will accept in full payment for that Work the following total lump sum amount, all taxes included:

<p>_____ Dollars      \$ _____</p> <p><b><i>TOTAL BASE BID</i></b></p>
--

1. The undersigned has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this Proposal, understands the construction and project management function(s) is described in the Contract Documents, and that each Bidder who is awarded a contract shall be in fact a prime contractor, not a subcontractor, to the District, and agrees that its Proposal, if accepted by the District, will be the basis for the Bidder to enter into a contract with the District in accordance with the intent of the Contract Documents.
2. The undersigned has notified the District in writing of any discrepancies or omissions or of any doubt, questions, or ambiguities about the meaning of any of the Contract Documents, and has contacted the Construction Manager before bid date to verify the issuance of any clarifying Addenda.
3. The undersigned agrees to commence work under this Contract on the date established in the Contract Documents and to complete all work within the time specified in the Contract Documents.
4. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
5. It is understood that the District reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of ninety (90) days.
6. The following documents are attached hereto:

- Bid Bond on the District's form or other security
- Designated Subcontractors List
- Site Visit Certification
- Non-Collusion Declaration

7. Receipt and acceptance of the following Addenda is hereby acknowledged:

No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____

8. Bidder acknowledges that the license required for performance of the Work is a;

**B-General Building Contractor license.**

9. The undersigned hereby certifies that Bidder is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.
10. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with all requirements of the Department of Industrial Relations (DIR).
11. The Bidder represents that it is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the Work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the Work that may create, during the Work, unusual or peculiar unsafe conditions hazardous to persons and property.
12. Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the Work with respect to such hazards.
13. Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Gov. Code, § 12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the Contractor may be subject to criminal prosecution.
14. The undersigned Bidder certifies that it is, at the time of bidding, and shall be throughout the period of the Contract, licensed by the State of California to do the type of work required under the terms of the Contract Documents and registered as a public works contractor with the Department of Industrial Relations. Bidder further certifies that it is regularly engaged in the general class and type of work called for in

the Contract Documents.

Furthermore, Bidder hereby certifies to the District that all representations, certifications, and statements made by Bidder, as set forth in this bid form, are true and correct and are made under penalty of perjury.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_

Name of Bidder: \_\_\_\_\_

Type of Organization: \_\_\_\_\_

Signed by: \_\_\_\_\_

Title of Signer: \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Taxpayer Identification No. of Bidder: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail: \_\_\_\_\_ Web Page: \_\_\_\_\_

Contractor's License No(s): No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

No.: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Public Works Contractor Registration No.: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 43 13

**BID BOND**

**(Note: If Bidder is providing a bid bond as its bid security, Bidder must use this form, NOT a surety company form.)**

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned, \_\_\_\_\_, as Principal ("Principal"),  
and, \_\_\_\_\_, as Surety ("Surety"), a  
corporation organized and existing under and by virtue of the laws of the State of \_\_\_\_\_ and  
authorized to do business as a surety in the State of California, are held and firmly bound  
unto the Solano Community College District ("District") of Solano County, State of  
California, as Obligee, in an amount equal to ten percent (10%) of the Base Bid plus  
alternates, in the sum of

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

lawful money of the United States of America, for the payment of which sum well and truly  
to be made, we, and each of us, bind ourselves, our heirs, executors, administrators,  
successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted a  
bid to the District for all Work specifically described in the accompanying bid for the  
following project: B300 Modifications: Mailroom and Graphics Project ("Project" or  
"Contract").

NOW, THEREFORE, if the Principal is awarded the Contract and, within the time and manner  
required under the Contract Documents, after the prescribed forms are presented to  
Principal for signature, enters into a written contract, in the prescribed form in accordance  
with the bid, and files two bonds, one guaranteeing faithful performance and the other  
guaranteeing payment for labor and materials as required by law, and meets all other  
conditions to the Contract between the Principal and the District becoming effective, or if  
the Principal shall fully reimburse and save harmless the District from any damage  
sustained by the District through failure of the Principal to enter into the written contract  
and to file the required performance and labor and material bonds, and to meet all other  
conditions to the Contract between the Principal and the District becoming effective, then  
this obligation shall be null and void; otherwise, it shall be and remain in full force and  
effect. The full payment of the sum stated above shall be due immediately if Principal fails  
to execute the Contract within seven (7) days of the date of the District's Notice of Award to  
Principal.

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, or to the work to be  
performed thereunder, or the specifications accompanying the same, shall in any way affect  
its obligation under this bond, and it does hereby waive notice of any such change,  
extension of time, alteration or addition to the terms of the Contract or the call for bids, or  
to the work, or to the specifications.

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B300 Modifications:  
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In the event suit is brought upon this bond by the District and judgment is recovered, the Surety shall pay all costs incurred by the District in such suit, including a reasonable attorneys' fee to be fixed by the Court.

If the District awards the bid, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
By

\_\_\_\_\_  
Surety

\_\_\_\_\_  
By

\_\_\_\_\_  
Name of California Agent of Surety

\_\_\_\_\_  
Address of California Agent of Surety

\_\_\_\_\_  
Telephone Number of California Agent of Surety

**Bidder must attach Power of Attorney and Certificate of Authority for Surety and a Notarial Acknowledgment for all Surety's signatures. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.**

END OF DOCUMENT

DOCUMENT 00 43 36

**DESIGNATED SUBCONTRACTORS LIST**  
**(Public Contract Code Sections 4100-4114)**

PROJECT: B300 Modifications: Mailroom and Graphics Project

Bidder acknowledges and agrees that it must clearly set forth below the name, location and California contractor license number of each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the Work or who will specially fabricate and install a portion of the Work according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent (0.5%) of Bidder's total Base Bid and the kind of Work that each will perform. Vendors or suppliers of materials only do not need to be listed.

Bidder acknowledges and agrees that, if Bidder fails to list as to any portion of Work, or if Bidder lists more than one subcontractor to perform the same portion of Work, Bidder must perform that portion itself or be subjected to penalty under applicable law. In case more than one subcontractor is named for the same kind of Work, state the portion of the kind of Work that each subcontractor will perform.

If alternate bid(s) is/are called for and Bidder intends to use subcontractors different from or in addition to those subcontractors listed for work under the Base Bid, Bidder must list subcontractors that will perform Work in an amount in excess of one half of one percent (0.5%) of Bidder's total Base Bid, plus alternate(s).

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Solano Community College**

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**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

CA Cont. Lic. #: \_\_\_\_\_ Location: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

Date: \_\_\_\_\_

Proper Name of Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 45 01

**SITE VISIT CERTIFICATION**

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

PROJECT: B300 Modifications: Mailroom and Graphics Project

Check option that applies:

\_\_\_\_\_ I certify that I visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

\_\_\_\_\_ I certify that \_\_\_\_\_ (Bidder's representative) visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

Bidder fully indemnifies the Solano Community College District, its Architect, its Engineer, its Construction Manager, and all of their respective officers, agents, employees, and consultants from any damage, or omissions, related to conditions that could have been identified during my visit and/or the Bidder's representative's visit to the Site.

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

Date: \_\_\_\_\_

Proper Name of Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 45 19

**NON-COLLUSION DECLARATION**  
**(Public Contract Code Section 7106)**

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.  
[Title] [Name of Firm]

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_,  
[Date]

at \_\_\_\_\_, \_\_\_\_\_.  
[City] [State]

Date: \_\_\_\_\_

Proper Name of Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 45 26

**WORKERS' COMPENSATION CERTIFICATION**

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 between the Solano Community College District ("District") and \_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

Labor Code section 3700, in relevant part, 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 by one or more insurers duly authorized to write compensation insurance in this state; and/or
- b. By securing from the Director of Industrial Relations a certificate of consent to self-insure, 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 employees.

I am aware of the provisions of section 3700 of the Labor Code which 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 the Work of this Contract.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

(In accordance with Labor Code sections 1860 and 1861, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

END OF DOCUMENT



DOCUMENT 00 45 46. 01

**PREVAILING WAGE AND  
RELATED LABOR REQUIREMENTS CERTIFICATION**

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 between the Solano Community College District ("District") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

Date: \_\_\_\_\_  
Proper Name of Contractor: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Title: \_\_\_\_\_

END OF DOCUMENT





DOCUMENT 00 45 46.03

**DRUG-FREE WORKPLACE CERTIFICATION**

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 between the Solano Community College District ("District") and \_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and community college district under California law and requires all contractors on District projects to comply with the provisions and requirements of the Drug-Free Workplace Act of 1990.

Contractor shall certify that it will provide a drug-free workplace 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 the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.
- b. Establishing a drug-free awareness program to inform employees about all of the following:
  - (1) The dangers of drug abuse in the workplace.
  - (2) The person's or organization's policy of maintaining a drug-free workplace.
  - (3) The availability of drug counseling, rehabilitation, and employee-assistance programs.
  - (4) The penalties that may be imposed upon employees for drug abuse violations.
- c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

DOCUMENT 00 45 46.04

**TOBACCO-FREE ENVIRONMENT CERTIFICATION**

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 between the Solano Community College District ("District") and \_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C. section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq., and District Board policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to use tobacco and/or smoke on the Project site.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 45 46.05

**HAZARDOUS MATERIALS CERTIFICATION**

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 between the Solano Community College District ("District") and \_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

1. Contractor hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations, ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.
2. Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.
3. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.
4. Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.
5. All Work or materials found to be "New Hazardous Material" or Work or material installed with equipment containing "New Hazardous Material" will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.
6. Contractor has read and understood the document titled Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein. Contractor certifies that it is knowledgeable of, and shall comply with, all laws applicable to the Work, including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 45 46.06

**LEAD-BASED MATERIALS CERTIFICATION**

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 between the Solano Community College District ("District") and \_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

This certification provides notice to the Contractor that:

- (1) Contractor's work may disturb lead-containing building materials.
- (2) Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.
- (3) Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

**1. Lead as a Health Hazard**

Lead poisoning is recognized as a serious environmental health hazard facing children today. Even at low levels of exposure, much lower than previously believed, lead can impair the development of a child's central nervous system, causing learning disabilities, and leading to serious behavioral problems. Lead enters the environment as tiny lead particles and lead dust disburse when paint chips, chalks, peels, wears away over time, or is otherwise disturbed. Ingestion of lead dust is the most common pathway of childhood poisoning; lead dust gets on a child's hands and toys and then into a child's mouth through common hand-to-mouth activity. Exposures may result from construction or remodeling activities that disturb lead paint, from ordinary wear and tear of windows and doors, or from friction on other surfaces.

Ordinary construction and renovation or repainting activities carried out without lead-safe work practices can disturb lead-based paint and create significant hazards. Improper removal practices, such as dry scraping, sanding, or water blasting painted surfaces, are likely to generate high volumes of lead dust.

Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, CONTRACTOR IS HEREBY NOTIFIED of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1978 are presumed to contain some lead-based paint until sampling proves otherwise.

**2. Overview of Law**

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

The OSHA Regulations apply to all construction work where a contractor's employee may be occupationally exposed to lead. The OSHA Regulations contain specific and detailed requirements imposed on contractors subject to those regulations. The OSHA Regulations define construction work as work for construction, alteration, and/or repair, including painting and decorating. Regulated construction work includes, but is not limited to, the following:

- a. Demolition or salvage of structures where lead or materials containing lead are present;
- b. Removal or encapsulation of materials containing lead;
- c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- d. Installation of products containing lead;
- e. Lead contamination/emergency cleanup;
- f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and
- g. Maintenance operations associated with the construction activities described in the subsection.

Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (including title 8, California Code of Regulations, section 1532.1).

**Contractor shall notify the District if any Work may result in the disturbance of lead-containing building materials. Any and all Work that may result in the disturbance of lead-containing building materials shall be coordinated through the District. A signed copy of this Certification shall be on file prior to beginning Work on the Project, along with all current insurance certificates.**

**3. Renovation, Repair and Painting Rule, Section 402(c)(3) of the Toxic Substances Control Act**

The EPA requires lead safe work practices to reduce exposure to lead hazards created by renovation, repair and painting activities that disturb lead-based paint. Pursuant to the Renovation, Repair and Painting Rule (RRP), renovations in homes, childcare facilities, and schools built prior to 1978 must be conducted by certified renovations firms, using renovators with training by a EPA-accredited training provider, and fully and adequately complying with all applicable laws, rules and regulations governing lead-based materials, including those rules and regulations appearing within title 40 of the Code of Federal Regulations as part 745 (40 CFR 745).

The RRP requirements apply to all contractors who disturb lead-based paint in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors. If



a DPH-certified inspector or risk assessor determines that a home constructed before 1978 is lead-free, the federal certification is not required for anyone working on that particular building.

**4. Contractor's Liability**

If the Contractor fails to comply with any applicable laws, rules, or regulations, and that failure results in a site or worker contamination, the Contractor will be held solely responsible for all costs involved in any required corrective actions, and shall defend, indemnify, and hold harmless the District, pursuant to the indemnification provisions of the Contract, for all damages and other claims arising therefrom.

If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations, licenses, and training shall conduct this Work.

It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including, but not limited to, paint chips, any collected residue, or any other visual material that may occur from the prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be registered with the Department of Transportation (DOT) and shall be able to issue a current manifest number upon transporting any hazardous material from any school site within the District.

The Contractor shall provide the District with any sample results prior to beginning Work, during the Work, and after the completion of the Work. The District may request to examine, prior to the commencement of the Work, the lead training records of each employee of the Contractor.

THE CONTRACTOR HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;
2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 45 46.08

**SEX OFFENDER REGISTRATION ACT CERTIFICATION**

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 between the Solano Community College District ("District") and \_\_\_\_\_ ("Contractor" or "Bidder") ("Contract" or "Project").

This certification provides notice to the Contractor that:

- Penal Code section 290.001 requires every person required to register pursuant to sections 290 to 290.009, inclusive, of the Sex Offender Registration Act who is carrying on a vocation at the community college for more than fourteen (14) days, or for an aggregate period exceeding thirty (30) days in a calendar year, shall, in addition to the registration required by the Sex Offender Registration Act, register with the campus police department within five (5) working days of commencing employment at that community college on a form as may be required by the Department of Justice. The terms "employed or carries on a vocation" include employment whether or not financially compensated, volunteered, or performed for government or educational benefit.
- If the community college has no campus police department, the registrant shall instead register with the police of the city in which the campus is located or the sheriff of the county in which the campus is located if the campus is located in an unincorporated area or in a city that has no police department, on a form as may be required by the Department of Justice.
- The registrant shall also notify the campus police department within five (5) working days of ceasing to be employed, or ceasing to carry on a vocation, at the community college.

Contractor hereby acknowledges, under penalty of perjury, that it is aware of the provisions of section 290.001 of the Penal Code, and it will provide notice of the above provisions to all of its employees, subcontractors, and employees of subcontractors regardless of whether they are designated as employees or acting as independent contractors of the Contractor at least five (5) working days before commencing the performance of the Work of this Contract.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 45 49

**REGISTERED SUBCONTRACTORS LIST**  
**(Labor Code Section 1771.1)**

PROJECT: B300 Modifications: Mailroom and Graphics Project

Date Submitted (for Updates): \_\_\_\_\_

Contractor acknowledges and agrees that it must clearly set forth below the name and Department of Industrial Relations (DIR) registration number of each subcontractor **for all tiers** who will perform work or labor or render service to Contractor or its subcontractors in or about the construction of the Work **at least two (2) weeks before the subcontractor is scheduled to perform work**. This document is to be updated as all tiers of subcontractors are identified.

Contractor acknowledges and agrees that, if Contractor fails to list as to any subcontractor of any tier who performs any portion of Work, the Contract is subject to cancellation and the Contractor will be subjected to penalty under applicable law.

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

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**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Portion of Work: \_\_\_\_\_

**Subcontractor Name:** \_\_\_\_\_

DIR Registration #: \_\_\_\_\_

Date: \_\_\_\_\_

Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT

DOCUMENT 00 45 90

POST BID INTERVIEW

## **PART 1 – GENERAL**

### **1.01 SUMMARY**

If requested by the District, this Section requires the apparent low bidder to attend and participate in a Post Bid Interview with the Construction Manager, prior to award of any contract by the District. The Post Bid Interview will be scheduled by the Construction Manager within three (3) calendar days after the date of bid.

### **1.02 REQUIRED ATTENDANCE**

- A. A duly authorized representative of the apparent low bidder is required to attend the Post Bid Interview, in person.
- B. The apparent low bidder's authorized representative must have signatory authority on behalf of the apparent low bidder.
- C. Failure to attend the Post Bid Interview will be considered just cause for the District to reject the Bid.

### **1.03 POST BID INTERVIEW PROCEDURE**

- A. The Construction Manager will review the Bid with the attendees.
- B. The Construction Manager will review the Contract Documents with the attendees, including but not limited to:
  - (1) Insurance
  - (2) Bonding
  - (3) Addenda
  - (4) Pre-Bid Clarifications
  - (5) Scope of Work
  - (6) Bid Packages Descriptions
  - (7) Bid Alternates
  - (8) Contract Plans
  - (9) Contract Specifications
  - (10) Project Schedule and Schedule Requirements
  - (11) Prevailing Wage Requirements

- (12) Liquidated Damages
- (13) Required Documentation for Contract Administration
- (14) Contract Coordination Requirements

**1.04 POST BID INTERVIEW DOCUMENTATION**

The Construction Manager will document the Post Bid Interview on the form attached to this Section. Both the apparent low bidder and the Construction Manager are required to sign the Post Bid Interview Documentation.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]



**POST BID INTERVIEW**

**CONSTRUCTION MANAGER**

[Name]

[Address 1]

[Address 2]

[Phone]

[Fax]

BIDDER: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ PHONE: \_\_\_\_\_

I. INTRODUCTIONS:

A. Present

\_\_\_\_\_

CONTRACTOR

\_\_\_\_\_

CONTRACTOR

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[CM]

\_\_\_\_\_

[CM]

II. PROPOSED CONTRACT:

III. PURPOSE OF INTERVIEW IS TO ASSURE A MUTUAL UNDERSTANDING OF THE FOLLOWING:

A. Do you acknowledge submission of a complete and accurate bid? Yes No

B. Do you acknowledge the Bid Document submittal timelines after NOA and NTP and can you meet those timelines? Yes No

C. Do you acknowledge the requirements for the escrow of bid documents? Yes No

D. Are you comfortable with your listed subcontractors? Yes No

IV. CONTRACTUAL REQUIREMENTS:

A. Do you understand you are a prime contractor? Yes No

B. Can you meet specified insurance requirements? Yes No

1. Do any of your policies that require Additional Insured endorsements exceed the minimum coverage requirements? Yes No

2. Are you requesting that the District accept an Umbrella or Excess Liability Insurance Policy to meet the policy limit? Yes No

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- 3. Will there be a gap between the per occurrence amount of any underlying policy and the start of the coverage under the Umbrella or Excess Liability Insurance Policy? Yes No
- C. Will you provide the Performance Bond and Labor and Material Bond for 100% of the Contract Price as stipulated? Yes No
  - 1. Cost for bond: \_\_\_\_\_% Yes No
  - 2. Is the cost of your bond in your base bid? Yes No
  - 3. Is your surety licensed to issue bonds in California? Yes No
- D. Do you understand the sex offender registration requirements? Yes No
- E. Is it understood that all workers must be paid prevailing wage? Yes No
- F. Is it understood that all subcontractors of every tier must be registered as a public works contractor with the Department of Industrial Relations Yes No
- V. SCOPE OF WORK:
  - A. Acknowledged Receipt of Addenda #1-\_\_\_ Yes No
  - B. Are the costs for addenda items included in your bid? (if applicable) Yes No
  - C. Do you have a complete understanding of your Scope of Work under the proposed Agreement? Yes No
  - D. You have re-reviewed the documents and understand the Scope of the Work. Are there any items that require clarification? Yes No

If yes, please identify them.

- 1. \_\_\_\_\_  
\_\_\_\_\_
- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
\_\_\_\_\_

Is (are) there additional cost(s) for the above item(s)? Yes No

- E. Have you reviewed bid alternative(s) #1-\_\_\_\_? (If applicable) Yes No
- F. Are the costs for bid alternatives included in your bid? Yes No
- G. Are the plans and specifications clear and understandable to your satisfaction? Yes No
- H. Do you acknowledge that the time to submit notice of requests for substitution of specified materials has expired? Yes No

VI. SCHEDULE:

- A. Do you acknowledge and agree to the stipulated completion dates and milestones in the contract? Yes No
  - 1. Will you provide a detailed construction schedule to \_\_\_\_\_ within the required ten (10) days of the Notice to Proceed, per the contract? Yes No
  - 2. Can you meet the submittal deadline? Yes No
  - 3. It is understood that the Project schedule is critical and that that weekend and overtime work may be required to meet the milestones. Yes No
  - 4. It is understood that if rain does occur, then all dewatering and protection of work is required, per the contract. Yes No  
If not, what do you believe must change and why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- B. Identify critical materials, deliveries, long lead items and other dependencies, including Owner Furnished items that could affect the completion of your work. Yes No
  - 1. \_\_\_\_\_
  - 2. \_\_\_\_\_
  - 3. \_\_\_\_\_
  - 4. \_\_\_\_\_
  - 5. \_\_\_\_\_

- C. Do you understand that there is going to be maintenance and other construction taking place on site during the course of the Yes No

project?

VII. EXECUTION OF WORK

- A. Do you understand the access to the site? Yes No
- B. Do you understand the staging area restrictions? Yes No
- C. Have you included protection of [asphalt, floors, and roofs]? Yes No
- D. Do you understand that the site is occupied by students, teachers, administrators, parents, etc.? Yes No

VIII. CONTRACTOR COMMENTS/SUGGESTIONS:

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

IX. CONTRACTOR

**You agree the information contained herein is part of your contractual obligations. Your signature acknowledges your agreement to perform all Work in the Contract Documents, and that costs for all Work are included in your bid.**

The foregoing information is true and accurate, and I am authorized to sign as an officer of the company I am representing.

[Company Name]

\_\_\_\_\_  
Signature \_\_\_\_\_ Title: \_\_\_\_\_

Date: \_\_\_\_\_

X. CONSTRUCTION MANAGER

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

Signature \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Title of Document: POST BID INTERVIEW

Number of Pages: \_\_\_\_\_

Date of Document: \_\_\_\_\_

**END OF DOCUMENT**



DOCUMENT 00 51 00

**NOTICE OF AWARD**

Dated: \_\_\_\_\_ 20\_\_

To: \_\_\_\_\_ (Contractor)

To: \_\_\_\_\_  
(Address)

From: Governing Board ("Board") of the Solano Community College District ("District" or "Owner")

PROJECT: B300 Modifications: Mailroom and Graphics Project, Bid No. 20-003  
("Project").

Contractor has been awarded the referenced Contract on \_\_\_\_\_, 20\_\_, in accordance with action of the District's Board and approval by the State of California.

The Contract Price is \_\_\_\_\_ Dollars (\$\_\_\_\_\_), and includes alternates \_\_\_\_\_.

You must comply with the following conditions precedent within **SEVEN (7)** calendar days of the date of this Notice of Award.

The Contractor shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award.

- a. Agreement: To be executed by successful Bidder. Submit three (3) copies, each bearing an original signature.
- b. Escrow of Bid Documentation: This must include all required documentation. See document titled Escrow Bid Documentation for more information.
- c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- d. Payment Bond (Contractor's Labor & Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- e. Insurance Certificates and Endorsements as required.
- f. Workers' Compensation Certification.
- g. Prevailing Wage and Related Labor Requirements Certification.
- h. Drug-Free Workplace Certification.
- i. Tobacco-Free Environment Certification.

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- j. Hazardous Materials Certification.
- k. Lead-Based Materials Certification.
- l. Sex Offender Registration Act Certification.
- m. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited, as well as any other rights the District may have against the Contractor.

After you comply with those conditions, District will return to you one fully signed counterpart of the Agreement.

SOLANO COMMUNITY COLLEGE DISTRICT

BY: \_\_\_\_\_

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

END OF DOCUMENT





**5. Completion - Extension of Time:** Should the Contractor fail to complete this Contract, and the Work provided herein, within the times fixed for completion milestones, due allowance being made for the contingencies provided for herein, the Contractor shall become liable to the District for all loss and damage that the District may suffer on account thereof. The Contractor shall coordinate its Work with the Work of all other contractors. The District shall not be liable for delays resulting from Contractor's failure to coordinate its Work with other contractors in a manner that will allow timely completion of Contractor's Work. Contractor shall be liable for delays to other contractors caused by Contractor's failure to coordinate its Work with the Work of other contractors.

**6. Liquidated Damages:** Time is of the essence for all work under this Agreement. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Contractor's delay; therefore, Contractor agrees that it shall pay to the District the sum of **Five Hundred Dollars (\$500.00)** per day as liquidated damages for each and every day's delay beyond the time herein prescribed in finishing the Work.

It is hereby understood and agreed that this amount is not a penalty.

In the event that any portion of the liquidated damages is not paid to the District, the District may deduct that amount from any money due or that may become due the Contractor under this Agreement, and such deduction does not constitute a withholding or penalty. The District's right to assess liquidated damages is as indicated herein and in the General Conditions.

The time during which the Contract is delayed for cause, as hereinafter specified, may extend the time of completion for a reasonable time as the District may grant, provided that Contractor has complied with the claims procedure of the Contract Documents. This provision does not exclude the recovery of damages by either party under other provisions in the Contract Documents.

**7. Loss Or Damage:** The District and its agents and authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatsoever; and shall hold the District and its agents and authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatsoever.

**8. Insurance and Bonds:** Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance, insurance endorsements, and payment and performance bonds as evidence thereof.

**9. Prosecution of Work:** If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

- 10. Authority of Architect, Project Inspector, and DSA:** Contractor hereby acknowledges that the Architect(s), the Project Inspector(s), and the Division of the State Architect ("DSA") have authority to approve and/or suspend Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws and regulations. The Contractor shall be liable for any delay caused by its non-compliant Work.
- 11. Assignment of Contract:** Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the prior written approval of the District, nor without the written consent of the Surety on the Contractor's Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.
- 12. Classification of Contractor's License:** Contractor hereby acknowledges that it currently holds valid Type **B-General Building Contractor's license(s)** issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.
- 13. Registration as Public Works Contractor:** The Contractor and all Subcontractors currently are registered as public works contractors with the Department of Industrial Relations, State of California, in accordance with Labor Code section 1771.1.
- 14. Payment of Prevailing Wages:** The Contractor and all Subcontractors shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code.
- 15.** This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code, including, without limitation, the requirement that the Contractor and all of its Subcontractors shall timely submit complete and accurate electronic certified payroll records as required by the Contract Documents, or the District may not issue payment.
- 16. Contract Price:** In consideration of the foregoing covenants, promises, and agreements on the part of the Contractor, and the strict and literal fulfillment of each and every covenant, promise, and agreement, and as compensation agreed upon for the Work and construction, erection, and completion as aforesaid, the District covenants, promises, and agrees that it will well and truly pay and cause to be paid to the Contractor in full, and as the full Contract Price and compensation for construction, erection, and completion of the Work hereinabove agreed to be performed by the Contractor, the following price:

**Dollars**

\_\_\_\_\_  
(\$ \_\_\_\_\_),

in lawful money of the United States, which sum is to be paid according to the schedule provided by the Contractor and accepted by the District and subject to additions and deductions as provided in the Contract. This amount supersedes any previously stated and/or agreed to amount(s).

- 17. No Representations:** No representations have been made other than as set forth in writing in the Contract Documents, including this Agreement. Each of the Parties to this Agreement warrants that it has carefully read and understood the terms and conditions of this Agreement and all Contract Documents, and that it has not relied upon the representations or advice of any other Party or any attorney not its own.
- 18. Entire Agreement:** The Contract Documents, including this Agreement, set forth the entire agreement between the parties hereto and fully supersede any and all prior agreements, understandings, written or oral, between the parties hereto pertaining to the subject matter thereof.
- 19. Severability:** If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

IN WITNESS WHEREOF, accepted and agreed on the date indicated above:

**CONTRACTOR**

**SOLANO COMMUNITY COLLEGE  
DISTRICT**

\_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

NOTE: If the party executing this Contract is a corporation, a certified copy of the by-laws, or of the resolution of the Board of Directors, authorizing the officers of said corporation to execute the Contract and the bonds required thereby must be attached hereto.

END OF DOCUMENT

DOCUMENT 00 55 00

**NOTICE TO PROCEED**

Dated: \_\_\_\_\_, 2020

TO: \_\_\_\_\_  
("Contractor")

ADDRESS: \_\_\_\_\_

PROJECT: B300 Modifications: Mailroom and Graphics Project

PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Project No. 20-003 between the Solano Community College District and Contractor ("Contract").

You are notified that the Contract Time under the above Contract will commence to run on \_\_\_\_\_, 2019. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Agreement executed by Contractor, the date of completion is June 19<sup>th</sup>, 2020.

You must submit the following documents by 5:00 p.m. of the TENTH (10th) calendar day following the date of this Notice to Proceed:

- a. Contractor's preliminary schedule of construction.
- b. Contractor's preliminary schedule of values for all of the Work.
- c. Contractor's preliminary schedule of submittals, including Shop Drawings, Product Data, and Samples submittals
- d. Contractor's Safety Plan specifically adapted for the Project.
- e. A complete subcontractors list, including the name, address, telephone number, email address, facsimile number, California State Contractors License number, license classification, Department of Industrial Relations registration number, and monetary value of all Subcontracts.

Thank you. We look forward to a very successful Project.

SOLANO COMMUNITY COLLEGE DISTRICT

BY: \_\_\_\_\_

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 56 00

**ESCROW BID DOCUMENTATION**

**1. Requirement to Escrow Bid Documentation**

- a. Contractor shall submit, within **SEVEN (7)** calendar days after the date of the Notice of Award, one copy of all documentary information received or generated by Contractor in preparation of bid prices for this Contract, as specified herein. This material is referred to herein as "Escrow Bid Documentation." The Escrow Bid Documentation of the Contractor will be held in escrow for the duration of the Contract.
- b. Contractor agrees, as a condition of award of the Contract, that the Escrow Bid Documentation constitutes all written information used in the preparation of its bid, and that no other written bid preparation information shall be considered in resolving disputes or claims. Contractor also agrees that nothing in the Escrow Bid Documentation shall change or modify the terms or conditions of the Contract Documents.
- c. The Escrow Bid Documentation will not be opened by District except as indicated herein. The Escrow Bid Documentation will be used only for the resolution of change orders and claims disputes.
- d. Contractor's submission of the Escrow Bid Documentation, as with the bonds and insurance documents required, is considered an essential part of the Contract award. Should the Contractor fail to make the submission within the allowed time specified above, District may deem the Contractor to have failed to enter into the Contract, and the Contractor shall forfeit the amount of its bid security, accompanying the Contractor's bid, and District may award the Contract to the next lowest responsive responsible bidder.
- e. NO PAYMENTS WILL BE MADE, NOR WILL DISTRICT ACCEPT PROPOSED CHANGE ORDERS UNTIL THE ABOVE REQUIRED INFORMATION IS SUBMITTED AND APPROVED.
- f. The Escrow Bid Documentation shall be submitted in person by an authorized representative of the Contractor to the District.

**2. Ownership of Escrow Bid Documentation**

- a. The Escrow Bid Documentation is, and shall always remain, the property of Contractor, subject to review by District, as provided herein.
- b. Escrow Bid Documentation constitute trade secrets, not known outside Contractor's business, known only to a limited extent and only by a limited number of employees of Contractor, safeguarded while in Contractor's possession, extremely valuable to Contractor, and could be extremely valuable to Contractor's competitors by virtue of it reflecting Contractor's contemplated techniques of construction. Subject to the provisions herein, District agrees to safeguard the Escrow Bid Documentation, and all

information contained therein, against disclosure to the fullest extent permitted by law.

**3. Format and Contents of Escrow Bid Documentation**

- a. Contractor may submit Escrow Bid Documentation in its usual cost-estimating format; a standard format is not required. The Escrow Bid Documentation shall be submitted in the language (e.g., English) of the specification.
- b. Escrow Bid Documentation must clearly itemize the estimated costs of performing the work of each bid item contained in the bid schedule, separating bid items into sub-items as required to present a detailed cost estimate and allow a detailed cost review. The Escrow Bid Documentation shall include all subcontractor bids or quotes, supplier bids or quotes, quantity takeoffs, crews, equipment, calculations of rates of production and progress, copies of quotes from subcontractors and suppliers, and memoranda, narratives, add/deduct sheets, and all other information used by the Contractor to arrive at the prices contained in the bid proposal. Estimated costs should be broken down into Contractor's usual estimate categories such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent materials, and subcontract costs as appropriate. Plant and equipment and indirect costs should be detailed in the Contractor's usual format. The Contractor's allocation of indirect costs, contingencies, markup, and other items to each bid item shall be identified.
- c. All costs shall be identified. For bid items amounting to less than \$10,000, estimated unit costs are acceptable without a detailed cost estimate, provided that labor, equipment, materials, and subcontracts, as applicable, are included and provided that indirect costs, contingencies, and markup, as applicable, are allocated.
- d. Bid Documentation provided by District should not be included in the Escrow Bid Documentation unless needed to comply with the following requirements.

**4. Submittal of Escrow Bid Documentation**

- a. The Escrow Bid Documentation shall be submitted by the Contractor in a sealed container within **SEVEN (7)** calendar days after the date of the Notice of Award. The container shall be clearly marked on the outside with the Contractor's name, date of submittal, project name and the words "Escrow Bid Documentation – Intended to be opened in the presence of Authorized Representatives of Both District and Contractor".
- b. By submitting Escrow Bid Documentation, Contractor represents that the material in the Escrow Bid Documentation constitutes all the documentary information used in preparation of the bid and that the Contractor has personally examined the contents of the Escrow Bid Documentation container and has found that the documents in the container are complete.
- c. If Contractor's proposal is based upon subcontracting any part of the work, each subcontractor whose total subcontract price exceeds 5 percent of the total contract price proposed by Contractor, shall provide separate Escrow



Documents to be included with those of Contractor. Those documents shall be opened and examined in the same manner and at the same time as the examination described above for Contractor.

- d. If Contractor wishes to subcontract any portion of the Work after award, District retains the right to require Contractor to submit Escrow Documents for the Subcontractor before the subcontract is approved.

**5. Storage, Examination and Final Disposition of Escrow Bid Documentation**

- a. The Escrow Bid Documentation will be placed in escrow, for the life of the Contract, in a mutually agreeable institution. The cost of storage will be paid by Contractor for the duration of the project until final Contract payment. The storage facilities shall be the appropriate size for all the Escrow Bid Documentation and located conveniently to both District's and Contractor's offices.
- b. The Escrow Bid Documentation shall be examined by both District and Contractor, at any time deemed necessary by either District or Contractor, to assist in the negotiation of price adjustments and change orders or the settlement of disputes and claims. In the case of legal proceedings, Escrow Bid Documentation shall be used subject to the terms of an appropriate protective order if requested by Contractor and ordered by a court of competent jurisdiction. Examination of the Escrow Bid Documentation is subject to the following conditions:
  - (1) As trade secrets, the Escrow Bid Documentation is proprietary and confidential to the extent allowed by law.
  - (2) District and Contractor shall each designate, in writing to the other party **SEVEN (7)** calendar days prior to any examination, the names of representatives who are authorized to examine the Escrow Bid Documentation. No other person shall have access to the Escrow Bid Documentation.
  - (3) Access to the documents may take place only in the presence of duly designated representatives of the District and Contractor. If Contractor fails to designate a representative or appear for joint examination on **SEVEN (7)** calendar days' notice, then the District representative may examine the Escrow Bid Documents alone upon an additional **THREE (3)** calendar days' notice if a representative of the Contractor does not appear at the time set.
  - (4) If a subcontractor has submitted sealed information to be included in the Escrow Bid Documents, access to those documents may take place only in the presence of a duly designated representative of the District, Contractor and that subcontractor. If that subcontractor fails to designate a representative or appear for joint examination on **SEVEN (7)** calendar days' notice, then the District representative and/or the Contractor may examine the Escrow Bid Documentation without that subcontractor present upon an additional **THREE (3)** calendar days'

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notice if a representative of that subcontractor does not appear at the time set.

- c. The Escrow Bid Documentation will be returned to Contractor at such time as the Contract has been completed and final settlement has been achieved.

END OF DOCUMENT

DOCUMENT 00 57 00

**ESCROW AGREEMENT IN LIEU OF RETENTION**  
**(Public Contract Code Section 22300)**

**(Note: Contractor must use this form.)**

This Escrow Agreement in Lieu of Retention ("Escrow Agreement") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the Solano Community College District ("District"), whose address is 4000 Suisun Valley Road, Fairfield, California 94534 , and \_\_\_\_\_ ("Contractor"), whose address is \_\_\_\_\_, and \_\_\_\_\_ ("Escrow Agent"), a state or federally chartered bank in the state of California, whose address is \_\_\_\_\_.

For the consideration hereinafter set forth, District, Contractor, and Escrow Agent agree as follows:

1. Pursuant to section 22300 of Public Contract Code of the State of California, which is hereby incorporated by reference, Contractor has the following two (2) options:
  - Deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District pursuant to the Construction Contract No.\_\_\_\_ entered into between District and Contractor for the \_\_\_\_\_ Project, in the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_) dated, \_\_\_\_\_, 20\_\_\_\_, (the "Contract"); **or**
  - On written request of Contractor, District shall make payments of the retention earnings for the above referenced Contract directly to Escrow Agent.

When Contractor deposits the securities as a substitute for Contract earnings (first option), Escrow Agent shall notify District within ten (10) calendar days of the deposit. The market value of the securities at the time of substitution and at all times from substitution until the termination of the Escrow Agreement shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between District and Contractor.

Securities shall be held in name of Solano Community College School District, and shall designate Contractor as beneficial owner.

2. District shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified above.
3. When District makes payment of retention earned directly to Escrow Agent, Escrow Agent shall hold them for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow

Agreement and the rights and responsibilities of the Parties shall be equally applicable and binding when District pays Escrow Agent directly.

4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of District. The District will charge Contractor \$\_\_\_\_\_ for each of District's deposits to the escrow account. These expenses and payment terms shall be determined by District, Contractor, and Escrow Agent.
5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to District.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from District to Escrow Agent that District consents to withdrawal of amount sought to be withdrawn by Contractor.
7. District shall have the right to draw upon the securities and/or withdraw amounts from the Escrow Account in the event of default by Contractor. Upon seven (7) days' written notice to Escrow Agent from District of the default, if applicable, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by District.
8. Upon receipt of written notification from District certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all monies and securities on deposit and payments of fees and charges.
9. Escrow Agent shall rely on written notifications from District and Contractor pursuant to Paragraphs 5 through 8, inclusive, of this Escrow Agreement and District and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth above.
10. Names of persons who are authorized to give written notice or to receive written notice on behalf of District and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of District:

On behalf of Contractor:

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

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\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

On behalf of Escrow Agent:

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

At the time that the Escrow Account is opened, District and Contractor shall deliver to Escrow Agent a fully executed copy of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

On behalf of District:

On behalf of Contractor:

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

END OF DOCUMENT



DOCUMENT 00 61 13.13

**PERFORMANCE BOND**  
**(100% of Contract Price)**

**(Note: Contractor must use this form, NOT a surety company form.)**

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Solano Community College District ("District") and \_\_\_\_\_ ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project: B300 Modifications: Mailroom and Graphics Project ("Project" or "Contract") which Contract dated \_\_\_\_\_, 20\_\_\_\_, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, the Principal and \_\_\_\_\_ ("Surety") are held and firmly bound unto the Board of the District in the penal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Promptly perform all the work required to complete the Project; and
- Pay to the District all damages the District incurs as a result of the Principal's failure to perform all the Work required to complete the Project.

Or, at the District's sole discretion and election, the Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the District of the lowest responsible bidder, arrange for a contract between such bidder and the District and make available as Work progresses sufficient funds to pay the cost of completion less the "balance of the Contract Price," and to pay and perform all obligations of Principals under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by the District under the Contract and any modifications thereto, less the amount previously paid by the District to the Principal, less any withholdings by the District allowed under the Contract. District shall not be required or obligated to accept a tender of a completion contractor from the Surety for any or no reason.

The condition of the obligation is such that, if the above bound Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the

**Solano Community College**

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Mailroom and Graphics Project

District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

Surety expressly agrees that the District may reject any contractor or subcontractor proposed by Surety to fulfill its obligations in the event of default by the Principal. Surety shall not utilize Principal in completing the Work nor shall Surety accept a Bid from Principal for completion of the Work if the District declares the Principal to be in default and notifies Surety of the District's objection to Principal's further participation in the completion of the Work.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond. The Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond by any overpayment or underpayment by the District that is based upon estimates approved by the Architect. The Surety does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

_____	_____
Principal	Surety
_____	_____
By	By
	_____
	Name of California Agent of Surety
	_____
	Address of California Agent of Surety
	_____
	Telephone No. of California Agent of Surety

**Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.**

END OF DOCUMENT



DOCUMENT 00 61 13.16

**PAYMENT BOND**  
**Contractor's Labor & Material Bond**  
**(100% Of Contract Price)**

**(Note: Contractor must use this form, NOT a surety company form.)**

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Solano Community College District, ("District") and \_\_\_\_\_, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

B300 Modifications: Mailroom and Graphics Project ("Project" or "Contract") which Contract dated \_\_\_\_\_, 20\_\_\_\_, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by which the Contract is awarded in an amount equal to one hundred percent (100%) of the Contract price, to secure the claims to which reference is made in sections 9000 through 9510 and 9550 through 9566 of the Civil Code, and division 2, part 7, of the Labor Code.

NOW, THEREFORE, the Principal and \_\_\_\_\_ ("Surety")

are held and firmly bound unto all laborers, material men, and other persons referred to in said statutes in the sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), lawful money of the United States, being a sum not less than the total amount payable by the terms of Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of its subcontractors, or the heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or any of its subcontractors of any tier under Section 13020 of the Unemployment Insurance Code with respect to such work or labor, that the Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

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Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and remain in full force and affect.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of Contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

_____	_____
Principal	Surety
_____	_____
By	By
	_____
	Name of California Agent of Surety
	_____
	Address of California Agent of Surety
	_____
	Telephone No. of California Agent of Surety

**Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.**

END OF DOCUMENT

DOCUMENT 00 63 57

**PROPOSED CHANGE ORDER FORM**

Solano Community College District  
4000 Suisun Valley Road  
Fairfield, CA 94534

<b>PCO NO.:</b>

**Project: B300 Modifications: Mailroom and Graphics Project**  
**Project No.: 20-003**  
**RFI #:**

**Date:**  
**DSA File No.:**  
**DSA Appl. No.:**

Contractor hereby submits for District’s review and evaluation this Proposed Change Order (“PCO”), submitted in accordance with and subject to the terms of the Contract Documents, including Sections 17.7 and 17.8 of the General Conditions. Any spaces left blank below are deemed no change to cost or time.

Contractor understands and acknowledges that documentation supporting Contractor’s PCO must be attached and included for District review and evaluation. Contractor further understands and acknowledges that failure to include documentation sufficient to, in District’s discretion, support some or all of the PCO, shall result in a rejected PCO.

	<b><u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u></b>	<b><u>ADD</u></b>	<b><u>DEDUCT</u></b>
(a)	<b><u>Material</u></b> (attach suppliers’ invoice or itemized quantity and unit cost plus sales tax)		
(b)	<b><u>Add Labor</u></b> (attach itemized hours and rates, fully encumbered)		
(c)	<b><u>Add Equipment</u></b> (attach suppliers’ invoice)		
(d)	<b><u>Subtotal</u></b>		
(e)	<b><u>Add overhead and profit for any and all tiers of Subcontractor</u></b> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<b><u>Subtotal</u></b>		
(g)	<b><u>Add Overhead and Profit for Contractor</u></b> , not to exceed five percent (5%) of Item (f)		
(h)	<b><u>Subtotal</u></b>		
(i)	<b><u>Add Bond and Insurance</u></b> , not to exceed one and a half percent (1.5%) of Item (h)		
(j)	<b><u>TOTAL</u></b>		
(k)	<b><u>Time</u></b> (zero unless indicated; “TBD” not permitted)		<b>Calendar Days</b>

*[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]*

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

	<b>WORK PERFORMED BY CONTRACTOR</b>	<b>ADD</b>	<b>DEDUCT</b>
(a)	<b>Material</b> (attach itemized quantity and unit cost plus sales tax)		
(b)	<b>Add Labor</b> (attach itemized hours and rates, fully encumbered)		
(c)	<b>Add Equipment</b> (attach suppliers' invoice)		
(d)	<b>Subtotal</b>		
(e)	<b>Add Overhead and Profit for Contractor</b> , not to exceed fifteen percent (15%) of Item (d)		
(f)	<b>Subtotal</b>		
(g)	<b>Add Bond and Insurance</b> , not to exceed one and a half percent (1.5%) of Item (f)		
(h)	<b>TOTAL</b>		
(i)	<b>Time</b> (zero unless indicated; "TBD" not permitted)	_____ <b>Calendar</b> <b>Days</b>	

The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 *et seq.* It is understood that the changes herein to the Contract shall only be effective when approved by the governing board of the District.

It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

**SUBMITTED BY:**

Contractor:

\_\_\_\_\_  
[Name]

\_\_\_\_\_  
Date

END OF DOCUMENT

DOCUMENT 00 63 63

CHANGE ORDER FORM



# Change Order

Solano Community College District  
 4000 Suisun Valley Road  
 Fairfield, CA 94534  
 Tel: 707-864-7189 Fax: 707-646-7710

PM/CM

Change Order # [NUMBER]  
 Project No.: [NUMBER]  
 Date: [DATE]

DSA File No.: [FILE NO]  
 DSA App. No.: [DSA APPLICATION NO]

Project: Solano Community College District  
 [BUILDING/CAMPUS]  
 [PROJECT]

[ARCHITECT]  
 [STREET ADDRESS]  
 [CITY, STATE ZIP]

To: [CONTRACTOR]  
 [STREET ADDRESS]  
 [CITY, STATE ZIP]

**The Contract is Changed as Follows:**

**PCO No.**

[PCO NO] [PCO DESCRIPTION]

[PCO AMT]

[PCO NO] [PCO DESCRIPTION]

[PCO AMT]

**TOTAL COST OF CHANGE ORDER**

**ADD  
Deduct**

**FINAL CHANGE ORDER AMOUNT**

Original Contract Sum:  
 Total change By Previous Change Orders:  
 Contract Sum Prior to This Change Order:  
 Original Contract Sum will be Increased by This Change Order:  
 The New Contract Sum Including This Change Order Will Be:  
 The New Contract Completion Date Will Be:  
 Contract Time Will be Unchanged by This Change Order:  
 The date of substantial completion as of the of this change order is

[ORIG CONTRACT]  
 \$ -

Days

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

ARCHITECT:	_____	Date: _____
	{ARCHITECT REPRESENTATIVE}	
	{ARCHITECTURE FIRM NAME}	
		(Affix stamp here)
CONTRACTOR:	_____	Date: _____
	{CONTRACTOR REPRESENTATIVE}	
	{CONTRACTOR FIRM NAME}	
		(Affix stamp here)
OWNER:	_____	Date: _____
	Lucky Lofton	
	Executive Bonds Manager	
	Solano Community College District	

END OF DOCUMENT

DOCUMENT 00 65 19.26

**AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS**

THIS AGREEMENT AND RELEASE OF CLAIMS ("Agreement and Release") IS MADE AND ENTERED INTO THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_ by and between the SOLANO COMMUNITY COLLEGE DISTRICT ("District") and \_\_\_\_\_ ("Contractor"), whose place of business is \_\_\_\_\_.

RECITALS:

1. District and Contractor entered into PROJECT/CONTRACT NO.: B300 Modifications: Mailroom and Graphics Project / Bid No. 20-003 ("Contract" or "Project") in the County of Solano, California.
2. The Work under the Contract was completed on \_\_\_\_\_, and a Notice of Completion was recorded with the County Recorder on \_\_\_\_\_.

NOW, THEREFORE, it is mutually agreed between District and Contractor as follows:

**AGREEMENT AND RELEASE**

3. Contractor will only be assessed liquidated damages as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____

4. Subject to the provisions hereof, District shall forthwith pay to Contractor the undisputed sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) under the Contract, less any amounts represented by any notice to withhold funds on file with District as of the date of such payment.
5. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the performance of work under the Contract, except for the claims described in Paragraph 6 and continuing obligations described in Paragraph 8. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District and all of its respective agents, employees, trustees, inspectors, assignees, consultants and transferees, except for any Disputed Claim that may be set forth in Paragraph 6 and the continuing obligations described in Paragraph 8 hereof.

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

- 6. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

<u>Claim No.</u>	<u>Description of Claim</u>	<u>Amount of Claim</u>	<u>Date Claim Submitted</u>
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____

[If further space is required, attach additional sheets showing the required information.]

- 7. Consistent with California Public Contract Code section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 4 hereof, Contractor hereby releases and forever discharges District, all its agents, employees, inspectors, assignees, and transferees from any and all liability, claims, demands, actions, or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.
- 8. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
- 9. To the furthest extent permitted by California law, Contractor shall defend, indemnify, and hold harmless the District, its agents, representatives, officers, consultants, employees, trustees, and volunteers (the "indemnified parties") from any and all losses, liabilities, claims, suits, and actions of any kind, nature, and description, including, but not limited to, attorneys' fees and costs, directly or indirectly arising out of, connected with, or resulting from the performance of the Contract unless caused wholly by the sole negligence or willful misconduct of the District.
- 10. Contractor hereby waives the provisions of California Civil Code section 1542 which provides as follows:  
  

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.
- 11. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable. If any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal, or other law, ruling, or regulations, then such provision, or part thereof, shall remain in force and effect to the extent permitted by



**Solano Community College**

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law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.

- 12. All rights of District shall survive completion of the Work or termination of Contract, and execution of this Release.

\* \* \* CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING \* \* \*

SOLANO COMMUNITY COLLEGE DISTRICT

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

END OF DOCUMENT



DOCUMENT 00 65 36

**GUARANTEE FORM**

\_\_\_\_\_ ("Contractor") hereby agrees that the \_\_\_\_\_  
\_\_\_\_\_ ("Work" of Contractor) which Contractor has installed for the Solano  
Community College District ("District") for the following project:

PROJECT: B300 Modifications: Mailroom and Graphics Project

("Project" or "Contract") has been performed in accordance with the requirements of the  
Contract Documents and that the Work as installed will fulfill the requirements of the  
Contract Documents.

The undersigned agrees to repair or replace any or all of such Work that may prove to be  
defective in workmanship or material together with any other adjacent Work that may be  
displaced in connection with such replacement within a period of One year(s) from the date  
of completion as defined in Public Contract Code section 7107, subdivision (c), ordinary  
wear and tear and unusual abuse or neglect excepted. The date of completion is  
\_\_\_\_\_, 20\_\_.

In the event of the undersigned's failure to comply with the above-mentioned conditions  
within a reasonable period of time, as determined by the District, but not later than seven  
(7) days after being notified in writing by the District, the undersigned authorizes the  
District to proceed to have said defects repaired and made good at the expense of the  
undersigned. The undersigned shall pay the costs and charges therefor upon demand.

Date: \_\_\_\_\_

Proper Name of Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Representatives to be contacted for service subject to terms of Contract:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Email: \_\_\_\_\_

END OF DOCUMENT



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**GENERAL CONDITIONS**

**1. CONTRACT TERMS AND DEFINITIONS**

**1.1 Definitions**

**Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:**

**1.1.1 Adverse Weather:** Shall be only weather that satisfies all of the following conditions: (1) unusually severe precipitation, sleet, snow, hail, or extreme temperature conditions in excess of the norm for the location and time of year it occurred based on the closest weather station data averaged over the past five years, (2) that is unanticipated and would cause unsafe work conditions and/or is unsuitable for scheduled work that should not be performed during inclement weather (i.e., exterior finishes), and (3) at the Project.

**1.1.2 Allowance Expenditure Directive:** Written authorization for expenditure of allowance, if any.

**1.1.3 Approval, Approved, and/or Accepted:** Written authorization, unless stated otherwise.

**1.1.4 Architect (or "Design Professional in General Responsible Charge"):** The individual, partnership, corporation, joint venture, or any combination thereof, named as Architect, who will have the rights and authority assigned to the Architect in the Contract Documents. The term Architect means the Design Professional in General Responsible Charge as defined in DSA PR 13-02 on this Project or the Architect's authorized representative.

**1.1.5 As-Builts:** Digital drawings to be prepared on a monthly basis pursuant to the Contract Documents, that reflect changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed since the preceding monthly submittal. See **Record Drawings**.

**1.1.6 Bidder:** A contractor who intends to provide a proposal to the District to perform the Work of this Contract.

**1.1.7 Change Order:** A written order to the Contractor quantifying an addition to, deletion from, or revision in the Work, and/or authorizing an adjustment in the Contract Price or Contract Time.

**1.1.8 Claim:** A Dispute that remains unresolved at the conclusion of the all the applicable Dispute Resolution requirements provided herein.

**1.1.9 Commissioning Agent:** Independent entity, not affiliated with the Contractor, its Subcontractors, Architect, or the Architect's Consultants, engaged and paid by the Owner to perform services indicated and specified in the Contract Documents in conjunction with the commissioning process.

**1.1.10 Construction Change Directive:** A written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work.

**1.1.11 Construction Manager:** The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Construction Manager is used on the Project that is the subject of this Contract, then all references to Construction Manager herein shall be read to refer to District.

**1.1.12 Construction Schedule:** The progress schedule of construction of the Project as provided by Contractor and approved by District.

**1.1.13 Contract, Contract Documents:** The Contract consists exclusively of the documents evidencing the agreement of the District and Contractor, identified as the Contract Documents. The Contract Documents consist of the following documents:

- 1.1.13.1** Notice to Bidders
- 1.1.13.2** Instructions to Bidders
- 1.1.13.3** Bid Form and Proposal
- 1.1.13.4** Bid Bond
- 1.1.13.5** Designated Subcontractors List
- 1.1.13.6** Site Visit Certification
- 1.1.13.7** Non-Collusion Declaration
- 1.1.13.8** Small, Local, and Diverse Business Program (Not Applicable)
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- 1.1.13.10** Notice to Proceed
- 1.1.13.11** Agreement
- 1.1.13.12** Escrow of Bid Documentation
- 1.1.13.13** Escrow Agreement for Security Deposits in Lieu of Retention (if applicable)
- 1.1.13.14** Performance Bond
- 1.1.13.15** Payment Bond (Contractor's Labor & Material Bond)
- 1.1.13.16** General Conditions
- 1.1.13.17** Special Conditions (if applicable)
- 1.1.13.18** Project Labor Agreement
- 1.1.13.19** Hazardous Materials Procedures and Requirements
- 1.1.13.20** Workers' Compensation Certification
- 1.1.13.21** Prevailing Wage Certification
- 1.1.13.22** Disabled Veteran Business Enterprise Participation Certification (Not applicable)
- 1.1.13.23** Drug-Free Workplace Certification (if applicable)
- 1.1.13.24** Tobacco-Free Environment Certification
- 1.1.13.25** Hazardous Materials Certification (if applicable)
- 1.1.13.26** Lead-Based Materials Certification (if applicable)
- 1.1.13.27** Imported Materials Certification (Not applicable)
- 1.1.13.28** Sex Offender Registration Act Certification (if applicable)
- 1.1.13.29** Buy American Certification (Not applicable)
- 1.1.13.30** Roofing Project Certification (Not applicable)
- 1.1.13.31** Registered Subcontractors List
- 1.1.13.32** Iran Contracting Act Certification (Not applicable)
- 1.1.13.33** Post Bid Interview

- 1.1.13.34** All Plans, Technical Specifications, and Drawings
- 1.1.13.35** Any and all addenda to any of the above documents
- 1.1.13.36** Any and all change orders or written modifications to the above documents if approved in writing by the District

**1.1.14 Contract Price:** The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

**1.1.15 Contract Time:** The time period stated in the Agreement for the completion of the Work.

**1.1.16 Contractor:** The person or persons identified in the Agreement as contracting to perform the Work to be done under this Contract, or the legal representative of such a person or persons.

**1.1.17 Daily Job Report(s):** Daily Project reports prepared by the Contractor's employee(s) who are present on Site, which shall include the information required herein.

**1.1.18 Day(s):** Unless otherwise designated, day(s) means calendar day(s).

**1.1.19 Department of Industrial Relations (or "DIR"):** is responsible, among other things, for labor compliance monitoring and enforcement of California prevailing wage laws and regulations for public works contracts.

**1.1.20 Design Professional in General Responsible Charge:** See definition of **Architect** above.

**1.1.21 Dispute:** A separate demand by Contractor for a time extension, or payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or Contractor is not otherwise entitled to; or an amount of payment disputed by the District.

**1.1.22 District:** The public agency or the district for which the Work is performed, Solano Community College. The governing board of the District or its designees will act for the District in all matters pertaining to the Contract. The District may, at any time,

**1.1.22.1** Direct the Contractor to communicate with or provide notice to the Construction Manager or the Architect on matters for which the Contract Documents indicate the Contractor will communicate with or provide notice to the District; and/or

**1.1.22.2** Direct the Construction Manager or the Architect to communicate with or direct the Contractor on matters for which the Contract Documents indicate the District will communicate with or direct the Contractor.

**1.1.23 Drawings (or "Plans"):** The graphic and pictorial portions of the Contract Documents showing the design, location, scope and dimensions of the work, generally including plans, elevations, sections, details, schedules, sequence of operation, and diagrams.

**1.1.24 DSA:** Division of the State Architect.

**1.1.25 Final Completion:** Final Completion means that all Work and all obligations under the Agreement and all Contract Documents (except for that Work and obligations that survive the termination or expiration of the Agreement), including obligation for warranties and correction of Defective Work, are fully and completely performed in accordance with the terms of the Agreement and all Contract Documents.

**1.1.26 Force Account Directive:** A process that may be used when the District and the Contractor cannot agree on a price for a specific portion of work or before the Contractor prepares a price for a specific portion of work and whereby the Contractor performs the work as indicated herein on a time and materials basis.

**1.1.27 Job Cost Reports:** Any and all reports or records detailing the costs associated with work performed on or related to the Project that Contractor shall maintain for the Project. Specifically, Job Cost Reports shall contain, but are not limited by or to, the following information: a description of the work performed or to be performed on the Project; quantity, if applicable, of work performed (hours, square feet, cubic yards, pounds, etc.) for the Project; Project budget; costs for the Project to date; estimated costs to complete the Project; and expected costs at completion. The Job Cost Reports shall also reflect all Contract cost codes, change orders, elements of non-conforming work, back charges, and additional services.

**1.1.28 Labor Commissioner's Office** (or "Labor Commissioner", also known as the Division of Labor Standards Enforcement ("DLSE")): Division of the DIR responsible for adjudicating wage claims, investigating discrimination and public works complaints, and enforcing Labor Code statutes and Industrial Welfare Commission orders.

**1.1.29 Municipal Separate Storm Sewer System** (or "MS4"): A system of conveyances used to collect and/or convey storm water, including, without limitation, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.

**1.1.30 Plans:** See **Drawings**.

**1.1.31 Premises:** The real property owned by the District on which the Site is located.

**1.1.32 Product(s):** New material, machinery, components, equipment, fixtures and systems forming the Work, including existing materials or components required and approved by the District for reuse.

**1.1.33 Product Data:** Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

**1.1.34 Program Manager:** The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Program Manager is designated for Project that is the subject of this Contract, then all references to Project Manager herein shall be read to refer to District.

**1.1.35 Project:** The planned undertaking as provided for in the Contract Documents.

**1.1.36 Project Inspector (or "Inspector"):** The individual(s) retained by the District in accordance with title 24 of the California Code of Regulations to monitor and inspect the Project.

**1.1.37 Project Labor Agreement (or "PLA"):** a prehire collective bargaining agreement in accordance with Public Contract Code section 2500 *et seq.* that establishes terms and conditions of employment for a specific construction project or projects and/or is an agreement described in Section 158(f) of Title 29 of the United States Code. The Contractor and all Subcontractor tiers are required to assent to the terms of the Project Labor Agreement.

**1.1.38 Proposed Change Order (or "PCO"):** a written request prepared by the Contractor requesting that the District and the Architect issue a Change Order based upon a proposed change to the Work.

**1.1.39 Provide:** Shall include "provide complete in place," that is, "furnish and install," and "provide complete and functioning as intended in place" unless specifically stated otherwise.

**1.1.40 Qualified SWPPP Practitioners (or "QSP"):** certified personnel that attended a State Water Resources Control Board sponsored or approved training class and passed the qualifying exam.

**1.1.41 Record Drawings:** Reproducible drawings (or Plans) prepared pursuant to the requirements of the Contract Documents that reflect all changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed upon completion of the Project. See also **As-Builts**.

**1.1.42 Request for Information (or "RFI"):** A written request prepared by the Contractor requesting that the Architect provide additional information necessary to clarify or amplify an item in the Contract Documents that the Contractor believes is not clearly shown or called for in the Drawings or Specifications or other portions of the Contract Documents, or to address problems that have arisen under field conditions.

**1.1.43 Request for Substitution for Specified Item:** A request by Contractor to substitute an equal or superior material, product, thing, or service for a specific material, product, thing, or service that has been designated in the Contract Documents by a specific brand or trade name.

**1.1.44 Safety Orders:** Written and/or verbal orders for construction issued by the California Division of Occupational Safety and Health ("CalOSHA") or by the United States Occupational Safety and Health Administration ("OSHA").

**1.1.45 Safety Plan:** Contractor's safety plan specifically adapted for the Project. Contractor's Safety Plan shall comply with all provisions regarding Project safety, including all applicable provisions in these General Conditions.



**1.1.46 Samples:** Physical examples that illustrate materials, products, equipment, finishes, colors, or workmanship and that, when approved in accordance with the Contract Documents, establish standards by which portions of the Work will be judged.

**1.1.47 Shop Drawings:** All drawings, prints, diagrams, illustrations, brochures, schedules, and other data that are prepared by the Contractor, a subcontractor, manufacturer, supplier, or distributor, that illustrate how specific portions of the Work shall be fabricated or installed.

**1.1.48 Site:** The Project site as shown on the Drawings.

**1.1.49 Small, Local and Diverse Business Program (SLDBE):** The District's SLDBE Program will have a goal of 20% of the contract price performed by disadvantaged and/or local firms (prime and subcontractors, suppliers).

**1.1.50 Specifications:** That portion of the Contract Documents, Division 0 through Division 49, and all technical sections, and addenda to all of these, if any, consisting of written descriptions and requirements of a technical nature of materials, equipment, construction methods and systems, standards, and workmanship.

**1.1.51 State:** The State of California.

**1.1.52 Storm Water Pollution Prevention Plan (or "SWPPP"):** A document which identifies sources and activities at a particular facility that may contribute pollutants to storm water and contains specific control measures and time frames to prevent or treat such pollutants.

**1.1.53 Subcontractor:** A contractor and/or supplier who is under contract with the Contractor or with any other subcontractor, regardless of tier, to perform a portion of the Work of the Project.

**1.1.54 Submittal Schedule:** The schedule of submittals as provided by Contractor and approved by District.

**1.1.55 Substantial Completion:** Substantial Completion refers to a stage of a construction or building project or a designated portion of the project that is sufficiently complete, in accordance with the construction contract documents, so that the owner may use or occupy the building project or designated portion thereof for the intended purpose.

**1.1.56 Surety:** The person, firm, or corporation that executes as surety the Contractor's Performance Bond and Payment Bond, and must be a California admitted surety insurer as defined in the Code of Civil Procedure section 995.120.

**1.1.57 Work:** All labor, materials, equipment, components, appliances, supervision, coordination, and services required by, or reasonably inferred from, the Contract Documents, that are necessary for the construction and completion of the Project.

## **1.2 Laws Concerning the Contract**

Contract is subject to all provisions of the Constitution and laws of California and the United States governing, controlling, or affecting District, or the property, funds, operations, or powers of District, and such provisions are by this reference made a part hereof. Any provision required by law to be included in this Contract shall be deemed to be inserted.

## **1.3 No Oral Agreements**

No oral agreement or conversation with any officer, agent, or employee of District, either before or after execution of Contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the Contract.

## **1.4 No Assignment**

Contractor shall not assign this Contract or any part thereof including, without limitation, any services or money to become due hereunder without the prior written consent of the District. Assignment without District's prior written consent shall be null and void. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or material supplied for performance of work called for under this Contract in favor of all persons, firms, or corporations rendering services or supplying material to the extent that claims are filed pursuant to the Civil Code, Code of Civil Procedure, Government Code, Labor Code, and/or Public Contract Code, and shall also be subject to deductions for liquidated damages or withholding of payments as determined by District in accordance with this Contract. Contractor shall not assign or transfer in any manner to a Subcontractor or supplier the right to prosecute or maintain an action against the District.

## **1.5 Notice and Service Thereof**

**1.5.1** Any notice from one party to the other or otherwise under Contract shall be in writing and shall be dated and signed by the party giving notice or by a duly authorized representative of that party. Any notice shall not be effective for any purpose whatsoever unless served in one of the following manners:

**1.5.1.1** If notice is given by personal delivery thereof, it shall be considered delivered on the day of delivery.

**1.5.1.2** If notice is given by overnight delivery service, it shall be considered delivered one (1) day after date deposited, as indicated by the delivery service.

**1.5.1.3** If notice is given by depositing same in United States mail, enclosed in a sealed envelope, it shall be considered delivered three (3) days after date deposited, as indicated by the postmarked date.

**1.5.1.4** If notice is given by registered or certified mail with postage prepaid, return receipt requested, it shall be considered delivered on the day the notice is signed for.

**1.5.1.5** Electronic mail may be used for convenience but is not a substitute for the notice and service requirements herein.

## **1.6 No Waiver**

The failure of District in any one or more instances to insist upon strict performance of any of the terms of this Contract or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion. No action or failure to act by the District, Architect, or Construction Manager shall constitute a waiver of any right or duty afforded the District under the Contract, nor shall any action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

## **1.7 Substitutions for Specified Items**

Unless the Special Conditions contain different provisions, Contractor shall not substitute different items for any items identified in the Contract Documents without prior written approval of the District. See 00 73 13 Special Conditions for additional information.

## **1.8 Materials and Work**

**1.8.1** Except as otherwise specifically stated in this Contract, Contractor shall provide and pay for all materials, labor, tools, equipment, transportation, supervision, temporary constructions of every nature, and all other services, management, and facilities of every nature whatsoever necessary to execute and complete this Contract, in a good and workmanlike manner, within the Contract Time.

**1.8.2** Unless otherwise specified, all materials shall be new and of the best quality of their respective kinds and grades as noted or specified, workmanship shall be of good quality, and Contractor shall use all diligence to inform itself fully as to the required manufacturer's instructions and to comply therewith.

**1.8.3** Materials shall be furnished in ample quantities and at such times as to ensure uninterrupted progress of Work and shall be stored properly and protected from the elements, theft, vandalism, or other loss or damage as required.

**1.8.4** For all materials and equipment specified or indicated in the Drawings, the Contractor shall provide all labor, materials, equipment, and services necessary for complete assemblies and complete working systems, functioning as intended. Incidental items not indicated on Drawings, nor mentioned in the Specifications, that can legitimately and reasonably be inferred to belong to the Work described, or be necessary in good practice to provide a complete assembly or system, shall be furnished as though itemized here in every detail. In all instances, material and equipment shall be installed in strict accordance with each manufacturer's most recent published recommendations and specifications.

**1.8.5** Contractor shall, after award of Contract by District and after relevant submittals have been approved, place orders for materials and/or equipment as specified so that delivery of same may be made without delays to the Work. Contractor shall, upon demand from District, present documentary evidence showing that orders have been placed.

**1.8.6** District reserves the right but has no obligation, in response to Contractor's neglect or failure in complying with the above instructions, to place

orders for such materials and/or equipment as the District may deem advisable in order that the Work may be completed at the date specified in the Agreement, and all expenses incidental to the procuring of said materials and/or equipment shall be paid for by Contractor or deducted from payment(s) to Contractor.

**1.8.7** 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 to District, together with all improvements and appurtenances constructed or placed thereon by it, and free from any claims, liens, or charges. Contractor further agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by the Contract shall have any right to lien any portion of the Premises or any improvement or appurtenance thereon, except that Contractor may install metering devices or other equipment of utility companies or of political subdivision, title to which is commonly retained by utility company or political subdivision. In the event of installation of any such metering device or equipment, Contractor shall advise District as to owner thereof.

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

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

**1.8.8** Nothing contained in this Article, however, shall defeat or impair the rights of persons furnishing materials or labor under any bond given by Contractor for their protection or any rights under any law permitting such protection or any rights under any law permitting such persons to look to funds due Contractor in hands of District (e.g., stop payment notices), and this provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing material for work when no formal contract is entered into for such material.

**1.8.9** Title to new materials and/or equipment for the Work of this Contract and attendant liability for its protection and safety shall remain with Contractor until incorporated in the Work of this Contract and accepted by District. No part of any materials and/or equipment shall be removed from its place of storage except for immediate installation in the Work of this Contract. Should the District, in its discretion, allow the Contractor to store materials and/or equipment for the Work off-site, Contractor will store said materials and/or equipment at a bonded warehouse and with appropriate insurance coverage at no cost to District. Contractor shall keep an accurate inventory of all materials and/or equipment in a manner satisfactory to District or its authorized representative and shall, at the District's request, forward it to the District.

**2. [NOT USED]**

**3. ARCHITECT**

**3.1** The Architect shall represent the District during the Project and will observe the progress and quality of the Work on behalf of the District. Architect shall have the authority to act on behalf of District to the extent expressly provided in the Contract Documents and to the extent determined by District. Architect shall have authority to reject materials, workmanship, and/or the Work whenever rejection may be necessary, in Architect's reasonable opinion, to ensure the proper execution of the Contract.

**3.2** Architect shall, with the District and on behalf of the District, determine the amount, quality, acceptability, and fitness of all parts of the Work, and interpret the Specifications, Drawings, and shall, with the District, interpret all other Contract Documents.

**3.3** Architect shall have all authority and responsibility established by law, including title 24 of the California Code of Regulations.

**3.4** Contractor shall provide District and the Construction Manager with a copy of all written communication between Contractor and Architect at the same time as that communication is made to Architect, including, without limitation, all RFIs, correspondence, submittals, claims, and proposed change orders.

#### **4. CONSTRUCTION MANAGER**

**4.1** If a Construction Manager is used on this Project ("Construction Manager" or "CM"), the Construction Manager will provide administration of the Contract on the District's behalf. After execution of the Contract and Notice to Proceed, all correspondence and/or instructions from Contractor and/or District shall be forwarded through the Construction Manager. The Construction Manager will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences, or procedures or for safety precautions in connection with the Work, which shall all remain the Contractor's responsibility.

**4.2** The Construction Manager, however, will have authority to reject materials and/or workmanship not conforming to the Contract Documents, as determined by the District, the Architect, and/or the Project Inspector. The Construction Manager shall also have the authority to require special inspection or testing of any portion of the Work, whether it has been fabricated, installed, or fully completed. Any decision made by the Construction Manager, in good faith, shall not give rise to any duty or responsibility of the Construction Manager to: the Contractor; any Subcontractor; the Contractor or Subcontractor's respective agents, employees; or other persons performing any of the Work. The Construction Manager shall have free access to any or all parts of Work at any time.

**4.3** If the District does not use a Construction Manager on this Project, all references to Construction Manager or CM shall be read as District.

#### **5. INSPECTOR, INSPECTIONS, AND TESTS**

##### **5.1 Project Inspector**

**5.1.1** One or more Project Inspector(s), including Special Project Inspector(s), as required, will be assigned to the Work by District, in accordance with requirements of title 24, part 1, of the California Code of Regulations, to enforce the building code and monitor compliance with Plans and Specifications for the Project previously approved by the DSA. Duties of Project Inspector(s) are specifically defined in section 4-342 of said part 1 of title 24.

**5.1.2** No Work shall be carried on except with the knowledge and under the inspection of the Project Inspector(s). The Project Inspector(s) shall have free access to any or all parts of Work at any time. Contractor shall furnish Project Inspector(s) reasonable opportunities for obtaining such information as may be necessary to keep Project Inspector(s) fully informed respecting progress and manner of work and character of materials, including, but not limited to, submission of form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector at least 48 hours in advance of the commencement and completion of construction of each and every aspect of the Work. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>. Inspection of Work shall not relieve Contractor from an obligation to fulfill this Contract. Project Inspector(s) and the DSA are authorized to suspend work whenever the Contractor and/or its Subcontractor(s) are not complying with the Contract Documents. Any work stoppage by the Project Inspector(s) and/or DSA shall be without liability to the District. Contractor shall instruct its Subcontractors and employees accordingly.

**5.1.3** If Contractor and/or any Subcontractor requests that the Project Inspector(s) perform any inspection off-site, this shall only be done if it is allowable pursuant to applicable regulations and DSA approval, if the Project Inspector(s) agree to do so, and at the expense of the Contractor.

## **5.2 Tests and Inspections**

**5.2.1** Tests and Inspections shall comply with title 24, part 1, California Code of Regulations, group 1, article 5, section 4-335, and with the provisions of the Specifications.

**5.2.2** The District will select an independent testing laboratory to conduct the tests. Selection of the materials required to be tested shall be by the laboratory or the District's representative and not by the Contractor. The Contractor shall notify the District's representative a sufficient time in advance of its readiness for required observation or inspection.

**5.2.3** The Contractor shall notify the District's representative a sufficient time in advance of the manufacture of material to be supplied under the Contract Documents, which must by terms of the Contract Documents be tested, in order that the District may arrange for the testing of same at the source of supply. This notice shall be provided, at a minimum, seventy-two (72) hours prior to the manufacture of the material that needs to be tested.

**5.2.4** Any material shipped by the Contractor from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said representative that such testing and inspection will not be required, shall not be incorporated into and/or onto the Project.

**5.2.5** The District will select the testing laboratory and pay for the costs of all tests and inspections. Contractor shall reimburse the District for any and all laboratory costs or other testing costs for any materials found to be not in compliance with the Contract Documents. At the District's discretion, District may elect to deduct laboratory or other testing costs for noncompliant materials from the Contract Price, and such deduction shall not constitute a withholding.

## **5.3 Costs for After Hours and/or Off Site Inspections**

If the Contractor performs Work outside the Inspector's regular working hours or requests the Inspector to perform inspections off Site, costs of any inspections required outside regular working hours or off Site shall be borne by the Contractor and may be invoiced to the Contractor by the District or the District may deduct those expenses from the next Progress Payment.

## **6. CONTRACTOR**

Contractor shall construct and complete, in a good and workmanlike manner, the Work for the Contract Price including any adjustment(s) to the Contract Price pursuant to provisions herein regarding changes to the Contract Price. Except as otherwise noted, Contractor shall provide and pay for all labor, materials, equipment, permits (excluding DSA), fees, licenses, facilities, transportation, taxes, bonds and insurance, and services necessary for the proper execution and completion of the Work, except as indicated herein.

## **6.1 Status of Contractor**

**6.1.1** Contractor is and shall at all times be deemed to be an independent contractor and shall be wholly responsible for the manner in which it and its Subcontractors perform the services required of it by the Contract Documents. Nothing herein contained shall be construed as creating the relationship of employer and employee, or principal and agent, between the District, or any of the District's employees or agents, and Contractor or any of Contractor's Subcontractors, agents or employees. Contractor assumes exclusively the responsibility for the acts of its agents, and employees as they relate to the services to be provided during the course and scope of their employment. Contractor, its Subcontractors, agents, and its employees shall not be entitled to any rights or privileges of District employees. District shall be permitted to monitor the Contractor's activities to determine compliance with the terms of this Contract.

**6.1.2** As required by law, Contractor and all Subcontractors shall be properly licensed and regulated by the Contractors State License Board, 9821 Business Park Drive, Sacramento, California 95827, <http://www.cslb.ca.gov>.

**6.1.3** As required by law, Contractor and all Subcontractors shall be properly registered as public works contractors by the Department of Industrial Relations at: <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRRegistrationForm> or current URL.

**6.1.4** Contractor represents that it has no existing interest and will not acquire any interest, direct or indirect, which could conflict in any manner or degree with the performance of the Work required under this Contract and that no person having any such interest shall be employed by Contractor.

## **6.2 Project Inspection Card(s)**

Contractor shall verify that forms DSA 152 (or the current version applicable at the time the Work is performed) are issued for the Project prior to the commencement of construction.

## **6.3 Contractor's Supervision**

**6.3.1** During progress of the Work, Contractor shall keep on the Premises, and at all other locations where any Work related to the Contract is being performed, an experienced and competent project manager and construction superintendent who are employees of the Contractor, to whom the District does not object and at least one of whom shall be fluent in English, written and verbal.

**6.3.2** The project manager and construction superintendent shall both speak fluently the predominant language of the Contractor's employees.

**6.3.3** Before commencing the Work herein, Contractor shall give written notice to District of the name of its project manager and construction superintendent. Neither the Contractor's project manager nor construction superintendent shall be changed except with prior written notice to District. If the Contractor's project manager and/or construction superintendent proves to be unsatisfactory to Contractor, or to District, any of the District's employees, agents, the Construction Manager, or the Architect, Contractor shall notify District in writing before any



change occurs, but no less than two (2) business days prior. Any replacement of the project manager and/or construction superintendent shall be made promptly and must be satisfactory to the District. The Contractor's project manager and construction superintendent shall each represent Contractor, and all directions given to Contractor's project manager and/or construction superintendent shall be as binding as if given to Contractor.

**6.3.4** Contractor shall give efficient supervision to Work, using its best skill and attention. Contractor shall carefully study and compare all Contract Documents, Drawings, Specifications, and other instructions and shall at once report to District, Construction Manager, and Architect any error, inconsistency, or omission that Contractor or its employees and Subcontractors may discover, in writing, with a copy to District's Project Inspector(s). The Contractor shall have responsibility for discovery of errors, inconsistencies, or omissions.

#### **6.4 Duty to Provide Fit Workers**

**6.4.1** Contractor and Subcontractor(s) shall at all times enforce strict discipline and good order among their employees and shall not employ or work any unfit person or anyone not skilled in work assigned to that person. It shall be the responsibility of Contractor to ensure compliance with this requirement. District may require Contractor to permanently remove unfit persons from Project Site.

**6.4.2** Any person in the employ of Contractor or Subcontractor(s) whom District may deem incompetent or unfit shall be excluded from working on the Project and shall not again be employed on the Project except with the prior written consent of District.

**6.4.3** The Contractor shall furnish labor that can work in harmony with all other elements of labor employed or to be employed in the Work.

**6.4.4** If Contractor intends to make any change in the name or legal nature of the Contractor's entity, Contractor must first notify the District in writing prior to making any contemplated change. The District shall determine in writing if Contractor's intended change is permissible while performing this Contract.

#### **6.5 Field Office**

**6.5.1** Contractor shall provide a temporary office on the Work Site for the District's use exclusively, during the term of the Contract. See 01 52 13 Field Offices for additional information.

#### **6.6 Purchase of Materials and Equipment**

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

#### **6.7 Documents on Work**

**6.7.1** Contractor shall at all times keep on the Work Site, or at another location as the District may authorize in writing, one (1) legible copy of all Contract Documents, including Addenda and Change Orders, and Titles 19 and 24 of the

California Code of Regulations, the specified edition(s) of the Uniform Building Code, all approved Drawings, Plans, Schedules, and Specifications, and all codes and documents referred to in the Specifications, and made part thereof. These documents shall be kept in good order and available to District, Construction Manager, Architect, Architect's representatives, the Project Inspector(s), and all authorities having jurisdiction. Contractor shall be acquainted with and comply with the provisions of these titles as they relate to this Project. (See particularly the duties of Contractor, Title 24, Part 1, California Code of Regulations, section 4-343.) Contractor shall also be acquainted with and comply with all California Code of Regulations provisions relating to conditions on this Project, particularly Titles 8 and 17. Contractor shall coordinate with Architect and Construction Manager and shall submit its verified report(s) according to the requirements of Title 24.

#### **6.7.2 Daily Job Reports.**

**6.7.2.1** Contractor shall maintain, at a minimum, at least one (1) set of Daily Job Reports on the Project. These must be prepared by the Contractor's employee(s) who are present on Site, and must include, at a minimum, the following information:

- 6.7.2.1.1** A brief description of all Work performed on that day.
- 6.7.2.1.2** A summary of all other pertinent events and/or occurrences on that day.
- 6.7.2.1.3** The weather conditions on that day.
- 6.7.2.1.4** A list of all Subcontractor(s) working on that day, including DIR registration numbers.
- 6.7.2.1.5** A list of each Contractor employee working on that day and the total hours worked for each employee.
- 6.7.2.1.6** A complete list of all equipment on Site that day, whether in use or not.
- 6.7.2.1.7** A complete list of all materials, supplies, and equipment delivered on that day.
- 6.7.2.1.8** A complete list of all inspections and tests performed on that day.

**6.7.2.2** Each day Contractor shall provide a copy of the previous day's Daily Job Report to the District or the Construction Manager.

#### **6.8 Preservation of Records**

Contractor shall maintain, and District shall have the right to inspect, Contractor's financial records for the Project, including, without limitation, Job Cost Reports for the Project in compliance with the criteria set forth herein. The District shall have the right to examine and audit all Daily Job Reports or other Project records of Contractor's project manager(s), project superintendent(s), and/or project foreperson(s), all certified payroll records and/or related documents including, without limitation, Job Cost Reports, payroll, payment, timekeeping and tracking documents; all books, estimates, records, contracts, documents, bid documents, bid cost data, subcontract job cost reports, and other data of the Contractor, any Subcontractor, and/or supplier, including computations and projections related to bidding, negotiating, pricing, or performing the Work or Contract modification, in order to evaluate the accuracy, completeness, and currency of the cost, manpower, coordination, supervision, or pricing data at no additional cost to the District. These documents may be duplicative and/or be in addition to any Bid

Documents held in escrow by the District. The Contractor shall make available at its office at all reasonable times the materials described in this paragraph for the examination, audit, or reproduction until three (3) years after final payment under this Contract. Notwithstanding the provisions above, Contractor shall provide any records requested by any governmental agency, if available, after the time set forth above.

## **6.9 Integration of Work**

**6.9.1** Contractor shall do all cutting, fitting, patching, and preparation of Work as required to make its several parts come together properly, to fit it to receive or be received by work of other contractors, and to coordinate tolerances to various pieces of work, showing upon, or reasonably implied by, the Drawings and Specifications for the completed structure, and shall conform them as District and/or Architect may direct.

**6.9.2** Contractor shall make its own layout of lines and elevations and shall be responsible for the accuracy of both Contractor's and Subcontractors' work resulting therefrom.

**6.9.3** Contractor and all Subcontractors shall take all field dimensions required in performance of the Work, and shall verify all dimensions and conditions on the Site. All dimensions affecting proper fabrication and installation of all Work must be verified prior to fabrication by taking field measurements of the true conditions. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the Work, Contractor shall bring such discrepancies to the attention of the District and Architect for adjustment before proceeding with the Work. In doing so, it is recognized that Contractor is not acting in the capacity of a licensed design professional, and that Contractor's examination is made in good faith to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies in the Contract Documents or to ascertain compliance with applicable laws, building codes or regulations. Following receipt of written notice from Contractor, the District and/or Architect shall inform Contractor what action, if any, Contractor shall take with regard to such discrepancies.

**6.9.4** All costs caused by noncompliant, defective, or delayed Work shall be borne by Contractor, inclusive of repair work.

**6.9.5** Contractor shall not endanger any work performed by it or anyone else by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other contractor except with consent of District.

## **6.10 Notifications**

**6.10.1** Contractor shall notify the Construction Manager, Architect and Project Inspector, in writing, of the commencement of construction of each and every aspect of the Work at least 48 hours in advance by submitting form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>.

**6.10.2** Contractor shall notify the Construction Manager, Architect and Project Inspector, in writing, of the completion of construction of each and every aspect of

the Work at least 48 hours in advance by submitting form DSA 156 (or current version) to the Project Inspector.

### **6.11 Obtaining of Permits, Licenses and Registrations**

Contractor shall secure and pay for all permits (except DSA), licenses, registrations, approvals and certificates necessary for prosecution of Work, including but not limited to those listed in the Special Conditions, if any, before the date of the commencement of the Work or before the permits, licenses, registrations, approvals and certificates are legally required to continue the Work without interruption. The Contractor shall obtain and pay, only when legally required, for all licenses, registrations, approvals, permits, inspections, and inspection certificates required to be obtained from or issued by any authority having jurisdiction over any part of the Work included in the Contract. All final permits, licenses, registrations, approvals and certificates shall be delivered to District before demand is made for final payment.

### **6.12 Royalties and Patents**

**6.12.1** Contractor shall obtain and pay, only when legally required, all royalties and license fees necessary for prosecution of Work before the earlier of the date of the commencement of the Work or the date that the license is legally required to continue the Work without interruption. Contractor shall defend suits or claims of infringement of patent, copyright, or other rights and shall hold the District, the Architect, and the Construction Manager harmless and indemnify them from loss on account thereof except when a particular design, process, or make or model of product is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process, or product is an infringement of a patent or copyright, the Contractor shall indemnify and defend the District, Architect and Construction Manager against any loss or damage unless the Contractor promptly informs the District of its information.

**6.12.2** The review by the District or Architect of any method of construction, invention, appliance, process, article, device, or material of any kind shall be only its adequacy for the Work and shall not approve use by the Contractor in violation of any patent or other rights of any person or entity.

### **6.13 Work to Comply With Applicable Laws and Regulations**

**6.13.1** Contractor shall give all notices and comply with the following specific laws, ordinances, rules, and regulations and all other applicable laws, ordinances, rules, and regulations bearing on conduct of Work as indicated and specified, including but not limited to the appropriate statutes and administrative code sections. If Contractor observes that Drawings and Specifications are at variance therewith, or should Contractor become aware of the development of conditions not covered by Contract Documents that may result in finished Work being at variance therewith, Contractor shall promptly notify District in writing and any changes deemed necessary by District shall be made as provided in Contract for changes in Work.

**6.13.1.1** National Electrical Safety Code, U. S. Department of Commerce

**6.13.1.2** National Board of Fire Underwriters' Regulations

**6.13.1.3** International Building Code, latest addition, and the California Code of Regulations, title 24, and other amendments

**6.13.1.4** Manual of Accident Prevention in Construction, latest edition, published by A.G.C. of America

**6.13.1.5** Industrial Accident Commission's Safety Orders, State of California

**6.13.1.6** Regulations of the State Fire Marshall (title 19, California Code of Regulations) and Pertinent Local Fire Safety Codes

**6.13.1.7** Americans with Disabilities Act

**6.13.1.8** Education Code of the State of California

**6.13.1.9** Government Code of the State of California

**6.13.1.10** Labor Code of the State of California, division 2, part 7, Public Works and Public Agencies

**6.13.1.11** Public Contract Code of the State of California

**6.13.1.12** California Art Preservation Act

**6.13.1.13** U. S. Copyright Act

**6.13.1.14** U. S. Visual Artists Rights Act

**6.13.2** Contractor shall comply with all applicable mitigation measures, if any, adopted by any public agency with respect to this Project pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.).

**6.13.3** If Contractor performs any Work that it knew, or through exercise of reasonable care should have known, to be contrary to any applicable laws, ordinance, rules, or regulations, Contractor shall bear all costs arising therefrom and arising from the correction of said Work.

**6.13.4** Where Specifications or Drawings state that materials, processes, or procedures must be approved by the DSA, State Fire Marshall, or other body or agency, Contractor shall be responsible for satisfying requirements of such bodies or agencies applicable at the time the Work is performed, and as determined by those bodies or agencies.

#### **6.14 Safety/Protection of Persons and Property**

**6.14.1** The Contractor will be solely and completely responsible for conditions of the Work Site, including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours.

**6.14.2** The wearing of hard hats will be mandatory at all times for all personnel on Site. Contractor shall supply sufficient hard hats to properly equip all employees and visitors.

**6.14.3** Any construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the Work Site.

**6.14.4** Implementation and maintenance of safety programs shall be the sole responsibility of the Contractor.

**6.14.5** The Contractor shall furnish to the District a copy of the Contractor's safety plan within the time frame indicated in the Contract Documents and specifically adapted for the Project.

**6.14.6** Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Contract and shall take all necessary measures and be responsible for the proper care and completion and final acceptance by District. All Work shall be solely at Contractor's risk with the exception of damage to the Work caused by "acts of God" as defined in Public Contract Code section 7105.

**6.14.7** Contractor shall take, and require Subcontractors to take, all necessary precautions for safety of workers on the Project and shall comply with all applicable federal, state, local, and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where Work is being performed and to provide a safe and healthful place of employment. Contractor shall furnish, erect, and properly maintain at all times, all necessary safety devices, safeguards, construction canopies, signs, nets, barriers, lights, and watchmen for protection of workers and the public and shall post danger signs warning against hazards created by such features in the course of construction.

**6.14.8** Hazards Control – Contractor shall store volatile wastes in covered metal containers and remove them from the Site daily. Contractor shall prevent accumulation of wastes that create hazardous conditions. Contractor shall provide adequate ventilation during use of volatile or noxious substances.

**6.14.9** Contractor shall designate a responsible member of its organization on the Project, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety, and health of workers. Name and position of person so designated shall be reported to District by Contractor.

**6.14.10** Contractor shall correct any violations of safety laws, rules, orders, standards, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, Contractor shall correct such violation promptly.

**6.14.11** Contractor shall comply with any District storm water requirements that are approved by the District and applicable to the Project, at no additional cost to the District.

**6.14.12** In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization, shall act, at its discretion, to prevent such threatened loss or injury. Any compensation claimed by Contractor on account of emergency work shall be determined by agreement.

**6.14.13** All salvage materials will become the property of the Contractor and shall be removed from the Site unless otherwise called for in the Contract Documents. However, the District reserves the right to designate certain items of value that shall be turned over to the District unless otherwise directed by District.

**6.14.14** All connections to public utilities and/or existing on-site services shall be made and maintained in such a manner as to not interfere with the continuing use of same by the District during the entire progress of the Work.

**6.14.15** Contractor shall provide such heat, covering, and enclosures as are necessary to protect all Work, materials, equipment, appliances, and tools against damage by weather conditions, such as extreme heat, cold, rain, snow, dry winds, flooding, or dampness.

**6.14.16** The Contractor shall protect and preserve the Work from all damage or accident, providing any temporary roofs, window and door coverings, boxings, or other construction as required by the Architect. The Contractor shall be responsible for existing structures, walks, roads, trees, landscaping, and/or improvements in working areas; and shall provide adequate protection therefore. If temporary removal is necessary of any of the above items, or damage occurs due to the Work, the Contractor shall replace same at its expense with same kind, quality, and size of Work or item damaged. This shall include any adjoining property of the District and others.

**6.14.17** Contractor shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property, and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations.

**6.14.18** Contractor shall confine apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits, or directions of Architect, and shall not interfere with the Work or unreasonably encumber Premises or overload any structure with materials. Contractor shall enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking, and require that all workers comply with all regulations while on Project Site.

**6.14.19** Contractor, Contractor's employees, Subcontractors, Subcontractors' employees, or any person associated with the Work shall conduct themselves in a manner appropriate for a school site. No verbal or physical contact with neighbors, students, and faculty, profanity, or inappropriate attire or behavior will be permitted. District may require Contractor to permanently remove non-complying persons from Project Site.

**6.14.20** Contractor shall take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed, Contractor shall have a civil engineer, registered as a professional engineer in California, replace them at no cost to District.

**6.14.21** In the event that the Contractor enters into any agreement with owners of any adjacent property to enter upon the adjacent property for the purpose of performing the Work, Contractor shall fully indemnify, defend, and hold harmless each person, entity, firm, or agency that owns or has any interest in adjacent property. The form and content of the agreement of indemnification shall be

approved by the District prior to the commencement of any Work on or about the adjacent property. The Contractor shall also indemnify the District as provided in the indemnification provision herein. These provisions shall be in addition to any other requirements of the owners of the adjacent property.

### **6.15 Working Evenings and Weekends**

Contractor may be required to work increased hours, evenings, and/or weekends at no additional cost to the District. Contractor shall give the District seventy-two (72) hours' notice prior to performing any evening and/or weekend work. Contractor shall perform all evening and/or weekend work only upon District's approval and in compliance with all applicable rules, regulations, laws, and local ordinances including, without limitation, all noise and light limitations. Contractor shall reimburse the District for any increased or additional Inspector charges as a result of Contractor's increased hours, or evening and/or weekend work.

### **6.16 Cleaning Up**

**6.16.1** The Contractor shall provide all services, labor, materials, and equipment necessary for protecting and securing the Work, all school occupants, furnishings, equipment, and building structure from damage until its completion and final acceptance by District. Dust barriers shall be provided to isolate dust and dirt from construction operations. At completion of the Work and portions thereof, Contractor shall clean to the original state any areas beyond the Work area that become dust laden as a result of the Work. The Contractor must erect the necessary warning signs and barricades to ensure the safety of all school occupants. The Contractor at all times must maintain good housekeeping practices to reduce the risk of fire damage and must make a fire extinguisher, fire blanket, and/or fire watch, as applicable, available at each location where cutting, braising, soldering, and/or welding is being performed or where there is an increased risk of fire.

**6.16.2** Contractor at all times shall keep Premises, including property immediately adjacent thereto, free from debris such as waste, rubbish (including personal rubbish of workers, e.g., food wrappers, etc.), and excess materials and equipment caused by the Work. Contractor shall not leave debris under, in, or about the Premises (or surrounding property or neighborhood), but shall promptly remove same from the Premises on a daily basis. If Contractor fails to clean up, District may do so and the cost thereof shall be charged to Contractor. If Contract is for work on an existing facility, Contractor shall also perform specific clean-up on or about the Premises upon request by the District as it deems necessary for the continuing education process. Contractor shall comply with all related provisions of the Specifications.

**6.16.3** If the Construction Manager, Architect, or District observes the accumulation of trash and debris, the District will give the Contractor a 24-hour written notice to mitigate the condition.

**6.16.4** Should the Contractor fail to perform the required clean-up, or should the clean-up be deemed unsatisfactory by the District, the District will then perform the clean-up. All cost associated with the clean-up work (including all travel, payroll burden, and costs for supervision) will be deducted from the Contract Price, or District may withhold those amounts from payment(s) to Contractor.



## **7. SUBCONTRACTORS**

**7.1** Contractor shall provide the District with information for all Subcontracts as indicated in the Contractor's Submittals and Schedules Section herein.

**7.2** No contractual relationship exists between the District and any Subcontractor, supplier, or sub-subcontractor by reason of this Contract.

**7.3** Contractor agrees to bind every Subcontractor by terms of this Contract as far as those terms that are applicable to Subcontractor's work including, without limitation, all labor, wage & hour, apprentice and related provisions and requirements. If Contractor shall subcontract any part of this Contract, Contractor shall be as fully responsible to District for acts and omissions of any Subcontractor and of persons either directly or indirectly employed by any Subcontractor, including Subcontractor caused Project delays, as it is for acts and omissions of persons directly employed by Contractor. The divisions or sections of the Specifications and/or the arrangement of the drawings are not intended to control the Contractor in dividing the Work among Subcontractors or limit the work performed by any trade.

**7.4** District's consent to, or approval of, or failure to object to, any Subcontractor under this Contract shall not in any way relieve Contractor of any obligations under this Contract and no such consent shall be deemed to waive any provisions of this Contract.

**7.5** Contractor is directed to familiarize itself with sections 4100 through 4114 of the Public Contract Code of the State of California, as regards subletting and subcontracting, and to comply with all applicable requirements therein. In addition, Contractor is directed to familiarize itself with sections 1720 through 1861 of the Labor Code of the State of California, as regards the payment of prevailing wages and related issues, and to comply with all applicable requirements therein including, without limitation, section 1775 and the Contractor's and Subcontractors' obligations and liability for violations of prevailing wage law and other applicable laws.

**7.6** No Contractor whose Bid is accepted shall, without consent of the awarding authority and in full compliance with section 4100 et seq. of the Public Contract Code, including, without limitation, sections 4107, 4107.5, and 4109 of the Public Contract Code, and section 1771.1 of the Labor Code, either:

**7.6.1** Substitute any person as a Subcontractor in place of the Subcontractor designated in the original Bid; or

**7.6.2** Permit any Subcontract to be assigned or transferred, or allow any portion of the Work to be performed by anyone other than the original Subcontractor listed in the Bid; or

**7.6.3** Sublet or subcontract any portion of the Work in excess of one-half of one percent (0.5%) of the Contractor's total bid as to which its original bid did not designate a Subcontractor.

**7.7** The Contractor shall be responsible for the coordination of the trades, Subcontractors, sub-subcontractors, and material or equipment suppliers working on the Project.

**7.7.1** Contractor is responsible for ensuring that all Subcontractors are properly registered as public works contractors by the Department of Industrial Relations.

**7.8** Contractor is solely responsible for settling any differences between the Contractor and its Subcontractor(s) or between Subcontractors.

**7.9** Contractor must include in all of its subcontracts the assignment provisions as indicated in the Termination section of these General Conditions.

## **8. OTHER CONTRACTS/CONTRACTORS**

**8.1** District reserves the right to let other contracts, and/or to perform work with its own forces, in connection with the Project. Contractor shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly coordinate and connect Contractor's Work with the work of other contractors.

**8.2** In addition to Contractor's obligation to protect its own Work, Contractor shall protect the work of any other contractor that Contractor encounters while working on the Project.

**8.3** If any part of Contractor's Work depends for proper execution or results upon work of District or any other contractor, the Contractor shall inspect and, before proceeding with its Work, promptly report to the District in writing any defects in District's or any other contractor's work that render Contractor's Work unsuitable for proper execution and results. Contractor shall be held accountable for damages to District for District's or any other contractor's work that Contractor failed to inspect or should have inspected. Contractor's failure to inspect and report shall constitute Contractor's acceptance of all District's or any other contractor's work as fit and proper for reception of Contractor's Work, except as to defects that may develop in District's or any other contractor's work after execution of Contractor's Work and not caused by execution of Contractor's Work.

**8.4** To ensure proper execution of its subsequent work, Contractor shall measure and inspect work already in place and shall at once report to the District in writing any discrepancy between that executed work and the Contract Documents.

**8.5** Contractor shall ascertain to its own satisfaction the scope of the Project and nature of District's or any other contracts that have been or may be awarded by District in prosecution of the Project to the end that Contractor may perform this Contract in light of the other contracts, if any.

**8.6** Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy of the Site, the Premises, or of the Project. Contractor shall not cause any unnecessary hindrance or delay to the use and/or school operation(s) of the Premises and/or to District or any other contractor working on the Project. If simultaneous execution of any contract or school operation is likely to cause interference with performance of Contractor's Contract, Contractor shall coordinate with those contractor(s), person(s), and/or entity(s) and shall notify the District of the resolution.

## **9. DRAWINGS AND SPECIFICATIONS**

**9.1** A complete list of all Drawings that constitute part of the Contract Documents is to be found as an index on the Drawings themselves, and/or may be provided to the Contractor and/or in the Table of Contents.

**9.2** Materials or Work described in words that so applied have a well-known technical or trade meaning shall be deemed to refer to recognized standards, unless noted otherwise.

**9.3 Trade Name or Trade Term.** It is not the intention of this Contract to go into detailed descriptions of any materials and/or methods commonly known to the trade under "trade name" or "trade term." The mere mention or notation of "trade name" or "trade term" shall be considered a sufficient notice to Contractor that it will be required to complete the work so named, complete, finished, and operable, with all its appurtenances, according to the best practices of the trade.

**9.4** The naming of any material and/or equipment shall mean furnishing and installing of same, including all incidental and accessory items thereto and/or labor therefor, as per best practices of the trade(s) involved, unless specifically noted otherwise.

**9.5** Contract Documents are complementary, and what is called for by one shall be binding as if called for by all. As such, Drawings and Specifications are intended to be fully cooperative and to agree. However, if Contractor observes that Drawings and Specifications are in conflict with the Contract Documents, Contractor shall promptly notify District and Architect in writing, and any necessary changes shall be made as provided in the Contract Documents.

**9.6** In the case of discrepancy or ambiguity in the Contract Documents, the order of precedence in the Agreement shall prevail. However, in the case of discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide the District with the functionally complete and operable Project described in the Drawings and Specifications. In case of ambiguity, conflict, or lack of information, District will furnish clarifications with reasonable promptness.

**9.7** Drawings and Specifications are intended to comply with all laws, ordinances, rules, and regulations of constituted authorities having jurisdiction, and where referred to in the Contract Documents, the laws, ordinances, rules, and regulations shall be considered as a part of the Contract within the limits specified. Contractor shall bear all expense of correcting work done contrary to said laws, ordinances, rules, and regulations.

**9.9** As required by Section 4-317(c), Part 1, Title 24, CCR: "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, a construction change document, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work."

**9.9 Ownership of Drawings**

All copies of Plans, Drawings, Designs, Specifications, and copies of other incidental architectural and engineering work, or copies of other Contract Documents furnished by District, are the property of District. They are not to be used by Contractor in other work and, with the exception of signed sets of Contract Documents, are to be returned to District on request at completion of Work, or may be used by District as it may require without any additional costs to District. Neither the Contractor nor any Subcontractor, or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications, and other documents prepared by the Architect. District hereby grants the Contractor, Subcontractors, sub-subcontractors, and material or equipment suppliers a limited license to use applicable portions of the Drawings prepared for the Project in the execution of their Work under the Contract Documents.

**10. CONTRACTOR'S SUBMITTALS AND SCHEDULES**

Contractor's submittals shall comply with the provisions and requirements of the Specifications including, without limitation Submittals.

**10.1 Schedule of Work, Schedule of Submittals, and Schedule of Values**

**10.1.1** Within **TEN (10)** calendar days after the date of the Notice to Proceed (unless otherwise specified in the Specifications), the Contractor shall prepare and submit to the District for review, in a form supported by sufficient data to substantiate its accuracy as the District may require:

**10.1.1.1** Preliminary Schedule. A preliminary schedule of construction indicating the starting and completion dates of the various stages of the Work, including any information and following any form as may be specified in the Specifications. Once approved by District, this shall become the Construction Schedule. This schedule shall include and identify all tasks that are on the Project's critical path with a specific determination of the start and completion of each critical path task as well as all Contract milestones and each milestone's completion date(s) as may be required by the District.

**10.1.1.2** Preliminary Schedule of Values. A preliminary schedule of values for all of the Work, which must include quantities and prices of items aggregating the Contract Price and must subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Unless the Special Conditions contain different limits, this preliminary schedule of values shall include, at a minimum, the following information and the following structure:

**10.1.1.2.1** Divided into at least the following categories:

**10.1.1.2.1.1** By Phase;

- 10.1.1.2.1.2** Overhead and profit;
- 10.1.1.2.1.3** Supervision;
- 10.1.1.2.1.4** General conditions;
- 10.1.1.2.1.5** Layout;
- 10.1.1.2.1.6** Mobilization;
- 10.1.1.2.1.7** Submittals;
- 10.1.1.2.1.8** Bonds and insurance;
- 10.1.1.2.1.9** Close-out/Certification documentation;
- 10.1.1.2.1.10** Demolition;
- 10.1.1.2.1.11** Installation;
- 10.1.1.2.1.12** Rough-in;
- 10.1.1.2.1.13** Finishes;
- 10.1.1.2.1.14** Testing;
- 10.1.1.2.1.15** Punchlist and acceptance.

**10.1.1.2.2** And also divided by each of the following areas:

- 10.1.1.2.2.1** Site work;
- 10.1.1.2.2.2** By each building;
- 10.1.1.2.2.3** By each floor.

**10.1.1.2.3** The preliminary schedule of values shall not provide for values any greater than the following percentages of the Contract value:

- 10.1.1.2.3.1** Mobilization and layout combined to equal not more than 1%;
- 10.1.1.2.3.2** Submittals, samples and shop drawings combined to equal not more than 3%;
- 10.1.1.2.3.3** Bonds and insurance combined to equal not more than 2%.

**10.1.1.2.4** Closeout documentation shall have a value in the preliminary schedule of not less than 5%.

**10.1.1.2.5** Notwithstanding any provision of the Contract Documents to the contrary, payment of the Contractor's overhead, supervision, general conditions costs, and profit, as reflected in the Cost Breakdown, shall be paid based on percentage complete, with the disbursement of Progress Payments and the Final Payment.

**10.1.1.2.6** Contractor shall certify that the preliminary schedule of values as submitted to the District is accurate and reflects the costs as developed in preparing Contractor's bid. The preliminary schedule of values shall be subject to the District's review and approval of the form and content thereof. In the event that the District objects to any portion of the preliminary schedule of values, the District shall notify the Contractor, in writing, of the District's objection(s) to the preliminary schedule of values. Within five (5) calendar days of the date of the District's written objection(s), Contractor shall submit a revised preliminary schedule of values to the District for review and approval. The foregoing procedure for the preparation, review and approval of the preliminary schedule of values shall continue until the District has approved the entirety of the preliminary schedule of values.

**10.1.1.2.7** Once the preliminary schedule of values is approved by the District, this shall become the Schedule of Values. The Schedule of Values shall not be thereafter modified or amended by the Contractor without the prior consent and approval of the District, which may be granted or withheld in the sole discretion of the District.

**10.1.1.3 Preliminary Schedule of Submittals.** A preliminary schedule of submittals, including Shop Drawings, Product Data, and Samples submittals. Once approved by District, this shall become the Submittal Schedule. All submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those submittals shall be forwarded to the District so as not to delay the Construction Schedule. Upon request by the District, Contractor shall provide an electronic copy of all submittals to the District. All submittals shall be submitted no later than 90 days after the Notice to Proceed.

**10.1.1.4 Safety Plan.** Contractor's Safety Plan specifically adapted for the Project. Contractor's Safety Plan shall comply with the following requirements:

**10.1.1.4.1** All applicable requirements of California Division of Occupational Safety and Health ("CalOSHA") and/or of the United States Occupational Safety and Health Administration ("OSHA").

**10.1.1.4.2** All provisions regarding Project safety, including all applicable provisions in these General Conditions.

**10.1.1.4.3** Contractor's Safety Plan shall be in English and in the language(s) of the Contractor's and its Subcontractors' employees.

**10.1.1.5 Complete Registered Subcontractors List.** The name, address, telephone number, facsimile number, California State Contractors License number, classification, DIR registration number and monetary value of all Subcontracts of any tier for parties furnishing labor, material, or equipment for completion of the Project.

**10.1.2** Contractor must provide all schedules both in hard copy and electronically, in a format (e.g., Microsoft Project or Primavera) approved in advance by the District.

**10.1.3** The District will review the schedules submitted and the Contractor shall make changes and corrections in the schedules as requested by the District and resubmit the schedules until approved by the District.

**10.1.4** The District shall have the right at any time to revise the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

**10.1.5** All submittals and schedules must be approved by the District before Contractor can rely on them as a basis for payment.

## **10.2 Monthly Progress Schedule(s)**

**10.2.1** Contractor shall provide Monthly Progress Schedule(s) to the District with each Payment Application. A Monthly Progress Schedule shall update the approved Construction Schedule or the last Monthly Progress Schedule, showing all work completed and to be completed as well as updating the Registered Subcontractors List. The monthly Progress Schedule shall be sent within the timeframe requested by the District and shall be in a format acceptable to the District and contain a written narrative of the progress of work that month and any changes, delays, or events that may affect the work. The process for District approval of the Monthly Progress Schedule shall be the same as the process for approval of the Construction Schedule.

**10.2.2** Contractor shall submit Monthly Progress Schedule(s) with all payment applications.

**10.2.3** Contractor must provide all schedules both in hard copy and electronically, in a format (e.g., Microsoft Project or Primavera) approved in advance by the District.

**10.2.4** The District will review the schedules submitted and the Contractor shall make changes and corrections in the schedules as requested by the District and resubmit the schedules until approved by the District.

**10.2.5** The District shall have the right at any time to revise the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

**10.2.6** All submittals and schedules must be approved by the District before Contractor can rely on them as a basis for payment.

## **10.3 Material Safety Data Sheets (MSDS)**

Contractor is required to ensure Material Safety Data Sheets are available in a readily accessible place at the Work Site for any material requiring a Material Safety Data Sheet per the federal "Hazard Communication" standard, or employees' "right to know" law. The Contractor is also required to ensure proper labeling on substances brought onto the job site and that any person working with the material or within the general area of the material is informed of the hazards of the substance and follows proper handling and protection procedures. Two additional copies of the Material Safety Data Sheets shall also be submitted directly to the District.

## **11. SITE ACCESS, CONDITIONS, AND REQUIREMENTS**

### **11.1 Site Investigation**

Before bidding on this Work, Contractor shall make a careful investigation of the Site and thoroughly familiarize itself with the requirements of the Contract. By the act of submitting a bid for the Work included in this Contract, Contractor shall be deemed to have made a complete study and investigation, and to be familiar with and accepted the existing conditions of the Site.

Prior to commencing the Work, Contractor and the District's representative shall survey the Site to document the condition of the Site. Contractor will record the survey in digital video format and provide an electronic copy to the District within fourteen (14) days of the survey. This electronic record shall serve as a basis for determining any damages caused by the Contractor during the Project. The Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.

## **11.2 Soils Investigation Report**

**11.2.1** When a soils investigation report for the Project is available, that report may be available to the Contractor but shall not be a part of this Contract and shall not alleviate or excuse the Contractor's obligation to perform its own investigation. Any information obtained from that report or any information given on Drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only, is not guaranteed, does not form a part of this Contract, and Contractor may not rely thereon. By submitting its bid, Contractor acknowledges that it has made visual examination of Site and has made whatever tests Contractor deems appropriate to determine underground condition of soil.

**11.2.2** Contractor agrees that no claim against District will be made by Contractor for damages and hereby waives any rights to damages if, during progress of Work, Contractor encounters subsurface or latent conditions at Site materially differing from those shown on Drawings or indicated in Specifications, or for unknown conditions of an unusual nature that differ materially from those ordinarily encountered in the work of the character provided for in Plans and Specifications, except as indicated in the provisions of these General Conditions regarding trenches, trenching, and/or existing utility lines.

## **11.3 Access to Work**

District and its representatives shall at all times have access to Work wherever it is in preparation or progress, including storage and fabrication. Contractor shall provide safe and proper facilities for such access so that District's representatives may perform their functions.

## **11.4 Layout and Field Engineering**

**11.4.1** All field engineering required for layout of this Work and establishing grades for earthwork operations shall be furnished by Contractor at its expense. This Work shall be done by a qualified, California-registered civil engineer approved in writing by District and Architect. Any required Record and/or As-Builts of Site development shall be prepared by the approved civil engineer.

**11.4.2** The Contractor shall be responsible for having ascertained pertinent local conditions such as location, accessibility, and general character of the Site and for having satisfied itself as to the conditions under which the Work is to be performed. Contractor shall follow best practices, including but not limited to potholing to avoid utilities. District shall not be liable for any claim for allowances because of Contractor's error, failure to follow best practices, or negligence in acquainting itself with the conditions at the Site.



**11.4.3** Contractor shall protect and preserve established benchmarks and monuments and shall make no changes in locations without the prior written approval of District. Contractor shall replace any benchmarks or monuments that are lost or destroyed subsequent to proper notification of District and with District's approval.

**11.5 Utilities**

Utilities shall be provided as indicated in the Specifications.

**11.6 Sanitary Facilities**

Sanitary facilities shall be provided as indicated in the Specifications.

**11.7 Surveys**

Contractor shall provide surveys done by a California-licensed civil engineer surveyor to determine locations of construction, grading, and site work as required to perform the Work.

**11.8 Regional Notification Center**

The Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) days prior to commencing any excavation if the excavation will be conducted in an area or in a private easement that is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. No excavation shall be commenced and/or carried out by the Contractor unless an inquiry identification number has been assigned to the Contractor or any Subcontractor and the Contractor has given the District the identification number. Any damages arising from Contractor's failure to make appropriate notification shall be at the sole risk and expense of the Contractor. Any delays caused by failure to make appropriate notification shall be at the sole risk of the Contractor and shall not be considered for an extension of the Contract Time.

**11.9 Existing Utility Lines**

**11.9.1** Pursuant to Government Code section 4215, District assumes the responsibility for removal, relocation, and protection of main or trunk utility lines and facilities located on the construction Site at the time of commencement of construction under this Contract with respect to any such utility facilities that are not identified in the Plans and Specifications. Contractor shall not be assessed for liquidated damages for delay in completion of the Project caused by failure of District or the owner of a utility to provide for removal or relocation of such utility facilities.

**11.9.2** Locations of existing utilities provided by District shall not be considered exact, but approximate within a reasonable margin and shall not relieve Contractor of responsibilities to exercise reasonable care or costs of repair due to Contractor's failure to do so. District shall compensate Contractor for the costs of locating and repairing damage not due to the failure of Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment necessarily idle during such work.

**11.9.3** No provision herein shall be construed to preclude assessment against Contractor for any other delays in completion of the Work. Nothing in this Article shall be deemed to require District to indicate the presence of existing service laterals, appurtenances, or other utility lines, within the exception of main or trunk utility lines or whenever the presence of these utilities on the Site of the construction Project can be inferred from the presence of other visible facilities, such as buildings, meter junction boxes, on or adjacent to the Site of the construction.

**11.9.4** If Contractor, while performing Work under this Contract, discovers utility facilities not identified by District in Contract Plans and Specifications, Contractor shall immediately notify the District and the utility in writing. The cost of repair for damage to above-mentioned visible facilities without prior written notification to the District shall be borne by the Contractor.

#### **11.10 Notification**

Contractor understands, acknowledges and agrees that the purpose of prompt notification to the District pursuant to these provisions is to allow the District to investigate the condition(s) so that the District shall have the opportunity to decide how the District desires to proceed as a result of the condition(s). Accordingly, failure of Contractor to promptly notify the District in writing, pursuant to these provisions, shall constitute Contractor's waiver of any claim for damages or delay incurred as a result of the condition(s).

#### **11.11 Hazardous Materials**

Contractor shall comply with all provisions and requirements of the Contract Documents related to hazardous materials including, without limitation, Hazardous Materials Procedures and Requirements.

#### **11.12 No Signs**

Neither the Contractor nor any other person or entity shall display any signs not required by law or the Contract Documents at the Site, fences trailers, offices, or elsewhere on the Site without specific prior written approval of the District.

### **12. TRENCHES**

#### **12.1 Trenches Greater Than Five Feet**

Pursuant to Labor Code section 6705, if the Contract Price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of excavation, promptly submit to the District and/or a registered civil or structural engineer employed by the District or Architect, a detailed plan, stamped by a licensed engineer retained by the Contractor, showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

#### **12.2 Excavation Safety**

If such plan varies from the Shoring System Standards established by the Construction Safety Orders, the plan shall be prepared by a registered civil or structural engineer, but in no case shall such plan be less effective than that required by the Construction Safety

Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by the District or by the person to whom authority to accept has been delegated by the District.

**12.3 No Tort Liability of District**

Pursuant to Labor Code section 6705, nothing in this Article shall impose tort liability upon the District or any of its employees.

**12.4 No Excavation without Permits**

The Contractor shall not commence any excavation Work until it has secured all necessary permits including the required CalOSHA excavation/shoring permit. Any permits shall be prominently displayed on the Site prior to the commencement of any excavation.

**12.5 Discovery of Hazardous Waste and/or Unusual Conditions**

**12.5.1** Pursuant to Public Contract Code section 7104, if the Work 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 District, in writing, of any:

**12.5.1.1** Material that the Contractor believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code, is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

**12.5.1.2** Subsurface or latent physical conditions at the Site differing from those indicated.

**12.5.1.3** Unknown physical conditions at the Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

**12.5.2** The District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a Change Order under the procedures described herein.

**12.5.3** In the event that a dispute arises between District and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by Contract or by law that pertain to the resolution of disputes and protests.

### **13. INSURANCE AND BONDS**

#### **13.1 Insurance**

Unless different provisions and/or limits are indicated in the Special Conditions, all insurance required of Contractor and/or its Subcontractor(s) shall be in the amounts and include the provisions set forth herein.

##### **13.1.1 Commercial General Liability and Automobile Liability Insurance**

**13.1.1.1** Contractor shall procure and maintain, during the life of this Contract, Commercial General Liability Insurance and Automobile Liability Insurance that shall protect Contractor, District, District's Consultants, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, personal injury, death, advertising injury, and medical payments arising from operations under this Contract. This coverage shall be provided in a form at least as broad as Insurance Services (ISO) Form CG 0001 11188. Contractor shall ensure that Products Liability and Completed Operations coverage, Fire Damage Liability, and Any Auto including owned, non-owned, and hired, are included within the above policies and at the required limits, or Contractor shall procure and maintain these coverages separately.

**13.1.1.2** Contractor's deductible or self-insured retention for its Commercial General Liability Insurance policy shall not exceed \$25,000 unless approved in writing by District.

**13.1.1.3** All such policies shall be written on an occurrence form.

##### **13.1.2 Excess Liability Insurance**

**13.1.2.1** Contractor may procure and maintain, during the life of this Contract, an Excess Liability Insurance Policy to meet the policy limit requirements of the required policies if Contractor's underlying policy limits are less than required.

**13.1.2.2** There shall be no gap between the per occurrence amount of any underlying policy and the start of the coverage under the Excess Liability Insurance Policy. Any Excess Liability Insurance Policy shall be written on a following form and shall protect Contractor, District, District's Consultant's, State, Construction Manager(s), Project Manager(s), and Architect(s) in amounts and including the provisions as set forth in the Supplementary Conditions (if any) and/or Special Conditions, and that complies with all requirements for Commercial General Liability and Automobile Liability and Employers' Liability Insurance.

**13.1.2.3** The District, in its sole discretion, may accept an Excess Liability Insurance Policy that brings Contractor's primary limits to the minimum requirements herein.

**13.1.3 Subcontractor(s):** Contractor shall require its Subcontractor(s), if any, to procure and maintain Commercial General Liability Insurance, Automobile Liability Insurance, and Excess Liability Insurance (if Subcontractor elects to satisfy, in part the insurance required herein by procuring and maintaining an Excess Liability

Insurance Policy) with forms of coverage and limits equal to the amounts required of the Contractor.

#### **13.1.4 Workers' Compensation and Employers' Liability Insurance**

**13.1.4.1** In accordance with provisions of section 3700 of the California Labor Code, the Contractor and every Subcontractor shall be required to secure the payment of compensation to its employees.

**13.1.4.2** Contractor shall procure and maintain, during the life of this Contract, Workers' Compensation Insurance and Employers' Liability Insurance for all of its employees engaged in work under this Contract, on/or at the Site of the Project. This coverage shall cover, at a minimum, medical and surgical treatment, disability benefits, rehabilitation therapy, and survivors' death benefits. Contractor shall require its Subcontractor(s), if any, to procure and maintain Workers' Compensation Insurance and Employers' Liability Insurance for all employees of Subcontractor(s). Any class of employee or employees not covered by a Subcontractor's insurance shall be covered by Contractor's insurance. If any class of employee or employee engaged in Work under this Contract, on or at the Site of the Project, is not protected under the Workers' Compensation Insurance, Contractor shall provide, or shall cause a Subcontractor to provide, adequate insurance coverage for the protection of any employee(s) not otherwise protected before any of those employee(s) commence work.

#### **13.1.5 Builder's Risk Insurance: Builder's Risk "All Risk" Insurance**

Contractor shall procure and maintain, during the life of this Contract, Builder's Risk (Course of Construction), or similar first party property coverage acceptable to the District, issued on a replacement cost value basis. The cost shall be consistent with the total replacement cost of all insurable Work of the Project included within the Contract Documents. Coverage is to insure against all risks of accidental physical loss and shall include without limitation the perils of vandalism and/or malicious mischief (both without any limitation regarding vacancy or occupancy), sprinkler leakage, civil authority, theft, sonic disturbance, earthquake, flood, collapse, wind, rain, dust, fire, war, terrorism, lightning, smoke, and rioting. Coverage shall include debris removal, demolition, increased costs due to enforcement of all applicable ordinances and/or laws in the repair and replacement of damaged and undamaged portions of the property, and reasonable costs for the Architect's and engineering services and expenses required as a result of any insured loss upon the Work and Project, including completed Work and Work in progress, to the full insurable value thereof.

#### **13.1.6 Pollution Liability Insurance**

**13.1.6.1** Contractor shall procure and maintain Pollution Liability Insurance that shall protect Contractor, District, District's Consultants, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, including natural resource damage, cleanup costs, removal, storage, disposal, and/or use of the pollutant arising from operations under this Contract, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims. Coverage shall apply to sudden and/or gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural

gas, waste materials, or other irritants, contaminants, or pollutants, including asbestos. This coverage shall be provided in a form at least as broad as Insurance Services Offices, Inc. (ISO) Form CG 2415, or Contractor shall procure and maintain these coverages separately.

**13.1.6.2** Contractor shall warrant that any retroactive date applicable to coverage under the policy predates the effective date of the Contract and that continuous coverage will be maintained or an extended reporting or discovery period will be exercised for a period of three (3) years, beginning from the time that the Work under the Contract is completed.

**13.1.6.3** If Contractor is responsible for removing any pollutants from a site, then Contractor shall ensure that Any Auto, including owned, non-owned, and hired, is included within the above policies and at the required limits, to cover its automobile exposure from transporting the pollutants from the site to an approved disposal site. This coverage shall include the Motor Carrier Act Endorsement, MCS 90.

**13.1.7 Proof of Insurance and Other Requirements: Endorsements and Certificates**

**13.1.7.1** Contractor shall not commence Work nor shall it allow any Subcontractor to commence Work under this Contract, until Contractor and its Subcontractor(s) have procured all required insurance and Contractor has delivered in duplicate to the District complete endorsements (or entire insurance policies) and certificates indicating the required coverages have been obtained, and the District has approved these documents.

**13.1.7.2** Endorsements, certificates, and insurance policies shall include the following:

**13.1.7.2.1** A clause stating:

“This policy shall not be canceled and the coverage amounts shall not be reduced until notice written notice to District, Architect, and Construction Manager stating date of the cancellation by the insurance carrier. Date of amendment, modification, cancellation or reduction may not be less than thirty (30) days after date of mailing notice.”

**13.1.7.2.2** Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation and reduction notice will be sent, and length of notice period.

**13.1.7.2.3** All endorsements, certificates and insurance policies shall state that District, its trustees, employees and agents, the State of California, Program Manager(s), Construction Manager(s), Project Manager(s), Inspector(s) and Architect(s) are named additional insureds under all policies except Workers’ Compensation Insurance and Employers’ Liability Insurance.

**13.1.7.3** No policy shall be amended, canceled or modified, and the coverage amounts shall not be reduced, until Contractor or Contractor’s broker has provided written notice to District, Architect, and Construction Manager stating

date of the amendment, modification, cancellation or reduction, and a description of the change. Date of amendment, modification, cancellation or reduction may not be less than thirty (30) days after date of mailing notice.

**13.1.7.4** Insurance written on a "claims made" basis shall be retroactive to a date that coincides with or precedes Contractor's commencement of Work, including subsequent policies purchased as renewals or replacements. Said policy is to be renewed by the Contractor and all Subcontractors for a period of five (5) years following completion of the Work or termination of this Agreement. Such insurance must have the same coverage and limits as the policy that was in effect during the term of this Agreement, and will cover the Contractor and all Subcontractors for all claims made.

**13.1.7.5** Contractor's and Subcontractors' insurance policy(s) shall be primary and non-contributory to any insurance or self-insurance maintained by District, its trustees, employees and/or agents, the State of California, Construction Manager(s), Project Manager(s), Inspector(s), and/or Architect(s).

**13.1.7.6** All endorsements shall waive any right to subrogation against any of the named additional insureds.

**13.1.7.7** Unless otherwise stated in the Special Conditions, all of Contractor's insurance shall be with insurance companies with an A.M. Best rating of no less than **A: VII**.

**13.1.7.8** The insurance requirements set forth herein shall in no way limit the Contractor's liability arising out of or relating to the performance of the Work or related activities.

**13.1.7.9** Failure of Contractor and/or its Subcontractor(s) to comply with the insurance requirements herein shall be deemed a material breach of the Agreement.

**13.1.8 Insurance Policy Limits**

Unless different limits are indicated in the Special Conditions, the limits of insurance shall not be less than the following amounts:

<b>Commercial General Liability</b>	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	<b>\$2,000,000 per occurrence; \$4,000,000 aggregate</b>
<b>Automobile Liability – Any Auto</b>	Each Occurrence	\$1,000,000
	General Aggregate	\$2,000,000
<b>Workers' Compensation</b>		Statutory limits pursuant to State law
<b>Employers' Liability</b>		\$1,000,000

<b>Builder's Risk (Course of Construction)</b>		Issued for the value and scope of Work indicated herein.
<b>Pollution Liability</b>		\$1,000,000 per claim; \$2,000,000 aggregate

**13.2 Contract Security - Bonds**

**13.2.1** Contractor shall furnish two surety bonds issued by a California admitted surety insurer as follows:

**13.2.1.1** Performance Bond: A bond in an amount at least equal to one hundred percent (100%) of Contract Price as security for faithful performance of this Contract.

**13.2.1.2** Payment Bond: A bond in an amount at least equal to one hundred percent (100%) of the Contract Price as security for payment of persons performing labor and/or furnishing materials in connection with this Contract.

**13.2.2** Cost of bonds shall be included in the Bid and Contract Price.

**13.2.3** All bonds related to this Project shall be in the forms set forth in these Contract Documents and shall comply with all requirements of the Contract Documents, including, without limitation, the bond forms.

**14. WARRANTY/GUARANTEE/INDEMNITY**

**14.1 Warranty/Guarantee**

**14.1.1** The Contractor shall obtain and preserve for the benefit of the District, manufacturer's warranties on materials, fixtures, and equipment incorporated into the Work.

**14.1.2** In addition to guarantees required elsewhere, Contractor shall, and hereby does guarantee and warrant all Work furnished on the job against all defects for a period of **ONE (1)** year after the later of the following dates, unless a longer period is provided for in the Contract Documents:

**14.1.2.1** After execution of the Notice of Completion for the entire project.

At the District's sole option, Contractor shall repair or replace any and all of that Work, together with any other Work that may be displaced in so doing, that may prove defective in workmanship and/or materials within a **ONE (1)** year period from date of completion as defined above, unless a longer period is provided for in the Contract Documents, without expense whatsoever to District. In the event of failure of Contractor and/or Surety to commence and pursue with diligence said replacements or repairs within ten (10) days after being notified in writing, Contractor and Surety hereby acknowledge and agree that District is authorized to proceed to have defects repaired and made good at expense of Contractor and/or



Surety who hereby agree to pay costs and charges therefore immediately on demand.

**14.1.3** If, in the opinion of District, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to District or to prevent interruption of operations of District, District will attempt to give the notice required above. If Contractor or Surety cannot be contacted or neither complies with District's request for correction within a reasonable time as determined by District, District may, notwithstanding the above provision, proceed to make any and all corrections and/or provide attentions the District believes are necessary. The costs of correction or attention shall be charged against Contractor and Surety of the guarantees provided in this Article or elsewhere in this Contract.

**14.1.4** The above provisions do not in any way limit the guarantees on any items for which a longer guarantee is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish to District all appropriate guarantee or warranty certificates as indicated in the Specifications or upon request by District.

**14.1.5** Nothing herein shall limit any other rights or remedies available to District.

## **14.2 Indemnity and Defense**

**14.2.1** To the furthest extent permitted by California law, the Contractor shall indemnify, keep and hold harmless the District, the Architect, and the Construction Manager, their consultants and separate contractors, and their respective board members, officers, representatives, contractors, agents, and employees, in both individual and official capacities ("Indemnitees"), against all suits, claims, damages, losses, and expenses, including but not limited to attorney's fees, caused by, arising out of, resulting from, or incidental to, the performance of the Work under this Contract by the Contractor, its Subcontractors, vendors, or suppliers, except to the extent caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction, in which case the Contractor's indemnification and hold harmless obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability, and/or to any extent that would render these provisions void or unenforceable. This agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or obligation of indemnity that would otherwise exist as to any party or person described herein. This indemnification, and hold harmless obligation includes, but is not limited to, any failure or alleged failure by Contractor to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Contractor's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the California Department of Industrial Relations.

**14.2.2** Contractor shall also defend, at its own expense, Indemnitees against all suits, claims, allegations, damages, losses, and expenses, including but not limited to attorneys' fees, caused by, arising out of, resulting from, or incidental to, the performance of the Work under this Contract by the Contractor, its Subcontractors, vendors, or suppliers, except to the extent caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design

furnished by the Architect, as found by a court or arbitrator of competent jurisdiction, in which case the Contractor's defense obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability, and/or to any extent that would render these provisions void or unenforceable. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the Indemnitees. This obligation of defense is inclusive of fees and costs. If the Indemnitees provide their own defense due to failure to timely respond to tender of defense, rejection of tender of defense, or conflict of interest of proposed counsel, Contractor shall reimburse Indemnitees for any expenditures, including reasonable attorney's fees and costs. This agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or obligation of defense that would otherwise exist as to any party or person described herein. This defense obligation includes, but is not limited to, any failure or alleged failure by Contractor to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Contractor's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the California Department of Industrial Relations. The Contractor shall give prompt notice to the District in the event of any injury (including death), loss, or damage included herein.

**14.2.3** Without limitation of the provisions herein, if the Contractor's agreement to indemnify and hold harmless the Indemnitees or its agreement to defend Indemnitees as provided herein shall be determined to be void or unenforceable, in whole or in part, it is the intention of the parties that these circumstances shall not otherwise affect the validity or enforceability of the Contractor's agreement to indemnify, defend, and hold harmless the rest of the Indemnitees, as provided herein. Further, the Contractor shall be and remain fully liable on its agreements and obligations herein to the fullest extent permitted by law.

**14.2.4** Pursuant to Public Contract Code section 9201, the District shall provide timely notification to Contractor of the receipt of any third-party claim relating to this Contract. The District shall be entitled to recover its reasonable costs incurred in providing said notification.

**14.2.5** In any and all claims against any of the Indemnitees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the Contractor's indemnification obligation herein shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

**14.2.6** The District may retain so much of the moneys due the Contractor as shall be considered necessary, until disposition of any such suit, claims or actions for damages or until the District, Architect and Construction Manager have received written agreement from the Contractor that they will unconditionally defend the District, Architect and Construction Manager, their officers, agents and employees, and pay any damages due by reason of settlement or judgment.

**14.2.7** The defense and indemnification obligations hereunder shall survive the completion of Work, including the warranty/guarantee period, and/or the termination of the Agreement.

## **15. TIME**

### **15.1 Notice to Proceed**

**15.1.1** District may issue a Notice to Proceed within ninety (90) days from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.

**15.1.2** In the event that the District desires to postpone issuing the Notice to Proceed beyond ninety (90) days from the date of the Notice of Award, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed.

**15.1.3** If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to Contractor, Contractor may terminate the Contract. Contractor's termination due to a postponement shall be by written notice to District within ten (10) days after receipt by Contractor of District's notice of postponement. It is further understood by Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement. Should Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.

### **15.2 Computation of Time / Adverse Weather**

**15.2.1** The Contractor will only be allowed a time extension for Adverse Weather conditions if requested by Contractor in compliance with the time extension request procedures and only if all of the following conditions are met:

**15.2.1.1** The weather conditions constitute Adverse Weather, as defined herein and further specified in the Special Conditions;

**15.2.1.2** Contractor can verify that the Adverse Weather caused delays in excess of five (5) hours of the indicated labor required to complete the scheduled tasks of Work on the day affected by the Adverse Weather;

**15.2.1.3** The Contractor's crew is dismissed as a result of the Adverse Weather;

**15.2.1.4** Said delay adversely affects the critical path in the Construction Schedule; and

**15.2.1.5** The number of days of delay for the month exceeds those indicated in the Special Conditions.

**15.2.2** If the aforementioned conditions are met, a non-compensable day-for-day extension will only be allowed for those days in excess of those indicated in the Special Conditions.

**15.2.3** The Contractor shall work seven (7) days per week, if necessary, irrespective of inclement weather, to maintain access and the Construction Schedule, and to protect the Work under construction from the effects of Adverse Weather, all at no further cost to the District.

**15.2.4** The Contract Time has been determined with consideration given to the average climate weather conditions prevailing in the County in which the Project is located.

### **15.3 Hours of Work**

#### **15.3.1 Sufficient Forces**

Contractor and Subcontractors shall continuously furnish sufficient and competent work forces with the required levels of familiarity with the Project and skill, training and experience to ensure the prosecution of the Work in accordance with the Construction Schedule.

#### **15.3.2 Performance During Working Hours**

Work shall be performed during regular working hours as permitted by the appropriate governmental agency except that in the event of an emergency, or when required to complete the Work in accordance with job progress, Work may be performed outside of regular working hours with the advance written consent of the District and approval of any required governmental agencies.

#### **15.3.3 No Work during Testing**

Contractor shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking tests. The District or District's Representative will provide Contractor with a schedule of test dates concurrent with the District's issuance of the Notice to Proceed, or as soon as test dates are made available to the District. See 00 73 13 Special Conditions for additional information.

### **15.4 Progress and Completion**

#### **15.4.1 Time of the Essence**

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

#### **15.4.2 No Commencement Without Insurance or Bonds**

The Contractor shall not commence operations on the Project or elsewhere prior to the effective date of insurance and bonds. The date of commencement of the Work shall not be changed by the effective date of such insurance or bonds. If Contractor commences Work without insurance and bonds, all Work is performed at Contractor's peril and shall not be compensable until and unless Contractor secures bonds and insurance pursuant to the terms of the Contract Documents and subject to District claim for damages.

## **15.5 Schedule**

Contractor shall provide to District, Construction Manager, and Architect a schedule in conformance with the Contract Documents and as required in the Notice to Proceed and the Contractor's Submittals and Schedules section of these General Conditions.

## **15.6 Expeditious Completion**

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

## **16. EXTENSIONS OF TIME – LIQUIDATED DAMAGES**

### **16.1 Liquidated Damages**

Contractor and District hereby agree that the exact amount of damages for failure to complete the Work within the time specified is extremely difficult or impossible to determine. If the Work is not completed within the time specified in the Contract Documents, it is understood that the District will suffer damage. It being impractical and unfeasible to determine the amount of actual damage, it is agreed the Contractor shall pay to District as fixed and liquidated damages, and not as a penalty, the amount set forth in the Agreement for each calendar day of delay in completion. Contractor and its Surety shall be liable for the amount thereof pursuant to Government Code section 53069.85.

### **16.2 Excusable Delay**

**16.2.1** Contractor shall not be charged for liquidated damages because of any delays in completion of Work which are not the fault of Contractor or its Subcontractors, including acts of God as defined in Public Contract Code section 7105, acts of enemy, epidemics, and quarantine restrictions. Contractor shall, within five (5) calendar days of beginning of any delay, notify District in writing of causes of delay including documentation and facts explaining the delay and the direct correlation between the cause and effect. District shall review the facts and extent of any delay and shall grant extension(s) of time for completing Work when, in its judgment, the findings of fact justify an extension. Extension(s) of time shall apply only to that portion of Work affected by delay, and shall not apply to other portions of Work not so affected. An extension of time may only be granted if Contractor has timely submitted the Construction Schedule as required herein.

**16.2.2** Contractor shall notify the District pursuant to the claims provisions in these General Conditions of any anticipated delay and its cause. Following submission of a claim, the District may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the Work might be delayed thereby.

**16.2.3** In the event the Contractor requests an extension of Contract Time for unavoidable delay, such request shall be submitted in accordance with the provisions in the Contract Documents governing changes in Work. When requesting time, requests must be submitted with full justification and documentation. If the Contractor fails to submit justification, it waives its right to a time extension at a later date. Such justification must be based on the official Construction Schedule as updated at the time of occurrence of the delay or execution of Work related to any

changes to the Scope of Work. Any claim for delay must include the following information as support, without limitation:

**16.2.3.1** The duration of the activity relating to the changes in the Work and the resources (manpower, equipment, material, etc.) required to perform the activities within the stated duration.

**16.2.3.2** Specific logical ties to the Contract Schedule for the proposed changes and/or delay showing the activity/activities in the Construction Schedule that are affected by the change and/or delay. In particular, Contractor must show an actual impact to the schedule, after making a good faith effort to mitigate the delay by rescheduling the work, by providing an analysis of the schedule ("Schedule Analysis"). Such Schedule Analysis shall describe in detail the cause and effect of the delay and the impact on the critical dates in the Project schedule. (A portion of any delay of seven (7) days or more must be provided.)

**16.2.3.3** A recovery schedule must be submitted within twenty (20) calendar days of written notification to the District of causes of delay.

### **16.3 No Additional Compensation for Delays Within Contractor's Control**

**16.3.1** Contractor is aware that governmental agencies, including, without limitation, the Division of the State Architect, the Department of General Services, gas companies, electrical utility companies, water districts, and other agencies may have to approve Contractor-prepared drawings or approve a proposed installation. Accordingly, Contractor shall include in its bid, time for possible review of its drawings and for reasonable delays and damages that may be caused by such agencies. Thus, Contractor is not entitled to make a claim for damages or delays arising from the review of Contractor's drawings.

**16.3.2** Contractor shall only be entitled to compensation for delay when all of the following conditions are met:

**16.3.2.1** The District is responsible for the delay;

**16.3.2.2** The delay is unreasonable under the circumstances involved;

**16.3.2.3** The delay was not within the contemplation of the District and Contractor; and

**16.3.2.4** Contractor timely complies with the claims procedure of the Contract Documents.

### **16.4 Float or Slack in the Schedule**

Float or slack is the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any of the activities in the schedule. Float or slack is not for the exclusive use of or benefit of either the District or the Contractor, but its use shall be determined solely by the District.

## **17. CHANGES IN THE WORK**

### **17.1 No Changes Without Authorization**

**17.1.1** There shall be no change whatsoever in the Drawings, Specifications, or in the Work without an executed Change Order or a written Construction Change Directive authorized by the District as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the District's governing board has authorized the same and the cost thereof has been approved in writing by Change Order or Construction Change Directive in advance of the changed Work being performed. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted and approved in writing in the Change Order or Construction Change Directive. Contractor shall be responsible for any costs incurred by the District for professional services and DSA fees and/or delay to the Project Schedule, if any, for DSA to review any request for changes to the DSA approved plans and specifications for the convenience of the Contractor and/or to accommodate the Contractor's means and methods. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications.

**17.1.2** Contractor shall perform immediately all work that has been authorized by a fully executed Change Order or Construction Change Directive. Contractor shall be fully responsible for any and all delays and/or expenses caused by Contractor's failure to expeditiously perform this Work.

**17.1.3** Should any Change Order result in an increase in the Contract Price or extend the Contract Time, the cost of or length of extension in that Change Order shall be agreed to, in writing, by the District in advance of the Work by Contractor, and shall be subject to the monetary limitations set forth in Public Contract Code section 20118.4. In the event that Contractor proceeds with any change in Work without a Change Order executed by the District or Construction Change Directive, Contractor waives any claim of additional compensation or time for that additional work. Under no circumstances shall Contractor be entitled to any claim of additional compensation or time not expressly requested by Contractor in a Proposed Change Order or approved by District in an executed Change Order.

**17.1.4** Contractor understands, acknowledges, and agrees that the reason for District authorization is so that District may have an opportunity to analyze the Work and decide whether the District shall proceed with the Change Order or alter the Project so that a change in Work becomes unnecessary.

### **17.2 Architect Authority**

The Architect will have authority to order minor changes in the Work not involving any adjustment in the Contract Price, or an extension of the Contract Time, or a change that is inconsistent with the intent of the Contract Documents. These changes shall be effected by written Change Order, Construction Change Directive, by Architect's response(s) to RFI(s), or by Architect's Supplemental Instructions ("ASI").

### **17.3 Change Orders**

**17.3.1** A Change Order is a written instrument prepared and issued by the District and/or the Architect and signed by the District (as authorized by the District's Governing Board), the Contractor, the Architect, and approved by the Project Inspector (if necessary) and DSA (if necessary), stating their agreement regarding all of the following:

**17.3.1.1** A description of a change in the Work;

**17.3.1.2** The amount of the adjustment in the Contract Price, if any; and

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

### **17.4 Construction Change Directives**

**17.4.1** A Construction Change Directive is a written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work. The District may, as provided by law, by Construction Change Directive and without invalidating the Contract, order changes in the Work consisting of additions, deletions, or other revisions. The adjustment to the Contract Price or Time, if any, is subject to the provisions of this section regarding Changes in the Work. If all or a portion of the Project is being funded by funds requiring approval by the State Allocation Board ("SAB"), these revisions may be subject to compensation once approval of same is received and funded by the SAB, and funds are released by the Office of Public School Construction ("OPSC"). Any dispute as to the adjustment in the Contract Price, if any, of the Construction Change Directive or timing of payment shall be resolved pursuant to the Payment and Claims and Disputes provisions herein.

**17.4.2** The District may issue a Construction Change Directive in the absence of agreement on the terms of a Change Order.

### **17.5 Force Account Directives**

**17.5.1** When work, for which a definite price has not been agreed upon in advance, is to be paid for on a force account basis, all direct costs necessarily incurred and paid by the Contractor for labor, material, and equipment used in the performance of that Work, shall be subject to the approval of the District and compensation will be determined as set forth herein.

**17.5.2** The District will issue a Force Account Directive to proceed with the Work on a force account basis, and a not-to-exceed budget will be established by the District.

**17.5.3** All requirements regarding direct cost for labor, labor burden, material, equipment, and markups on direct costs for overhead and profit described in this section shall apply to Force Account Directives. However, the District will only pay for actual costs verified in the field by the District or its authorized representative(s) on a daily basis.

**17.5.4** The Contractor shall be responsible for all cost related to the administration of Force Account Directive. The markup for overhead and profit for



Contractor modifications shall be full compensation to the Contractor to administer Force Account Directive, and Contractor shall not be entitled to separately recover additional amounts for overhead and/or profit.

**17.5.5** The Contractor shall notify the District or its authorized representative(s) at least twenty-four (24) hours prior to proceeding with any of the force account work. Furthermore, the Contractor shall notify the District when it has consumed eighty percent (80%) of the budget, and shall not exceed the budget unless specifically authorized in writing by the District. The Contractor will not be compensated for force account work in the event that the Contractor fails to timely notify the District regarding the commencement of force account work, or exceeding the force account budget.

**17.5.6** The Contractor shall diligently proceed with the work, and on a daily basis, submit a daily force account report on a form supplied by the District no later than 5:00 p.m. each day. The report shall contain a detailed itemization of the daily labor, material, and equipment used on the force account work only. The names of the individuals performing the force account work shall be included on the daily force account reports. The type and model of equipment shall be identified and listed. The District will review the information contained in the reports, and sign the reports no later than the next work day, and return a copy of the report to the Contractor for their records. The District will not sign, nor will the Contractor receive compensation for work the District cannot verify. The Contractor will provide a weekly force account summary indicating the status of each Force Account Directive in terms of percent complete of the not-to-exceed budget and the estimated percent complete of the work.

**17.5.7** In the event the Contractor and the District reach a written agreement on a set cost for the work while the work is proceeding based on a Force Account Directive, the Contractor's signed daily force account reports shall be discontinued and all previously signed reports shall be invalid.

## **17.6 Price Request**

### **17.6.1 Definition of Price Request**

A Price Request ("PR") is a written request prepared by the Construction Manager requesting the Contractor to submit to the District and Construction Manager an estimate of the effect of a proposed change in the Work on the Contract Price and the Contract Time.

### **17.6.2 Scope of Price Request**

A Price Request shall contain adequate information, including any necessary Drawings and Specifications, to enable Contractor to provide the cost breakdowns required herein. The Contractor shall not be entitled to any additional compensation for preparing a response to a Price Request, whether ultimately accepted or not.

## **17.7 Proposed Change Order**

### **17.7.1 Definition of Proposed Change Order**

A Proposed Change Order ("PCO") is a written request prepared by the Contractor requesting that the District and the Architect issue a Change Order based upon a proposed change to the Work.

**17.7.2 Changes in Contract Price**

A PCO shall include breakdowns and backup documentation pursuant to the revisions herein and sufficient, in the District's judgment, to validate any change in Contract Price. In no case shall Contractor or any of its Subcontractors be permitted to reserve rights for additional compensation for Change Order Work.

**17.7.3 Changes in Time**

A PCO shall also include any changes in time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Construction Schedule as defined in the Contract Documents. If Contractor fails to request a time extension in a PCO, then the Contractor is thereafter precluded from requesting, and waives any right to request, additional time and/or claim a delay. In no case shall Contractor or any of its Subcontractors be permitted to reserve rights for additional time for Change Order Work. A PCO that leaves the amount of time requested blank, or states that such time requested is "to be determined", is not permitted and shall also constitute a waiver of any right to request additional time and/or claim a delay.

**17.7.4 Unknown and/or Unforeseen Conditions**

Contractor must submit a PCO requesting an increase in Contract Price and/or Contract Time that is based at least partially on Contractor's assertion that Contractor has encountered unknown and/or unforeseen condition(s) on the Project, then Contractor shall base the PCO on provable information that, beyond a reasonable doubt and to the District's satisfaction, demonstrates that the unknown and/or unforeseen condition(s) were actually unknown and/or unforeseen and that the condition(s) were reasonably unknown and/or unforeseen. If not, the District shall deny the PCO as unsubstantiated, and the Contractor shall complete the Project without any increase in Contract Price and/or Contract Time based on that PCO.

**17.7.5 Proposed Change Order Certification**

In submitting a PCO, Contractor certifies and affirms that the cost and/or time request is submitted in good faith, that the cost and/or time request is accurate and in accordance with the provisions of the Contract Documents, and the Contractor submits the cost and/or request for extension of time recognizing the significant civil penalties and treble damages which follow from making a false claim or presenting a false claim under Government Code section 12650 et seq.

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**17.8 Format for Proposed Change Order**

**17.8.1** The following format shall be used as applicable by the District and the Contractor (e.g. Change Orders, PCO’s) to communicate proposed additions and deductions to the Contract, supported by attached documentation. Any spaces left blank will be deemed no change to cost or time. See 00 63 57 Proposed Change Order Form, and 00 63 63 Change Order Form for templates.

	<b><u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u></b>	<b><u>ADD</u></b>	<b><u>DEDUCT</u></b>
(a)	<b><u>Material</u></b> (attach suppliers’ invoice or itemized quantity and unit cost plus sales tax)		
(b)	<b><u>Add Labor</u></b> (attach itemized hours and rates, fully encumbered)		
(c)	<b><u>Add Equipment</u></b> (attach suppliers’ invoice)		
(d)	<b><u>Subtotal</u></b>		
(e)	<b><u>Add overhead and profit for any and all tiers of Subcontractor</u></b> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<b><u>Subtotal</u></b>		
(g)	<b><u>Add Overhead and Profit for Contractor</u></b> , not to exceed five percent (5%) of Item (f)		
(h)	<b><u>Subtotal</u></b>		
(i)	<b><u>Add Bond and Insurance</u></b> , not to exceed one and a half percent (1.5%) of Item (h)		
(j)	<b><u>TOTAL</u></b>		
(k)	<b><u>Time</u></b> (zero unless indicated; “TBD” not permitted)	_____	<b>Calendar Days</b>

	<b><u>WORK PERFORMED BY CONTRACTOR</u></b>	<b><u>ADD</u></b>	<b><u>DEDUCT</u></b>
(a)	<b><u>Material</u></b> (attach itemized quantity and unit cost plus sales tax)		
(b)	<b><u>Add Labor</u></b> (attach itemized hours and rates, fully encumbered)		
(c)	<b><u>Add Equipment</u></b> (attach suppliers’ invoice)		
(d)	<b><u>Subtotal</u></b>		
(e)	<b><u>Add Overhead and Profit for Contractor</u></b> , not to exceed fifteen percent (15%) of Item (d)		
(f)	<b><u>Subtotal</u></b>		
(g)	<b><u>Add Bond and Insurance</u></b> , not to exceed one and a half percent (1.5%) of Item (f)		
(h)	<b><u>TOTAL</u></b>		
(i)	<b><u>Time</u></b> (zero unless indicated; “TBD” not permitted)	_____	<b>Calendar Days</b>

**17.8.2 Labor.** Contractor shall be compensated for the costs of labor actually and directly utilized in the performance of the Work. 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 Work.

Labor costs shall exclude costs incurred by the Contractor in preparing estimate(s) of the costs of the change in the Work, in the maintenance of records relating to the costs of the change in the Work, coordination and assembly of materials and information relating to the change in the Work or performance thereof, or the supervision and other overhead and general conditions costs associated with the change in the Work or performance thereof, including but not limited to the cost for the job superintendent.

**17.8.3 Materials.** Contractor shall be compensated for the costs of materials necessarily and actually used or consumed in connection with the performance of the change in the Work. Costs of materials 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 the change in the Work, they shall be credited to the District. If materials necessarily used in the performance of the change in the Work 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. If, in the reasonable opinion of the District, the costs asserted by the Contractor for materials in connection with any change in the Work are excessive, or if the Contractor fails to provide satisfactory evidence of the actual costs of such materials from its supplier or vendor of the same, the costs of such materials and the District's obligation to pay for the same shall be limited to the then lowest wholesale price at which similar materials are available in the quantities required to perform the change in the Work. The District may elect to furnish materials for the change in the Work, in which event the Contractor shall not be compensated for the costs of furnishing such materials or any mark-up thereon.

**17.8.4 Equipment.** As a precondition for the District's duty to pay for Equipment rental or loading and transportation, Contractor shall provide satisfactory evidence of the actual costs of Equipment from the supplier, vendor or rental agency of same. Contractor shall be compensated for the actual cost of the necessary and direct use of Equipment in the performance of the change in the Work. Use of such Equipment in the performance of the change in the Work shall be compensated in increments of fifteen (15) minutes. Rental time for Equipment moved by its own power shall include time required to move such Equipment to the site of the Work from the nearest available rental source of the same. If 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 Equipment is used for performance of any portion of the Work other than the change in 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. Contractor shall not be entitled to an allowance or any other compensation for Equipment or tools used in the performance of change in the Work where such Equipment or tools have a replacement value of \$500.00 or less. Equipment costs claimed by the Contractor in connection with the performance of any 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 Equipment in connection with 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 Equipment operator), and any and all other costs incurred by the Contractor incidental to the use of such Equipment.

**17.8.5 Overhead and Profit.** The phrase "Overhead and Profit" shall include field and office supervisors and assistants, watchperson, use of small tools, consumable, insurance other than construction bonds and insurance required herein, and general field and home office expenses.

## **17.9 Change Order Certification**

**17.9.1** All Change Orders and PCOs must include the following certification by the Contractor:

**17.9.1.1** The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq. It is understood that the changes herein to the Contract shall only be effective when approved by the governing board of the District.

**17.9.1.2** It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

## **17.10 Determination of Change Order Cost**

**17.10.1** The amount of the increase or decrease in the Contract Price from a Change Order, if any, shall be determined in one or more of the following ways as applicable to a specific situation and at the District's discretion:

**17.10.1.1** District acceptance of a PCO;

**17.10.1.2** By unit prices contained in Contractor's original bid;

**17.10.1.3** By agreement between District and Contractor.

## **17.11 Deductive Change Orders**

All deductive Change Order(s) must be prepared pursuant to the provisions herein. Where a portion of the Work is deleted from the Contract, the reasonable value of the deducted work less the value of work performed shall be considered the appropriate deduction. The value submitted on the Schedule of Values shall be used to calculate the credit amount unless the bid documentation is being held in escrow as part of the Contract Documents. Unit Prices, if any, may be used in District's discretion in calculating reasonable value. If Contractor offers a proposed amount for a deductive

Change Order(s), Contractor shall include a minimum of five percent (5%) total profit and overhead to be deducted with the amount of the work of the Change Order(s). If Subcontractor work is involved, Subcontractors shall also include a minimum of five percent (5%) profit and overhead to be deducted with the amount of its deducted work. Any deviation from this provision shall not be allowed.

**17.12 Addition or Deletion of Alternate Bid Item(s)**

If the Bid Form and Proposal includes proposal(s) for Alternate Bid Item(s), during Contractor's performance of the Work, the District may elect to add or delete any such Alternate Bid Item(s) if not included in the Contract at the time of award. If the District elects to add or delete Alternate Bid Item(s) after Contract award, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Bid Form and Proposal unless the parties agree to a different price and the Contract Time shall be adjusted by the number of days allocated in the Contract Documents. If days are not allocated in the Contract Documents, the Contract Time shall be equitably adjusted.

**17.13 Discounts, Rebates, and Refunds**

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

**17.14 Accounting Records**

With respect to portions of the Work performed by Change Orders and Construction Change Directives, the Contractor shall keep and maintain cost-accounting records satisfactory to the District, including, without limitation, Job Cost Reports as provided in these General Conditions, which shall be available to the District on the same terms as any other books and records the Contractor is required to maintain under the Contract Documents. Such records shall include without limitation hourly records for Labor and Equipment and itemized records of materials and Equipment used that day in connection with the performance of any Work. 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 the Contractor fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records, the District's reasonable good faith determination of the extent of adjustment to the Contract Price shall be final, conclusive, dispositive and binding upon Contractor.

**17.15 Notice Required**

If the Contractor desires to make a claim for an increase in the Contract Price, or any extension in the Contract Time for completion, it shall notify the District pursuant to the provisions herein, including the Article on Claims and Disputes. No claim shall be considered unless made in accordance with this subparagraph. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any change in the Contract Price or extension of the Contract Time resulting from such claim shall be authorized by a Change Order.

**17.16 Applicability to Subcontractors**

Any requirements under this Article shall be equally applicable to Change Orders or Construction Change Directives issued to Subcontractors by the Contractor to the extent as required by the Contract Documents.

**17.17 Alteration to Change Order Language**

Contractor shall not alter Change Orders or reserve time in Change Orders. Change Orders altered in violation of this provision, if in conflict with the terms set forth herein, shall be construed in accordance with the terms set forth herein. Contractor shall execute finalized Change Orders and proceed under the provisions herein with proper notice.

**17.18 Failure of Contractor to Execute Change Order**

Contractor shall be in default of the Contract if Contractor fails to execute a Change Order when the Contractor agrees with the addition and/or deletion of the Work in that Change Order.

**18. REQUEST FOR INFORMATION**

**18.1** Any Request for Information shall reference all applicable Contract Document(s), including Specification section(s), detail(s), page number(s), drawing number(s), and sheet number(s), etc. The Contractor shall make suggestions and interpretations of the issue raised by each Request for Information. A Request for Information cannot modify the Contract Price, Contract Time, or the Contract Documents. Contractor shall provide an electronic copy of the Request for Information and a hard copy upon request.

**18.2** The Contractor shall be responsible for any costs incurred for professional services that District may deduct from any amounts owing to the Contractor, if a Request for Information requests an interpretation or decision of a matter where the information sought is equally available to the party making the request. District, at its sole discretion, shall deduct from and/or invoice Contractor for all the professional services arising herein.

**19. PAYMENTS**

**19.1 Contract Price**

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

**19.2 Applications for Progress Payments**

**19.2.1 Procedure for Applications for Progress Payments**

**19.2.1.1 Application for Progress Payment**

**19.2.1.1.1** Not before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the District and the

Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized, if required, and supported by the following or each portion thereof unless waived by the District in writing:

**19.2.1.1.1.1** The amount paid to the date of the Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;

**19.2.1.1.1.2** The amount being requested under the Application for Payment by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;

**19.2.1.1.1.3** The balance that will be due to each of such entities after said payment is made;

**19.2.1.1.1.4** A certification that the As-Builts and annotated Specifications are current;

**19.2.1.1.1.5** Itemized breakdown of work done for the purpose of requesting partial payment;

**19.2.1.1.1.6** An updated and acceptable construction schedule in conformance with the provisions herein;

**19.2.1.1.1.7** The additions to and subtractions from the Contract Price and Contract Time;

**19.2.1.1.1.8** A total of the retentions held;

**19.2.1.1.1.9** Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time;

**19.2.1.1.1.10** The percentage of completion of the Contractor's Work by line item;

**19.2.1.1.1.11** Schedule of Values updated from the preceding Application for Payment;

**19.2.1.1.1.12** A duly completed and executed conditional waiver and release upon progress payment compliant with Civil Code section 8132 from the Contractor and each subcontractor of any tier and supplier to be paid from the current progress payment;

**19.2.1.1.1.13** A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134 from the Contractor and each subcontractor of any tier and supplier that was paid from the previous progress payment(s); and



**19.2.1.1.1.14** A certification by the Contractor of the following:

The Contractor warrants title to all Work performed as of the date of this payment application has been completed in accordance with the Contract Documents for the Project. The Contractor further warrants that all amounts have been paid for work which previous Certificates for Payment were issued and payments received and all Work performed as of the date of this payment application is free and clear of liens, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, workers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work, except those of which the District has been informed. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

**19.2.1.1.1.15** The Contractor shall be subject to the False Claims Act set forth in Government Code section 12650 et seq. for information provided with any Application for Progress Payment.

**19.2.1.1.1.16** All remaining certified payroll records ("CPR(s)") for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work for the period of the Application for Payment. As indicated herein, the District shall not make any payment to Contractor until:

**19.2.1.1.1.16.1** Contractor and/or its Subcontractor(s) provide electronic CPRs weekly for all weeks any journeyman, apprentice, worker or other employee was employed in connection with the Work directly to the DIR, or within ten (10) days of any request by the District or the DIR, and

**19.2.1.1.1.16.2** Any delay in Contractor and/or its Subcontractor(s) providing CPRs in a timely manner may directly delay the Contractor's payment.

**19.2.1.1.2** Applications received after June 20th will not be paid until the second week of July and applications received after December 12th will not be paid until the first week of January.

## **19.2.2 Prerequisites for Progress Payments**

**19.2.2.1 First Payment Request:** The following items, if applicable, must be completed before the District will accept and/or process the Contractor's first payment request:

**19.2.2.1.1** Installation of the Project sign;

**19.2.2.1.2** Installation of field office;

**19.2.2.1.3** Installation of temporary facilities and fencing;

- 19.2.2.1.4** Schedule of Values; Approved by District
- 19.2.2.1.5** Contractor's Construction Schedule; Approved by District
- 19.2.2.1.6** Schedule of unit prices, if applicable;
- 19.2.2.1.7** Submittal Schedule;
- 19.2.2.1.8** Receipt by Architect of all submittals due as of the date of the payment application;
- 19.2.2.1.9** Copies of necessary permits;
- 19.2.2.1.10** Copies of authorizations and licenses from governing authorities;
- 19.2.2.1.11** Initial progress report;
- 19.2.2.1.12** Surveyor qualifications;
- 19.2.2.1.13** Written acceptance of District's survey of rough grading, if applicable;
- 19.2.2.1.14** List of all Subcontractors, with names, license numbers, telephone numbers, and Scope of Work;
- 19.2.2.1.15** All bonds and insurance endorsements; and
- 19.2.2.1.16** Resumes of Contractor's project manager, and if applicable, job site secretary, record documents recorder, and job site superintendent.

**19.2.2.2 Second Payment Request:** The District will not process the second payment request until and unless all submittals and Shop Drawings have been accepted for review by the Architect.

**19.2.2.3 No Waiver of Criteria:** Any payments made to Contractor where criteria set forth herein have not been met shall not constitute a waiver of said criteria by District. Instead, such payment shall be construed as a good faith effort by District to resolve differences so Contractor may pay its Subcontractors and suppliers. Contractor agrees that failure to submit such items may constitute a breach of contract by Contractor and may subject Contractor to termination.

### **19.3 Progress Payments**

#### **19.3.1 District's Approval of Application for Payment**

**19.3.1.1** Upon receipt of an Application for Payment, The District shall act in accordance with both of the following:

- 19.3.1.1.1** Each Application for Payment shall be reviewed by the Construction Manager and District as soon as practicable after receipt for the purpose of determining that the Application for Payment is a proper Application for Payment.

**19.3.1.1.2** Any Application for Payment determined not to be a proper Application for Payment suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days, after receipt. An Application for Payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the Application for Payment is not proper. The number of days available to the District to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the District exceeds this seven-day return requirement.

**19.3.1.1.3** An Application for Payment shall be considered properly executed if funds are available for payment of the Application for Payment, and payment is not delayed due to an audit inquiry by the financial officer of the District.

**19.3.1.2** The District's review of the Contractor's Application for Payment will be based on the District's, Construction Manager's and the Architect's observations at the Site and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the District's, Construction Manager's and the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to:

**19.3.1.2.1** Observation of the Work for general conformance with the Contract Documents,

**19.3.1.2.2** Results of subsequent tests and inspections,

**19.3.1.2.3** Minor deviations from the Contract Documents correctable prior to completion, and

**19.3.1.2.4** Specific qualifications expressed by the Architect or Construction Manager.

**19.3.1.3** District's approval of the certified Application for Payment shall be based on Contractor complying with all requirements for a fully complete and valid certified Application for Payment.

## **19.3.2 Payments to Contractor**

**19.3.2.1** Within thirty (30) days after approval of the Application for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as verified by Construction Manager, Architect and Inspector and certified by Contractor) up to the last day of the previous month, less the aggregate of previous payments and amount to be withheld. The value of the Work completed shall be Contractor's best estimate. No inaccuracy or error in said estimate shall operate to release the Contractor, or any Surety upon any bond, from damages arising from such Work, or from the District's right to enforce each and every provision of this Contract, and the District shall have the right subsequently to correct any error made in any estimate for payment.

**19.3.2.2** The Contractor shall not be entitled to have any payment requests processed, or be entitled to have any payment made for Work performed, so long

as any lawful or proper direction given by the District concerning the Work, or any portion thereof, remains incomplete.

**19.3.2.3** If the District fails to make any progress payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Payment from the Contractor, the District shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

### **19.3.3 No Waiver**

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

## **19.4 Decisions to Withhold Payment**

### **19.4.1 Reasons to Withhold Payment**

The District may withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required herein cannot be made. The District may withhold payment, in whole, or in part, to such extent as may be necessary to protect the District from loss because of, but not limited to any of the following:

**19.4.1.1** Defective Work not remedied within **FORTY-EIGHT (48)** hours of written notice to Contractor.

**19.4.1.2** Stop Payment Notices or other liens served upon the District as a result of the Contract. Contractor agrees that the District may withhold up to 125% of the amount claimed in the Stop Payment Notice to answer the claim and to provide for the District's reasonable cost of any litigation pursuant to the stop payment notice.

**19.4.1.3** Liquidated damages assessed against the Contractor.

**19.4.1.4** The cost of completion of the Contract if there exists a reasonable doubt that the Work can be completed for the unpaid balance of the Contract Price or by the completion date.

**19.4.1.5** Damage to the District or other contractor(s).

**19.4.1.6** Unsatisfactory prosecution of the Work by the Contractor.

**19.4.1.7** Failure to store and properly secure materials.

**19.4.1.8** Failure of the Contractor to submit, on a timely basis, proper, sufficient, and acceptable documentation required by the Contract Documents, including, without limitation, a Construction Schedule, Schedule of Submittals, Schedule of Values, Monthly Progress Schedules, Shop Drawings, Product Data and samples, Proposed product lists, executed Change Orders, and/or verified reports.

**19.4.1.9** Failure of the Contractor to maintain As-Builts.

**19.4.1.10** Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Application for Payment.

**19.4.1.11** Unauthorized deviations from the Contract Documents.

**19.4.1.12** Failure of the Contractor to prosecute the Work in a timely manner in compliance with the Construction Schedule, established progress schedules, and/or completion dates.

**19.4.1.13** Failure to provide acceptable electronic certified payroll records, as required by the Labor Code, by these Contract Documents, or by written request; for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or by each Subcontractor in connection with the Work for the period of the Application for Payment or if payroll records are delinquent or inadequate.

**19.4.1.14** Failure to properly pay prevailing wages as required in Labor Code section 1720 et seq., failure to comply with any other Labor Code requirements, and/or failure to comply with labor compliance monitoring and enforcement by the DIR.

**19.4.1.15** Allowing an unregistered subcontractor, as described in Labor Code section 1725.5, to engage in the performance of any work under this Contract.

**19.4.1.16** Failure to comply with any applicable federal statutes and regulations regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon Act and related requirements, Contract Work Hours and Safety Standards Act requirements, if applicable.

**19.4.1.17** Failure to properly maintain or clean up the Site.

**19.4.1.18** Failure to timely indemnify, defend, or hold harmless the District.

**19.4.1.19** Any payments due to the District, including but not limited to payments for failed tests, utilities changes, or permits.

**19.4.1.20** Failure to pay Subcontractor(s) or supplier(s) as required by law and by the Contract Documents.

**19.4.1.21** Failure to pay any royalty, license or similar fees.

**19.4.1.22** Contractor is otherwise in breach, default, or in substantial violation of any provision of this Contract.

**19.4.1.23** Failure to perform any implementation and/or monitoring required by any SWPPP for the Project and/or the imposition of any penalties or fines therefore whether imposed on the District or Contractor.

#### **19.4.2 Reallocation of Withheld Amounts**

**19.4.2.1** District may, in its discretion, apply any withheld amount to pay outstanding claims or obligations as defined herein. In so doing, District shall make such payments on behalf of Contractor. If any payment is so made by District, then that amount shall be considered a payment made under Contract by District to Contractor and District shall not be liable to Contractor for any payment made in good faith. These payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of funds disbursed on behalf of Contractor.

**19.4.2.2** If Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision thereof, District may, after **FORTY-EIGHT (48)** hours' written notice to the Contractor and, without prejudice to any other remedy, make good such deficiencies. The District shall adjust the total Contract Price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work that is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract Price (of at least one hundred fifty percent (150%) of the estimated reasonable value of the nonconforming Work) shall be made therefor.

### **19.4.3 Payment After Cure**

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

## **19.5 Subcontractor Payments**

### **19.5.1 Payments to Subcontractors**

No later than seven (7) days after receipt, or pursuant to Business and Professions Code section 7108.5 and Public Contract Code section 7107, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to its Sub-subcontractors in a similar manner.

### **19.5.2 No Obligation of District for Subcontractor Payment**

The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

### **19.5.3 Joint Checks**

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

material or equipment supplier, or rights in such Subcontractor or a material or equipment supplier against the District.

## **20. COMPLETION OF THE WORK**

### **20.1 Completion**

**20.1.1** District will accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District.

**20.1.2** The Work may only be accepted as complete by action of the governing board of the District.

**20.1.3** District, at its sole option, may accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District, except for minor corrective items, as distinguished from incomplete items. If Contractor fails to complete all minor corrective items within fifteen (15) days after the date of the District's acceptance of completion, District shall withhold from the final payment one hundred fifty percent (150%) of an estimate of the amount sufficient to complete the corrective items, as determined by District, until the item(s) are completed.

**20.1.4** At the end of the 15-day period, if there are any items remaining to be corrected, District may elect to proceed as provided herein related to adjustments to Contract Price, and/or District's right to perform the Work of the Contractor.

### **20.2 Close-Out/Certification Procedures**

#### **20.2.1 Punch List**

The Contractor shall notify the Architect when Contractor considers the Work complete. Upon notification, Architect will prepare a list of minor items to be completed or corrected ("Punch List"). The Contractor and/or its Subcontractors shall proceed promptly to complete and correct items on the Punch List. Failure to include an item on Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Multiple Punch Lists will need to be completed due to the phasing of the project.

#### **20.2.2 Close-Out/Certification Requirements**

##### **20.2.2.1 Utility Connections**

Buildings shall be connected to water, gas, sewer, data and electric services, complete and ready for use. Service connections shall be made and existing services reconnected.

##### **20.2.2.2 Record Drawings and Record Specifications**

**20.2.2.2.1** Contractor shall provide exact Record Drawings of the Work ("As-Builts") and Record Specifications upon completion of the Project and as a condition precedent to approval of final payment.

**20.2.2.2.2** Contractor shall obtain the Inspector's approval of the corrected prints and employ a competent draftsman to transfer the Record Drawings information to the most current version of AutoCAD that is, at that time, currently utilized for plan check submission by either the District, the Architect, and/or DSA. When completed, Contractor shall deliver corrected electronic files in CAD and PDF formats.

**20.2.2.2.3** Contractor is liable and responsible for any and all inaccuracies in the Record Drawings and Record Specifications, even if inaccuracies become evident at a future date.

**20.2.2.3 Maintenance Manuals:** Contractor shall prepare all operation and maintenance manuals and date as indicated in the Specifications, and deliver electronic files in PDF format.

**20.2.2.4 Warranty Manuals:** Contractor shall prepare warranty manuals as indicated in the Specifications, and deliver electronic files in PDF format.

**20.2.2.5 Source Programming:** Contractor shall provide all source programming for all items in the Project.

**20.2.2.6 Verified Reports:** Contractor shall completely and accurately fill out and file forms DSA 6-C or DSA 152 (or current form), as appropriate. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

## **20.3 Final Inspection**

**20.3.1** Contractor shall comply with Punch List procedures as provided herein, and maintain the presence of a Project Superintendent and Project Manager until the Punch List is complete to ensure proper and timely completion of the Punch List. Under no circumstances shall Contractor demobilize its forces prior to completion of the Punch List without District's prior written approval. Upon receipt of Contractor's written notice that all of the Punch List items have been fully completed and the Work is ready for final inspection and acceptance, Architect and Project Inspector will inspect the Work and shall submit to Contractor and District a final inspection report noting the Work, if any, required in order to complete in accordance with the Contract Documents. Absent unusual circumstances, this report shall consist of the Punch List items not yet satisfactorily completed.

**20.3.2** Upon Contractor's completion of all items on the Punch List and any other uncompleted portions of the Work, the Contractor shall notify the District and Architect, who shall again inspect such Work. If the Architect finds the Work complete and acceptable under the Contract Documents, the Architect will notify Contractor, who shall then jointly submit to the Architect and the District its final Application for Payment.

### **20.3.3 Final Inspection Requirements**

**20.3.3.1** Before calling for final inspection, Contractor shall determine that the following have been performed:

**20.3.3.1.1** The Work has been completed.



- 20.3.3.1.2** All life safety items are completed and in working order.
- 20.3.3.1.3** Mechanical and electrical Work are complete and tested, fixtures are in place, connected, and ready for tryout.
- 20.3.3.1.4** Electrical circuits scheduled in panels and disconnect switches labeled.
- 20.3.3.1.5** Painting and special finishes complete.
- 20.3.3.1.6** Doors complete with hardware, cleaned of protective film, relieved of sticking or binding, and in working order.
- 20.3.3.1.7** Tops and bottoms of doors sealed.
- 20.3.3.1.8** Floors waxed and polished as specified.
- 20.3.3.1.9** Broken glass replaced and glass cleaned.
- 20.3.3.1.10** Grounds cleared of Contractor's equipment, raked clean of debris, and trash removed from Site.
- 20.3.3.1.11** Work cleaned, free of stains, scratches, and other foreign matter, and damaged and broken material replaced.
- 20.3.3.1.12** Finished and decorative work shall have marks, dirt, and superfluous labels removed.
- 20.3.3.1.13** Final cleanup, as provided herein.
- 20.3.3.1.14** Training for District Staff completed.

**20.4 Costs of Multiple Inspections**

More than two (2) requests of the District to make a final inspection shall be considered an additional service of District, Architect, Construction Manager, and/or Project Inspector, and all subsequent costs will be invoiced to Contractor and if funds are available, withheld from remaining payments.

**20.5 Partial Occupancy or Use Prior to Completion**

**20.5.1 District's Rights to Occupancy**

The District may occupy or use any completed or partially completed portion of the Work at any stage, and such occupancy shall not constitute the District's Final Acceptance of any part of the Work. 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. In the event that the District occupies or uses any completed or partially completed portion of the Work, the Contractor shall

remain responsible for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents unless the Contractor requests in writing, and the District agrees, to otherwise divide those responsibilities. Any dispute as to responsibilities shall be resolved pursuant to the Claims and Disputes provisions herein, with the added provision that during the dispute process, the District shall have the right to occupy or use any portion of the Work that it needs or desires to use.

**20.5.2 Inspection Prior to Occupancy or Use**

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

**20.5.3 No Waiver**

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

**21. FINAL PAYMENT AND RETENTION**

**21.1 Final Payment**

Upon receipt and approval of a valid and final Application for Payment, the Architect will issue a final Certificate of Payment. The District shall thereupon jointly inspect the Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon acceptance of the Work of the Contractor as fully complete by the Governing Board of the District (that, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of final payment from the District, pay the amount due Subcontractors.

**21.2 Prerequisites for Final Payment**

The following conditions must be fulfilled prior to Final Payment:

**21.2.1** A full release of all Stop Payment Notices served in connection with the Work shall be submitted by Contractor.

**21.2.2** A duly completed and executed conditional waiver and release upon final payment compliant with Civil Code section 8136, from the Contractor and each subcontractor of any tier and supplier to be paid from the final payment.

**21.2.3** A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134, from the Contractor and each subcontractor of any tier and supplier that was paid from the previous progress payments.

**21.2.4** A duly completed and executed Document 00 65 19.26, "AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS" from the Contractor.

**21.2.5** The Contractor shall have made all corrections to the Work that are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District required under the Contract Documents.

**21.2.6** Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, and bonds required by the Contract Documents for its portion of the Work.

**21.2.7** Contractor must have completed all requirements set forth under "Close-Out/Certification Procedures," including, without limitation, submission of an approved set of complete Record Drawings.

**21.2.8** Architect shall have issued its written approval that final payment can be made.

**21.2.9** The Contractor shall have delivered to the District all manuals and materials required by the Contract Documents, which must be approved by the District.

**21.2.10** The Contractor shall have completed final clean-up as provided herein.

### **21.3 Retention**

**21.3.1** The retention, less any amounts disputed by the District or that the District has the right to withhold pursuant to provisions herein, shall be paid:

**21.3.1.1** After approval by the Architect of the Application and Certificate of Payment,

**21.3.1.2** After the satisfaction of the conditions set forth herein, and

**21.3.1.3** After forty-five (45) days after the recording of the Notice of Completion by District.

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

### **21.4 Substitution of Securities**

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300.

## **22. UNCOVERING OF WORK**

If a portion of the Work is covered without Inspector or Architect approval or not in compliance with the Contract Documents, it must, if required in writing by the District, the

Project Inspector, or the Architect, be uncovered for the Project Inspector's or the Architect's observation and be corrected, replaced, and/or recovered at the Contractor's expense without change in the Contract Price or Contract Time.

## **23. NONCONFORMING WORK AND CORRECTION OF WORK**

### **23.1 Nonconforming Work**

**23.1.1** Contractor shall promptly remove from Premises all Work identified by District as failing to conform to the Contract Documents whether incorporated or not. Contractor shall promptly replace and re-execute its own Work to comply with the Contract Documents without additional expense to the District and shall bear the expense of making good all work of other contractors destroyed or damaged by any removal or replacement pursuant hereto and/or any delays to the District or other Contractors caused thereby.

**23.1.2** If Contractor does not remove Work that District has identified as failing to conform to the Contract Documents within a reasonable time, not to exceed **FORTY-EIGHT (48)** hours, District may remove it and may store any material at Contractor's expense. If Contractor does not pay expense(s) of that removal within ten (10) days' time thereafter, District may, upon ten (10) days' written notice, sell any material at auction or at private sale and shall deduct all costs and expenses incurred by the District and/or District may withhold those amounts from payment(s) to Contractor.

### **23.2 Correction of Work**

#### **23.2.1 Correction of Rejected Work**

Pursuant to the notice provisions herein, the Contractor shall immediately correct the Work rejected by the District, the Architect, or the Project Inspector as failing to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not fabricated, installed, or completed. The Contractor shall bear costs of correcting the rejected Work, including additional testing, inspections, and compensation for the Inspector's or the Architect's services and expenses made necessary thereby.

#### **23.2.2 One-Year Warranty Corrections**

If, within one (1) year after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties established hereunder, or by the terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the District to do so. This period of one (1) year shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation hereunder shall survive acceptance of the Work under the Contract and termination of the Contract. The District shall give such notice promptly after discovery of the condition.

### **23.3 District's Right to Perform Work**

**23.3.1** If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this contract, the District, after **FORTY-EIGHT (48)** hours written notice to the Contractor, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

**23.3.2** If it is found at any time, before or after completion of the Work, that Contractor has varied from the Drawings and/or Specifications, including, but not limited to, variation in material, quality, form, or finish, or in the amount or value of the materials and labor used, District may require at its option:

**23.3.2.1** That all such improper Work be removed, remade or replaced, and all work disturbed by these changes be made good by Contractor at no additional cost to the District;

**23.3.2.2** That the District deduct from any amount due Contractor the sum of money equivalent to the difference in value between the work performed and that called for by the Drawings and Specifications; or

**23.3.2.3** That the District exercise any other remedy it may have at law or under the Contract Documents, including but not limited to the District hiring its own forces or another contractor to replace the Contractor's nonconforming Work, in which case the District shall either issue a deductive Change Order, a Construction Change Directive, or invoice the Contractor for the cost of that work. Contractor shall pay any invoices within thirty (30) days of receipt of same or District may withhold those amounts from payment(s) to Contractor.

## **24. TERMINATION AND SUSPENSION**

### **24.1 District's Right to Terminate Contractor for Cause**

**24.1.1 Grounds for Termination:** The District, in its sole discretion, may terminate the Contract and/or terminate the Contractor's right to perform the work of the Contract based upon any of the following:

**24.1.1.1** Contractor refuses or fails to execute the Work or any separable part thereof with sufficient diligence as will ensure its completion within the time specified or any extension thereof, or

**24.1.1.2** Contractor fails to complete said Work within the time specified or any extension thereof, or

**24.1.1.3** Contractor persistently fails or refused to perform Work or provide material of sufficient quality as to be in compliance with Contract Documents; or

**24.1.1.4** Contractor persistently or repeatedly refuses fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials to complete the Work in the time specified; or

**24.1.1.5** Contractor fails to make prompt payment to Subcontractors, or for material, or for labor; or

**24.1.1.6** Contractor persistently disregards laws, or ordinances, or instructions of District; or

**24.1.1.7** Contractor fails to supply labor, including that of Subcontractors, that is sufficient to prosecute the Work or that can work in harmony with all other elements of labor employed or to be employed on the Work; or

**24.1.1.8** Contractor or its Subcontractor(s) is/are otherwise in breach, default, or in substantial violation of any provision of this Contract, including but not limited to a lapse in licensing or registration.

## **24.1.2 Notification of Termination**

**24.1.2.1** Upon the occurrence at District's sole determination of any of the above conditions, District may, without prejudice to any other right or remedy, serve written notice upon Contractor and its Surety of District's termination of this Contract and/or the Contractor's right to perform the work of the Contract. This notice will contain the reasons for termination. Unless, within three (3) days after the service of the notice, any and all condition(s) shall cease, and any and all violation(s) shall cease, or arrangement satisfactory to District for the correction of the condition(s) and/or violation(s) be made, this Contract shall cease and terminate. Upon Termination, Contractor shall not be entitled to receive any further payment until the entire Work is finished.

**24.1.2.2** Upon Termination, District may immediately serve written notice of tender upon Surety whereby Surety shall have the right to take over and perform this Contract only if Surety:

**24.1.2.2.1** Within three (3) days after service upon it of the notice of tender, gives District written notice of Surety's intention to take over and perform this Contract; and

**24.1.2.2.2** Commences performance of this Contract within three (3) days from date of serving of its notice to District.

**24.1.2.3** Surety shall not utilize Contractor in completing the Project if the District notifies Surety of the District's objection to Contractor's further participation in the completion of the Project. Surety expressly agrees that any contractor which Surety proposes to fulfill Surety's obligations is subject to District's approval. District's approval shall not be unreasonably withheld, conditioned or delayed.

**24.1.2.4** If Surety fails to notify District or begin performance as indicated herein, District may take over the Work and execute the Work to completion by any method it may deem advisable at the expense of Contractor and/or its Surety. Contractor and/or its Surety shall be liable to District for any excess cost or other damages the District incurs thereby. Time is of the essence in this Contract. If the District takes over the Work as herein provided, District may, without liability for so doing, take possession of and utilize in completing the Work such materials, appliances, plan, and other property belonging to Contractor as may be on the Site of the Work, in bonded storage, or previously paid for.

### **24.1.3 Effect of Termination**

**24.1.3.1** Contractor shall, only if ordered to do so by the District, immediately remove from the Site all or any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The District retains the right, but not the obligation, to keep and use any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The Contractor and its Surety shall be liable upon the performance bond for all damages caused to the District by reason of the Contractor's failure to complete the Contract.

**24.1.3.2** In the event that the District shall perform any portion of, or the whole of the Work, pursuant to the provisions of the General Conditions, the District shall not be liable nor account to the Contractor in any way for the time within which, or the manner in which, the Work is performed by the District or for any changes the District may make in the Work or for the money expended by the District in satisfying claims and/or suits and/or other obligations in connection with the Work.

**24.1.3.3** In the event that the Contract is terminated for any reason, no allowances or compensation will be granted for the loss of any anticipated profit by the Contractor or any impact or impairment of Contractor's bonding capacity.

**24.1.3.4** If the expense to the District to finish the Work exceeds the unpaid Contract Price, Contractor and Surety shall pay difference to District within twenty-one (21) days of District's request.

**24.1.3.5** The District shall have the right (but shall have no obligation) to assume and/or assign to a general contractor or construction manager or other third party who is qualified and has sufficient resources to complete the Work, the rights of the Contractor under its subcontracts with any or all Subcontractors. In the event of an assumption or assignment by the District, no Subcontractor shall have any claim against the District or third party for Work performed by Subcontractor or other matters arising prior to termination of the Contract. The District or any third party, as the case may be, shall be liable only for obligations to the Subcontractor arising after assumption or assignment. Should the District so elect, the Contractor shall execute and deliver all documents and take all steps, including the legal assignment of its contractual rights, as the District may require, for the purpose of fully vesting in the District the rights and benefits of its Subcontractor under Subcontracts or other obligations or commitments. All payments due the Contractor hereunder shall be subject to a right of offset by the District for expenses and damages suffered by the District as a result of any default, acts, or omissions of the Contractor. Contractor must include this assignment provision in all of its contracts with its Subcontractors.

**24.1.3.6** The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to District.

#### **24.1.4 Emergency Termination of Public Contracts Act of 1949**

**24.1.4.1** This Contract is subject to termination as provided by sections 4410 and 4411 of the Government Code of the State of California, being a portion of the Emergency Termination of Public Contracts Act of 1949.

**24.1.4.1.1** Section 4410 of the Government Code states:

In the event a national emergency occurs, and public work, being performed by contract, is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor, as the result of an order or a proclamation of the President of the United States, or of an order of any federal authority, and the circumstances or conditions are such that it is impracticable within a reasonable time to proceed with a substantial portion of the work, then the public agency and the contractor may, by written agreement, terminate said contract.

**24.1.4.1.2** Section 4411 of the Government Code states:

Such an agreement shall include the terms and conditions of the termination of the contract and provision for the payment of compensation or money, if any, which either party shall pay to the other or any other person, under the facts and circumstances in the case.

**24.1.4.2** Compensation to the Contractor shall be determined at the sole discretion of District on the basis of the reasonable value of the Work done, including preparatory work. As an exception to the foregoing and at the District's discretion, in the case of any fully completed separate item or portion of the Work for which there is a separate previously submitted unit price or item on the accepted schedule of values, that price shall control. The District, at its sole discretion, may adopt the Contract Price as the reasonable value of the work done or any portion thereof.

#### **24.2 Termination of Contractor for Convenience**

**24.2.1** District in its sole discretion may terminate the Contract upon three (3) days' written notice to the Contractor. Under a termination for convenience, the District retains the right to all the options available to the District if there is a termination for cause. In case of a termination for convenience, the Contractor shall have no claims against the District except:

**24.2.1.1** The actual cost for labor, materials, and services performed that is unpaid and adequately documented through timesheets, invoices, receipts, or otherwise, and

**24.2.1.2** Five percent (5%) of the total cost of work performed as of the date of termination, or five percent (5%) of the value of the Work yet to be performed, whichever is less. This five percent (5%) amount shall be full compensation for all Contractor's and Subcontractor(s)' mobilization and/or demobilization costs and any anticipated loss profits resulting from termination of the Contractor for convenience.



### **24.3 Suspension of Work**

**24.3.1** District in its sole discretion may suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine upon three (3) days written notice to the Contractor.

**24.3.1.1** An adjustment may be made for changes in the cost of performance of the Work caused by any such suspension, delay or interruption. No adjustment shall be made to the extent:

**24.3.1.1.1** That performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or

**24.3.1.1.2** That an equitable adjustment is made or denied under another provision of the Contract; or

**24.3.1.1.3** That the suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder.

**24.3.1.2** Any adjustments in cost of performance may have a fixed or percentage fee as provided in the section on Format for Proposed Change Order herein. This amount shall be full compensation for all Contractor's and its Subcontractor(s)' changes in the cost of performance of the Contract caused by any such suspension, delay or interruption.

## **25. CLAIMS PROCESS**

### **25.1 Performance during Claims Process**

Contractor and its Subcontractors shall continue to perform its Work under the Contract and shall not cause a delay of the Work during any dispute, claim, negotiation, mediation, or arbitration proceeding, except by written agreement by the District.

### **25.2 Definition of a Claim**

**25.2.1** Pursuant to Public Contract Code section 9204, the term "Claim" means a separate demand by the Contractor, sent by registered mail or certified mail with return receipt requested, for one or more of the following:

**25.2.1.1** A time extension, including without limitation, for relief of damages or penalties for delay assessed by the District under the Contract;

**25.2.1.2** Payment by the District of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or to which Contractor is not otherwise entitled to; or

**25.2.1.3** An amount of payment disputed by the District.

## **25.3 Claims Presentation**

**25.3.1** If Contractor intends to apply for an increase in the Contract Price or Contract Time for any reason including, without limitation, the acts of District or its agents, Contractor shall, within thirty (30) days after the event giving rise to the Claim, give notice of the Claim in writing, including an itemized statement of the details and amounts of its Claim for any increase in the Contract Price or Contract Time, including a Schedule Analysis and any and all other documentation substantiating Contractor's claimed damages. Otherwise, Contractor shall have waived and relinquished its dispute against the District and Contractor's claims for compensation or an extension of time shall be forfeited and invalidated. Likewise, failure to timely submit a claim and the requisite supporting documentation shall constitute a waiver of such claim.

**25.3.2** The Claim shall identify:

**25.3.2.1** The issues, events, conditions, circumstances and/or causes giving rise to the dispute, and shall show, in detail, the cause and effect of same;

**25.3.2.2** The pertinent dates and/or durations and actual and/or anticipated effects on the Contract Price, Contract Schedule milestones and/or Contract Time adjustments;

**25.3.2.3** The line-item costs for labor, material, and/or equipment, if applicable; or

**25.3.2.4** A request by Contractor, if any, to waive the claims procedure under Public Contract Code section 9204 and proceed directly to the commencement of a civil action or binding arbitration.

**25.3.3** The Claim shall include the following certification by the Contractor:

**25.3.3.1** The undersigned Contractor certifies under penalty of perjury that the attached dispute is made in good faith; that the supporting data is accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the adjustment for which Contractor believes the District is liable; and that I am duly authorized to certify the dispute on behalf of the Contractor.

**25.3.3.2** Furthermore, Contractor understands that the value of the attached dispute expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from the Work performed on the Project, additional time required on the Project and/or resulting from delay to the Project. Contractor may not separately recover for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

## **25.4 Claim Resolution pursuant to Public Contract Code section 9204**

### **25.4.1 STEP 1:**

**25.4.1.1** Upon receipt of a Claim by registered or certified mail, return receipt requested, including the documents necessary to substantiate it, the District shall conduct a reasonable review of the Claim and, within a period **not to exceed 45 days**, shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and Contractor may, **by mutual agreement, extend the time period** to provide a written statement. If the District needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of Claim sent by registered mail or certified mail, return receipt requested, the District shall have **up to three (3) days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension**, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

**25.4.1.1.1** Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

**25.4.1.2** Upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable. In this instance, District and Contractor must comply with the sections below regarding Public Contract Code section 20104 et seq. and Government Code Claim Act Claims.

**25.4.1.3** If the District fails to issue a written statement, or to otherwise meet the time requirements of this section, this shall result in the Claim being deemed rejected in its entirety. A claim that is denied by reason of the District's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of Contractor.

### **25.4.2 STEP 2:**

**25.4.2.1** If Contractor disputes the District's written response, or if the District fails to respond to a Claim within the time prescribed, Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed.

**25.4.2.1.1.1** Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the District issues its

written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

### **25.4.3 STEP 3:**

**25.4.3.1** Any disputed portion of the claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with the District and Contractor sharing the associated costs equally. The District and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

**25.4.3.1.1** For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

**25.4.3.2** Unless otherwise agreed to by the District and Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code section 20104.4 to mediate after litigation has been commenced.

### **25.4.4 STEP 4:**

**25.4.4.1** If mediation under this section does not resolve the parties' dispute, the District may, but does not require arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program.

## **25.5 Subcontractor Pass-Through Claims**

**25.5.1** If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a District because privity of contract does not exist, the contractor may present to the District a Claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that Contractor present a Claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the Claim be presented to the District shall furnish reasonable documentation to support the Claim.

**25.5.2** Within 45 days of receipt of this written request from a subcontractor, Contractor shall notify the subcontractor in writing as to whether the Contractor presented the Claim to the District and, if Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

**25.5.3** The Contractor shall bind all its Subcontractors to the provisions of this section and will hold the District harmless against Claims by Subcontractors.

**25.6 Government Code Claim Act Claim**

**25.6.1** If a claim, or any portion thereof, remains in dispute upon satisfaction of all applicable Claim Resolution requirements, including those pursuant to Public Contract Code section 9204, the Contractor shall comply with all claims presentation requirements as provided in Chapter 1 (commencing with section 900) and Chapter 2 (commencing with section 910) of Part 3 of Division 3.6 of Title 1 of Government Code as a condition precedent to the Contractor's right to bring a civil action against the District. For purposes of those provisions, the running of the time within which a claim must be presented to the District shall be tolled from the time Contractor submits its written claim until the time the claim is denied, including any time utilized by any applicable meet and confer process.

**25.7 Claim Resolution pursuant to Public Contract Code section 20104 et seq.**

**25.7.1** In the event of a disagreement between the parties as to performance of the Work, the interpretation of this Contract, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve all Claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between Contractor and District by those procedures set forth in Public Contract Code section 20104, et seq., to the extent applicable.

**25.7.1.1** Contractor shall file with the District any written Claim, including the documents necessary to substantiate it, upon the application for final payment.

**25.7.1.2** For claims of less than fifty thousand dollars (\$50,000), the District shall respond in writing within forty-five (45) days of receipt of the Claim or may request in writing within thirty (30) days of receipt of the Claim any additional documentation supporting the claim or relating to defenses or claims the District may have against the Contractor.

**25.7.1.2.1** If additional information is required, it shall be requested and provided by mutual agreement of the parties.

**25.7.1.2.2** District's written response to the documented Claim shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor to produce the additional information, whichever is greater.

**25.7.1.3** For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the District shall respond in writing to all written Claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the Claim any additional documentation supporting the Claim or relating to defenses or claims the District may have against the Contractor.

**25.7.1.3.1** If additional information is required, it shall be requested and provided upon mutual agreement of the District and the Contractor.

**25.7.1.3.2** The District's written response to the claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor to produce the additional information or requested documentation, whichever is greater.

**25.7.1.4** If Contractor disputes the District's written response, or the District fails to respond within the time prescribed, Contractor may so notify the District, in writing, either within fifteen (15) days of receipt of the District's response or within fifteen (15) days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

**25.7.1.5** Following the meet and confer conference, if the claim or any portion of it remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions the running of the time within which a claim must be filed shall be tolled from the time the Contractor submits its written Claim until the time the Claim is denied, including any period of time utilized by the meet and confer process.

**25.7.1.6** For any civil action filed to resolve claims filed pursuant to this section, within sixty (60) days, but no earlier than thirty (30) days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

**25.7.1.7** If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of the Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986, (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

**25.7.1.8** The District shall not fail to pay money as to any portion of a Claim which is undisputed except as otherwise provided in the Contract Documents. In any suit filed pursuant to this section, the District shall pay interest due at the legal rate on any arbitration award or judgment. Interest shall begin to accrue on the date the suit is filed in a court of law.

**25.7.2** Contractor shall bind its Subcontractors to the provisions of this Section and will hold the District harmless against disputes by Subcontractors.

**25.8 Claim Resolution Non-Applicability**

**25.8.1** The procedures for dispute and claim resolutions set forth in this Article shall not apply to the following:

**25.8.1.1** Personal injury, wrongful death or property damage claims;

**25.8.1.2** Latent defect or breach of warranty or guarantee to repair;

**25.8.1.3** Stop payment notices;

**25.8.1.4** District's rights set forth in the Article on Suspension and Termination;

**25.8.1.5** Disputes arising out of labor compliance enforcement by the Department of Industrial Relations; or

**25.8.1.6** District rights and obligations as a public entity set forth in applicable statutes; provided, however, that penalties imposed against a public entity by statutes, including, but not limited to, Public Contract Code sections 20104.50 and 7107, shall be subject to the Claim Resolution requirements provided in this Article.

**25.9 Attorney's Fees**

**25.9.1** Should litigation be necessary to enforce any terms or provisions of this Agreement, then each party shall bear its own litigation and collection expenses, witness fees, court costs and attorney's fees.

**26. STATE LABOR, WAGE & HOUR, APPRENTICE, AND RELATED PROVISIONS**

**26.1 Labor Compliance and Enforcement**

Since this Project is subject to labor compliance and enforcement by the Department of Industrial Relations ("DIR"), Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code and Title 8 of the California Code of Regulations, including, without limitation, the requirement that the Contractor and all Subcontractors shall timely furnish complete and accurate electronic certified payroll records directly to the DIR. The District may not issue payment if this requirement is not met.

**26.2 Wage Rates, Travel, and Subsistence**

**26.2.1** Pursuant to the provisions of Article 2 (commencing at section 1770), Chapter 1, Part 7, Division 2, of the Labor Code, the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification, or type of worker needed to execute this Contract are on file at the District's principal office and copies will be made available to any interested party on request. Contractor shall obtain and post a copy of these wage rates at the job site.

**26.2.2** Holiday and overtime work, when permitted by law, shall be paid for at the general prevailing rate of per diem wages for holiday and overtime work on file

with the Director of the Department of Industrial Relations, unless otherwise specified. The holidays upon which those rates shall be paid need not be specified by the District, but shall be all holidays recognized in the applicable collective bargaining agreement. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code.

**26.2.3** Contractor shall pay and shall cause to be paid each worker engaged in Work on the Project the general prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between Contractor or any Subcontractor and such workers.

**26.2.4** If during the period this bid is required to remain open, the Director of the Department of Industrial Relations determines that there has been a change in any prevailing rate of per diem wages in the locality in which the Work under the Contract is to be performed, such change shall not alter the wage rates in the Notice to Bidders or the Contract subsequently awarded.

**26.2.5** Pursuant to Labor Code section 1775, Contractor shall, as a penalty to District, forfeit the statutory amount (believed by the District to be currently up to two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates, determined by the District and/or the Director, for the work or craft in which that worker is employed for any public work done under Contract by Contractor or by any Subcontractor under it. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by Contractor.

**26.2.6** Any worker employed to perform Work on the Project, which Work is not covered by any classification listed in the general prevailing wage rate of per diem wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by him, and such minimum wage rate shall be retroactive to time of initial employment of such person in such classification.

**26.2.7** Pursuant to Labor Code section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, subsistence pay, and apprenticeship or other training programs authorized by Labor Code section 3093, and similar purposes.

**26.2.8** Contractor shall post at appropriate conspicuous points on the Site of Project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned. In addition, Contractor shall post a sign-in log for all workers and visitors to the Site, a list of all subcontractors of any tier on the Site, and the required Equal Employment Opportunity poster(s).

### **26.3 Hours of Work**

**26.3.1** As provided in article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by Contractor or by any Subcontractor on any subcontract under this Contract upon the Work or upon



any part of the Work contemplated by this Contract shall be limited and restricted by Contractor to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, Work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

**26.3.2** Contractor shall keep and shall cause each Subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by Contractor in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of District and to the Division of Labor Standards Enforcement of the DIR.

**26.3.3** Pursuant to Labor Code section 1813, Contractor shall as a penalty to the District forfeit the statutory amount (believed by the District to be currently twenty-five dollars (\$25)) for each worker employed in the execution of this Contract by Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code.

**26.3.4** Any Work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to the District.

## **26.4 Payroll Records**

**26.4.1** Contractor shall upload, and shall cause each Subcontractor performing any portion of the Work under this Contract to upload, an accurate and complete certified payroll record ("CPR") electronically using DIR's eCPR System by uploading the CPRs by electronic XML file or entering each record manually using the DIR's iform (or current form) online on a weekly basis and within ten (10) days of any request by the District or Labor Commissioner at <http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html> or current application and URL, 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 journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work.

**26.4.1.1** The CPRs enumerated hereunder shall be filed directly with the DIR on a weekly basis or to the requesting party, whether the District or DIR, within ten (10) days after receipt of each written request. The CPRs from the Contractor and each Subcontractor for each week shall be provided on or before Wednesday of the week following the week covered by the CPRs. District may not make any payment to Contractor until:

**26.4.1.1.1** Contractor and/or its Subcontractor(s) provide CPRs acceptable to the DIR; and

**26.4.1.1.2** Any delay in Contractor and/or its Subcontractor(s) providing CPRs to the DIR in a timely manner may directly delay Contractor's payment.

**26.4.2** All CPRs shall be available for inspection at all reasonable hours at the principal office of Contractor on the following basis:

**26.4.2.1** A certified copy of an employee's CPR shall be made available for inspection or furnished to the employee or his/her authorized representative on request.

**26.4.2.2** CPRs shall be made available for inspection or furnished upon request to a representative of District, Division of Labor Standards Enforcement, Division of Apprenticeship Standards, and/or the DIR.

**26.4.2.3** CPRs shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through the District, Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested CPRs have not been provided pursuant to the provisions herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Contractor.

**26.4.3** Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by District, Division of Apprenticeship Standards, or 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 Contractor awarded Contract or performing Contract shall not be marked or obliterated.

**26.4.4** Contractor shall inform District of the location of the records enumerated hereunder, including the street address, city, and county, and shall, within five (5) working days, provide a notice of change of location and address.

**26.4.5** In the event of noncompliance with the requirements of this section, Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects Contractor must comply with this section. Should noncompliance still be evident after the ten (10) day period, Contractor shall, as a penalty to District, forfeit up to one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Labor Commissioner, these penalties shall be withheld from progress payments then due.

**26.4.6** **[RESERVED]**

**26.5** **[RESERVED]**

**26.6** **Apprentices**

**26.6.1** Contractor acknowledges and agrees that, if this Contract involves a dollar amount greater than or a number of working days greater than that specified in Labor Code section 1777.5, then this Contract is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of Contractor to ensure compliance with this Article and with Labor Code section 1777.5 for all apprenticeship occupations.

**26.6.2** Apprentices of any crafts or trades may be employed and, when required by Labor Code section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.

**26.6.3** Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which she/he is registered.

**26.6.4** Only apprentices, as defined in section 3077 of the Labor Code, who are in training under apprenticeship standards and written apprentice agreements under chapter 4 (commencing at section 3070), division 3, of the Labor Code, are eligible to be employed. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.

**26.6.5** Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractors employing workers in any apprenticeable craft or trade in performing any Work under this Contract shall apply to the applicable joint apprenticeship committee for a certificate approving the Contractor or Subcontractor under the applicable apprenticeship standards and fixing the ratio of apprentices to journeymen employed in performing the Work.

**26.6.6** Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractor may be required to make contributions to the apprenticeship program.

**26.6.7** If Contractor or Subcontractor willfully fails to comply with Labor Code section 1777.5, then, upon a determination of noncompliance by the Administrator of Apprenticeship, it shall:

**26.6.7.1** Be denied the right to bid on any subsequent project for one (1) year from the date of such determination;

**26.6.7.2** Forfeit as a penalty to District the full amount as stated in Labor Code section 1777.7. Interpretation and enforcement of these provisions shall be in accordance with the rules and procedures of the California Apprenticeship Council and under the authority of the Chief of the Division of Apprenticeship Standards.

**26.6.8** Contractor and all Subcontractors shall comply with Labor Code section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.

**26.6.9** Contractor shall become fully acquainted with the law regarding apprentices prior to commencement of the Work. Special attention is directed to sections 1777.5, 1777.6, and 1777.7 of the Labor Code, and title 8, California Code of Regulations, section 200 et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, 9th floor, San Francisco, California 94102.

## **26.7 Non-Discrimination**

**26.7.1** Contractor herein agrees not to discriminate in its recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed,

national origin, ancestry, sex, age, or physical handicap in the performance of this Contract and to comply with the provisions of the California Fair Employment and Housing Act as set forth in part 2.8 of division 3 of the California Government Code, commencing at section 12900; the Federal Civil Rights Act of 1964, as set forth in Public Law 88-352, and all amendments thereto; Executive Order 11246; and all administrative rules and regulations found to be applicable to Contractor and Subcontractor.

**26.7.2** Special requirements for Federally Assisted Construction Contracts: During the performance of this Contract, Contractor agrees to incorporate in all subcontracts the provisions set forth in Chapter 60-1.4(b) of Title 41 published in Volume 33 No. 104 of the Federal Register dated May 28, 1968.

**26.8**     **Labor First Aid**

Contractor shall maintain emergency first aid treatment for Contractor's workers on the Project which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 *et seq.*) and the California Occupational Safety and Health Act of 1973 (Lab. Code, § 6300 *et seq.*; 8 Cal. Code of Regs., § 330 *et seq.*).

**27.**     **[RESERVED]**

**28.**     **MISCELLANEOUS**

**28.1**     **Assignment of Antitrust Actions**

**28.1.1**     Section 7103.5(b) of the Public Contract Code states:

In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, which assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

**28.1.2**     Section 4552 of the Government Code states:

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

**28.1.3**     Section 4553 of the Government Code states:

If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter,

the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

**28.1.4** Section 4554 of the Government Code states:

Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

**28.1.5** Under this Article, "public purchasing body" is District and "bidder" is Contractor.

## **28.2**     **Excise Taxes**

If, under Federal Excise Tax Law, any transaction hereunder constitutes a sale on which a Federal Excise Tax is imposed and the sale is exempt from such Federal Excise Tax because it is a sale to a State or Local Government for its exclusive use, District, upon request, will execute documents necessary to show (1) that District is a political subdivision of the State for the purposes of such exemption, and (2) that the sale is for the exclusive use of District. No Federal Excise Tax for such materials shall be included in any Contract Price.

## **28.3**     **Taxes**

Contract Price is to include any and all applicable sales taxes or other taxes that may be due in accordance with section 7051 et seq. of the Revenue and Taxation Code, Regulation 1521 of the State Board of Equalization or any other tax code that may be applicable.

## **28.4**     **Shipments**

All shipments must be F.O.B. destination to Site or sites, as indicated in the Contract Documents. There must be no charge for containers, packing, unpacking, drayage, or insurance. The total Contract Price shall be all inclusive (including sales tax) and no additional costs of any type will be considered.

## **28.5**     **Compliance with Government Reporting Requirements**

If this Contract is subject to federal or other governmental reporting requirements because of federal or other governmental financing in whole or in part for the Project of which it is part, or for any other reason, Contactor shall comply with those reporting requirements at the request of the District at no additional cost.

END OF DOCUMENT



DOCUMENT 00 73 13

**SPECIAL CONDITIONS**

**1. Mitigation Measures**

Contractor shall comply with all applicable mitigation measures, if any, adopted by any public agency with respect to this Project pursuant to the California Environmental Quality Act. (Public Resources Code section 21000 *et seq.*).

**2. Campus and Adjacent Buildings**

**2.1 Access.** Access to the school buildings and entry to buildings, classrooms, restrooms, mechanical rooms, electrical rooms, or other rooms, for construction purposes, must be coordinated with District and onsite District personnel before Work is to start. Unless agreed to otherwise in writing, only a school custodian will be allowed to unlock and lock doors in existing building(s). The custodian will be available only while school is in session. If a custodian is required to arrive before 7:00 a.m. or leave after 3:30 p.m. to accommodate Contractor's Work, the overtime wages for the custodian will be paid by the Contractor, unless at the discretion of the District, other arrangements are made in advance.

**2.2 Keys.** Upon request, the District may, at its own discretion, provide keys to the school site for the convenience of the Contractor. The Contractor agrees to pay all expenses to re-key the entire school site and all other affected District buildings if the keys are lost or stolen, or if any unauthorized party obtains a copy of a key or access to the school.

**2.3 Maintaining Services.** The Contractor is advised that Work is to be performed in spaces regularly scheduled for instruction. Interruption and/or periods of shutdown of public access, electrical service, water service, lighting, or other utilities shall be only as arranged in advance with the District. Contractor shall provide temporary services to all facilities interrupted by Contractor's Work.

**2.4 Maintaining Utilities.** The Contractor shall maintain in operation during duration of Contract, drainage lines, storm drains, sewers, water, gas, electrical, steam, and other utility service lines within working area.

**2.5 Confidentiality.** Contractor shall maintain the confidentiality of all information, documents, programs, procedures and all other items that Contractor encounters while performing the Work. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes, without limitation, all student, parent, and employee disciplinary information and health information.

**2.6 Work during Instructional Time.** By submitting its bid, Contractor affirms that Work may be performed during ongoing instruction in existing facilities. If so, Contractor agrees to cooperate to the best of its ability to minimize any disruption to school operations and any use of school facilities by the public up to, and including, rescheduling specific work activities, at no additional cost to District.

**2.7 No Work during Student Testing.** Contractor shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests.

**3. Badge Policy for Contractors**

All Contractors doing work for the District will provide their workers with identification badges. These badges will be worn by all members of the Contractor's staff who are working in a District facility.



**3.1** Badges must be filled out in full and contain the following information:

**3.1.1** Name of Contractor

**3.1.2** Name of Employee

**3.1.3** Contractor's address and phone number

**3.2** Badges are to be worn when the Contractor or his/her employees are on site and must be visible at all times. Contractors must inform their employees that they are required to allow District employees, the Architect, the Construction Manager, the Program Manager, or the Project Inspector to review the information on the badges upon request.

**3.3** Continued failure to display identification badges as required by this policy may result in the individual being removed from the Project or assessment of fines against the Contractor.

**4. Substitution for Specified Items**

**4.1** Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Contractor may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified.

**4.1.1** If the material, process, or article offered by Contractor is not, in the opinion of the District, substantially equal or better in every respect to that specified, then Contractor shall furnish the material, process, or article specified in the Specifications without any additional compensation or change order.

**4.1.2** This provision shall not be applicable with respect to any material, product, thing or service for which District made findings and gave notice in accordance with Public Contract Code section 3400(c); therefore, Contractor shall not be entitled to request a substitution with respect to those materials, products or services.

**4.2** A request for a substitution shall be submitted as follows:

**4.2.1** Contractor shall notify the District in writing of any request for a substitution at least ten (10) days prior to bid opening as indicated in the Instructions to Bidders.

**4.2.2** Requests for Substitutions after award of the Contract shall be submitted within thirty-five (35) days of the date of the Notice of Award.

**4.3** Within 35 days after the date of the Notice of Award, Contractor shall provide data substantiating a request for substitution of "an equal" item, including but not limited to the following:

**4.3.1** All variations of the proposed substitute from the material specified including, but not limited to, principles of operation, materials, or construction finish, thickness or gauge of materials, dimensions, weight, and tolerances;

**4.3.2** Available maintenance, repair or replacement services;

**4.3.3** Increases or decreases in operating, maintenance, repair, replacement, and spare parts costs;

**4.3.4** Whether or not acceptance of the substitute will require other changes in the Work (or in work performed by the District or others under Contract with the District); and

**4.3.5** The time impact on any part of the Work resulting directly or indirectly from acceptance of the proposed substitute.

**4.4** No substitutions shall be made until approved, in writing, by the District. The burden of proof as to equality of any material, process, or article shall rest with Contractor. The Contractor warrants that if substitutes are approved:

**4.4.1** The proposed substitute is equal or superior in all respects to that specified, and that such proposed substitute is suitable and fit for the intended purpose and will perform adequately the function and achieve the results called for by the general design and the Contract Documents;

**4.4.2** The Contractor provides the same warranties and guarantees for the substitute that would be provided for that specified;

**4.4.3** The Contractor shall be fully responsible for the installation of the substitute and any changes in the Work required, either directly or indirectly, because of the acceptance of such substitute, with no increase in Contract Price or Contract Time. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time;

**4.4.4** The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute; and

**4.4.5** The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit.

**4.5** In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.

**4.6** In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

**4.7** Contractor shall be responsible for any costs the District incurs for professional services, DSA fees, or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor’s means and methods. District may deduct those costs from any amounts owing to the Contractor for the review of the request for substitution, even if the request for substitution is not approved. District, at its sole discretion, shall deduct from the payments due to and/or invoice Contractor for all the professional services and/or DSA fees or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor’s means and methods arising herein.

**5. Weather Days**

Delays due to Adverse Weather conditions will only be permitted in compliance with the provisions in the General Conditions and only if the number of days of Adverse Weather exceeds the following parameters and Contractor can verify that the excess days of Adverse Weather caused delays:

January	<b><u>11</u></b>	July	<b><u>0</u></b>
February	<b><u>10</u></b>	August	<b><u>0</u></b>
March	<b><u>10</u></b>	September	<b><u>3</u></b>
April	<b><u>6</u></b>	October	<b><u>4</u></b>
May	<b><u>3</u></b>	November	<b><u>7</u></b>
June	<b><u>1</u></b>	December	<b><u>10</u></b>

**6. Insurance Policy Limits**

All of Contractor’s insurance shall be with insurance companies with an A.M. Best rating of no less than A:XV. The limits of insurance shall not be less than:

<b>Commercial General Liability</b>	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	<b>\$2,000,000 Per Occurrence \$4,000,000 Aggregate</b>
<b>Automobile Liability – Any Auto</b>	Combined Single Limit	<b>\$1,000,000 Per Occurrence \$2,000,000 Aggregate</b>
<b>Workers’ Compensation</b>		Statutory limits pursuant to State law

<b>Employers' Liability</b>		<b>\$1,000,000</b>
<b>Builder's Risk (Course of Construction)</b>		Issued for the value and scope of Work indicated herein.

**7. Permits, Certificates, Licenses, Fees, Approvals**

**7.1** Payment for Permits, Certificates, Licenses, Fees, and Approvals. As required in the General Conditions, the Contractor shall secure and pay for all permits, licenses, approvals, and certificates necessary for the prosecution of the Work with the exception of the following:

**7.1.1** Not Applicable

**7.2 General Permit For Storm Water Discharges Associated With Construction and Land Disturbance Activities**

**7.2.1** Contractor acknowledges that all California school districts are obligated to develop and implement the following requirements for the discharge of storm water to surface waters from its construction and land disturbance activities (storm water requirements), without limitation:

**7.2.1.1** Municipal Separate Storm Sewer System (MS4) is a system of conveyances used to collect and/or convey storm water, including, without limitation, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.

**7.2.1.2** Storm Water Pollution Prevention Plan ("SWPPP") contains specific best management practices ("BMPs") and establishes numeric effluent limitations at:

**7.2.1.2.1** Sites where the District engages in maintenance (e.g., fueling, cleaning, repairing) for transportation activities.

**7.2.1.2.2** Construction sites where:

**7.2.1.2.2.1** One (1) or more acres of soil will be disturbed, or

**7.2.1.2.2.2** The project is part of a larger common plan of development that disturbs more than one (1) acre of soil.

**7.2.2** Contractor shall comply with any District storm water requirements that are approved by the District and applicable to the Project, at no additional cost to the District.

**7.2.3** At no additional cost to the District, Contractor shall provide a Qualified Storm Water Practitioner who shall be onsite and implement and monitor any and all SWPPP requirements applicable to the Project, including but not limited to:

**7.2.3.1** At least forty eight (48) hours prior to a forecasted rain event, implementing the Rain Event Action Plan (REAP) for any rain event requiring implementation of the REAP, including any erosion and sediment control measures needed to protect all exposed portions of the site; and

**7.2.3.2** Monitoring any Numeric Action Levels (NALs), if applicable.

**8. As-Builts and Record Drawings**

**8.1** When called for by Division 1, Contractor shall submit As-Built Drawings pursuant to the Contract Documents consisting of one set of computer-aided design and drafting ("CADD") files, plus one set of As Built Drawings in PDF format.

**8.2** Contractor shall submit Record Drawings pursuant to the Contract Documents consisting of one set of computer-aided design and drafting ("CADD") files, plus one set of Record Drawings in PDF format.

**9. Construction Manager**

The District will use a Construction Manager on the Project that is the subject of this Contract. Kitchell is the Construction Manager for this Project.

**10. Program Manager**

Kitchell is the Program Manager designated for the Project that is the subject of this Contract.

**11. Project Management Software**

The District has contracted with EAdoc to provide web based project management software for this project. The contractor is required to use this software. Access to the software and training will be provided to the contractor at no cost.

**14. Preliminary Schedule of Values**

The preliminary schedule of values shall include, at a minimum, the following information and the following structure:

Replace the following provisions:

**15.1.1.2.3.** The preliminary schedule of values shall not provide for values any greater than the following percentages of the Contract value:

**15.1.2.3.1** Mobilization and layout combined to equal not more than **1%**;

**15.1.1.2.3.2** Submittals, samples and shop drawings combined to equal not more than **3%**;

**15.1.1.2.3.3** Bonds and insurance combined to equal not more than **2%**.

**15.1.1.2.3.4** Closeout documentation shall not have a value in the preliminary schedule of values of less than **5%**.

**15. Underground Survey of Existing Utilities**

**14.1** The District will do their best ability to identify underground utilities, however prior to performing excavation activities the Contractor shall at their sole expense employ the services of a private locator to survey and ascertain the actual locations of existing underground utilities. Should the Contractor damage existing utilities during the prosecution of the work, they shall immediately notify the Construction Manager in writing and diligently affect repairs to the damaged utility. The Contractor shall be responsible for all repairs and consequential damages resulting from utility outages caused as a result of the performance of work.

**16. Schedule of Operation**

**15.1** Construction Activates shall be performed between the hours of 7:00am and 5:00pm, Monday through Friday. No work shall be performed outside the above hours without prior written authorization from the Construction Manager.

**15.2** Cutting, chipping, and off-haul of all trees must be scheduled and completed during weekends, Holidays, or school breaks. Dates must be approved by the District/ Construction Manager.

**17. Temporary Facilities**

**16.1** The Contractor shall submit a project logistics plan to the Construction Manager for approval within fifteen (15) calendar days from the Notice to Proceed date. The logistics plan shall define how the Contractor plans to control site processes including, but not limited to, means and methods to accommodate temporary utilities, temporary facilities, site traffic, off-site parking, material delivery and material storage, temporary fencing, etc. All subsequent relocations need to be approved by Construction Manager.

END OF DOCUMENT

DOCUMENT 00 73 56

**HAZARDOUS MATERIALS  
PROCEDURES & REQUIREMENTS**

**1. Summary**

This document includes information applicable to hazardous materials and hazardous waste abatement.

**2. Notice of Hazardous Waste or Materials**

- a. Contractor shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:
  - (1) Material that Contractor believes may be a material that is hazardous waste or hazardous material, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
  - (2) Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.
- b. Contractor's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.
- c. In response to Contractor's written notice, the District shall investigate the identified conditions.
- d. Contractor should be aware that some underground water lines, power lines, and abandoned hydronic pipes may be transite.
- e. If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Contractor in writing, stating reasons. If the District and Contractor cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Contractor shall proceed with the Work as directed by the District.
- f. If after receipt of notice from the District, Contractor does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may

invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.

- g. If Contractor stops Work in connection with any hazardous condition and in any area affected thereby, Contractor shall immediately redeploy its workers, equipment, and materials, as necessary, to other portions of the Work to minimize delay and disruption.

### **3. Additional Warranties and Representations**

- a. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).
- b. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.
- c. Contractor represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Contractor accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

### **4. Monitoring and Testing**

- a. District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.
- b. Contractor acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, pre-abatement, during abatement, and post-abatement air monitoring, that



District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of the Work by Contractor. In the event District elects to perform these activities and tests, Contractor shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Contractor will include the potential impact of these activities or tests by District in the Contract Price and the Scheduled Completion Date.

- c. Notwithstanding District's rights granted by this paragraph, Contractor may retain its own industrial hygiene consultant at Contractor's own expense and may collect samples and may perform tests including, but not limited to, pre-abatement, during abatement, and post-abatement personal air monitoring, and District reserves the right to request documentation of all such activities and tests performed by Contractor relating to the Work and Contractor shall immediately provide that documentation upon request.

## **5. Compliance with Laws**

- a. Contractor shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.
- b. Contractor represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:
  - (1) The protection of the public health, welfare and environment;
  - (2) Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;
  - (3) The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and
  - (4) The protection of environmentally sensitive areas such as wetlands and coastal areas.

## **6. Disposal**

- a. Contractor has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Contractor must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is

not obligated to, require submittals with this information for it to review consistent with the Contract Documents.

- b. Contractor shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.
- c. Contractor shall provide District with the name and address of each waste disposal facility prior to any disposal, and District shall have the express right to reject any proposed disposal facility. Contractor shall not use any disposal facility to which District has objected. Contractor shall document actual disposal or destruction of waste at a designated facility by completing a disposal certificate or certificate of destruction forwarding the original to the District.

## **7. Permits**

- a. Before performing any of the Work, and at such other times as may be required by applicable law, Contractor shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Contractor shall submit evidence satisfactory to District that it and any disposal facility:
  - (1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and
  - (2) are in compliance with all such permits, approvals and the regulations.

For example, before commencing any work in connection with the Work involving asbestos-containing materials, or PCBs, or other hazardous materials subject to regulation, Contractor agrees to provide the required notice of intent to renovate or demolish to the appropriate state or federal agency having jurisdiction, by certified mail, return receipt requested, or by some other method of transmittal for which a return receipt is obtained, and to send a copy of that notice to District. Contractor shall not conduct any Work involving asbestos-containing materials or PCBs unless Contractor has first confirmed that the appropriate agency having jurisdiction is in receipt of the required notification. All permits, licenses, and bonds that are required by governmental or quasi-governmental authorities, and all fees, deposits, tap fees, offsite easements, and asbestos and PCB disposal facilities expenses necessary for the prosecution of the Work, shall be procured and paid for by Contractor. Contractor shall give all notices and comply with the all applicable laws bearing on the conduct of the Work as drawn and specified. If Contractor observes or reasonably should have observed that Plans and Specifications and other Contract Documents are at variance therewith, it shall be responsible for promptly notifying District in writing of such fact. If

Contractor performs any Work contrary to applicable laws, it shall bear all costs arising therefrom.

- b. In the case of any permits or notices held in District's name or of necessity to be made in District's name, District shall cooperate with Contractor in securing the permit or giving the notice, but the Contractor shall prepare for District review and execution upon approval, all necessary applications, notices, and other materials.

**8. Indemnification**

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 9601 *et seq.*).

**9. Termination**

District shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents, or any applicable law, on any matter involving the exposure of persons or property to hazardous waste. However, if the breach of contract exposing persons or property to hazardous waste is due solely to an ordinary, unintentional, and non-reckless failure to exercise reasonable care, then the procedures for termination for cause shall apply without modification.

END OF DOCUMENT



# PMP Environmental Consulting

5325 Elkhorn Blvd. #360, Sacramento, CA 95842  
(916) 628-5124 • PMPEnvConsulting@gmail.com

November 18, 2019

Mr. Noe Ramos  
Kitchell CEM  
c/o Solano Community College District  
4000 Suisun Valley Road  
Fairfield, CA 9434

Dear Mr. Ramos,

This letter contains the results of a hazardous material survey performed at Building 300, Located at 4000 Suisun Valley Road, Fairfield, California on the Solano Community College Campus. All suspect asbestos, lead, and PCB containing materials that may be disturbed during the upcoming renovation project have been sampled. A list of suspect materials identified and sampled are included in this report. The survey was performed on November 8, 2019 by Shannon Johanson. Mrs. Johanson is a Cal/OSHA Certified Asbestos Consultant and EPA-accredited Building Inspector. See attached personnel certifications.

## **Procedures – Asbestos**

A visual inspection of accessible building materials was performed using the methods presented in the federal AHERA regulations (40 CFR, Part 763) as a guideline. While AHERA is only directly applicable to public schools, the principles presented under the Final Rule are generally accepted as the industry standard for ACM inspections. Suspect ACMs were also physically assessed for friability, condition and possible disturbance factors.

Bulk samples of identified homogeneous areas were collected in building areas that may be impacted by the planned renovation activities. Samples were collected of each separate homogeneous area. A homogeneous area is defined as a surfacing material, thermal system insulation, or miscellaneous material that is uniform in use, color and texture.

The suspect ACMs were sampled using a knife or other similar coring device suitable to the type of material sampled to cut through its entire thickness and to ensure that a cross-section of the material was obtained. The material was then placed in an appropriately labeled container that was sealed and submitted to Eurofins CEI Laboratories, Inc. for analysis. Eurofins CEI is accredited by the California Department of Public Health (CDPH) Environmental Laboratory Accreditation Program (ELAP) and the National Institute of Science and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP). FALI participates in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program and has substantial experience in the analysis of asbestos. A unique sample number was assigned to each sample.

## **Results – Asbestos**

A total of 46 samples were collected from 20 identified suspect materials. Of the 20 materials sampled, eight were found to contain asbestos. The following materials may be impacted without regard to asbestos work practices:

Stucco	
12" Beige VFT & Mastic	Black Counter Tops in Fume Hoods
Window Sealant	Tan Ceramic Tile Grout
12" Blue VFT & Mastic	Black Counter Tops in Science Rooms
Cove Base Mastic	FRP Mastic
2'x4' FCP-Pinhole/Fissure	
2'x4' FCP-Pinhole/Gouge	
Brown Ceramic Tile Grout	



Mr. Noe Ramos  
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All the samples were analyzed using Polarized Light Microscopy with Dispersion Staining (PLM/DS) techniques in accordance with the methodology approved by the U.S. Environmental Protection Agency (EPA). The percentage of asbestos present in the samples was determined based on a visual area estimation. The EPA defines asbestos-containing materials (ACM) as any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM). 40 CFR Part 763 identifies the lower limit of reliable quantification for asbestos using the PLM method as approximately one percent (1%) by volume. Regulations in California (CAL/OSHA Title 8 CCR 1529) define asbestos-containing construction materials (ACCM) as those materials having asbestos content of greater than one tenth of one percent (> 0.1%). Therefore, for the purpose of this survey, any amount of asbestos detected will be considered positive. In addition to the percentages, the types of asbestos minerals are also reported. The PLM method is the standard method used to analyze asbestos bulk samples.

When "None Detected" (ND) appears in the laboratory results, it should be interpreted as meaning asbestos was not observed in the sample material.

The following materials were found to contain asbestos:

Sample No.	Material Description	Location	Asbestos Content	NESHAP Category	Amount
1021-02A	Orange Peel Texture Sheetrock & Joint Compound	Various Areas Throughout Building 300	0.18% Chrysotile (Confirmed by Point Count)	N/A	13120 SF
1021-02D	Orange Peel Texture Sheetrock & Joint Compound	Various Areas Throughout Building 300	0.13% Chrysotile (Confirmed by Point Count)	N/A	---
1021-02E	Orange Peel Texture Sheetrock & Joint Compound	Various Areas Throughout Building 300	0.10% Chrysotile (Confirmed by Point Count)	N/A	---
1021-03A	Hatch Pattern Sheetrock	Various Classrooms and Under Orange Peel Texture	0.12% Chrysotile (Confirmed by Point Count)	N/A	----
1021-04A	Unfinished Sheetrock w/Joint Compound	Above FCP in Attic and Behind Fixed Shelving	0.14% Chrysotile (Confirmed by Point Count)	N/A	---



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Sample No.	Material Description	Location	Asbestos Content	NESHAP Category	Amount
1021-04B	Unfinished Sheetrock w/Joint Compound	Above FCP in Attic and Behind Fixed Shelving	0.10% Chrysotile (Confirmed by Point Count)	N/A	---
1021-04C	Unfinished Sheetrock w/Joint Compound	Above FCP in Attic and Behind Fixed Shelving	0.12% Chrysotile (Confirmed by Point Count)	N/A	450 SF
1021-05A	Plaster	Room 323	<0.25% Chrysotile (Confirmed by Point Count)	N/A	--
1021-05B	Plaster	Room 323	<0.25% Chrysotile (Confirmed by Point Count)	N/A	--
1021-05C	Plaster	Room 323	<0.25% Chrysotile (Confirmed by Point Count)	N/A	--
1021-06C	Duct Seam Tape	Attic Space above FCP	3% Chrysotile	CAT II	1,000 LF
1021-10A	Black Mastic Associated with 9" VFT	Room 332 Prep Room and Classroom 301	5% Chrysotile	CAT II	2,000 SF
1021-14A	Transite	Fume Hoods	15% Chrysotile	CAT II	270 SF
1021-16A	Gray Seam Sealant	Room 323	<1% Chrysotile	CAT II	Unknown

**Recommendations and Requirements – Asbestos**

Disturbance of any asbestos-containing material (ACM) or asbestos-containing construction material (ACCM) that could generate airborne asbestos fibers is regulated by the California Division of Occupational Safety and Health (CAL OSHA).

The Contractor is required to have DOSH Registration for abatement activities involving more than 100 square feet.

For compliance with Title 8, California Administrative Code, Construction Safety Order 1529, Asbestos Regulations, the asbestos abatement contractor must send written notice at least one day (24 hours) prior to start of any work which will impact any asbestos. The contractor also must perform all work in accordance with Cal OSHA requirements (8 CCR 1529)

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The US EPA National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulation, as enforced by the Bay Area Air Quality Management District (BAAQMD), requires the abatement of materials containing more than 1% asbestos prior to any demolition or renovation work that may cause the materials to become friable. A written notification is required to be filed with the US EPA and CARB at least 10 working days prior to renovation activities impacting more than 100 square feet of regulated asbestos.

## **Hazardous Waste**

Building materials reported to contain less than one percent (<1%) of asbestos are not considered hazardous by the U.S. EPA, and hence, may not require removal and disposal prior to demolition or renovation. Regulations may vary, however, between regional air quality management districts and/or other state agencies responsible for implementing EPA's rules. Therefore, local agencies should be contacted for specific ACM definitions and handling requirements. CAL/OSHA may also require special packaging and labeling on containers with asbestos-containing construction materials.

Composite sampling, which may potentially reduce the total asbestos content of the material, is only permitted when sampling joint compound, tape, and gypsum wallboard according to EPA's Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems (40 CFR Part 61 FRL-4821-7).

## **Lead**

The lead survey was not a comprehensive lead-based paint or building material survey as detailed in the *"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing"* by The National Center for Lead-Safe Housing for Housing and Urban Development (HUD).

Cal/OSHA, in Title 8 CCR Section 1532.1, Lead in Construction Standard which implements California labor code 8716-6717, regulates all construction work where an employee may be occupationally exposed to lead. Paint or materials with any detectable level of lead is considered lead-containing by Cal/OSHA.

The U.S. EPA, U.S. Department of Housing and Urban Development (HUD), and CDPH define lead-based paints (LBPs) as paints containing greater than 0.5% lead by weight, 5,000 parts per million (ppm), or 5,000 milligrams per kilogram (mg/kg), or 1.0 milligram per square centimeter (mg/cm<sup>2</sup>) total lead. The OSHA and Cal/OSHA regulations (Lead Construction Standard) do not provide a definition for LBP, but refer to the U.S. EPA, HUD, and CDPH criteria mentioned above. Cal/OSHA is primarily concerned with worker protection, and therefore regulates any amount of lead contained within painted/coated building components.

For purposes of this report, materials containing lead shall be defined as materials that contain lead at levels greater than the limit of detection for lead by weight using Flame AA laboratory analysis.

Construction work impacting materials with detectable levels of lead is subject to Cal/OSHA requirements.

Construction activities, sometimes referred to as trigger tasks, impacting materials containing any amount of lead require an initial exposure assessment. Trigger tasks are defined in Cal/OSHA 1532.1, section (d) (2) and include but are not limited to such tasks as: manual demolition, manual scraping, manual sanding, lead burning, abrasive blasting, welding, cutting and torch burning.

If any new materials are discovered during the renovation work. All work should be stopped until the material has been sampled and proven to be none asbestos containing.





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Five paint chip samples were collected of paints found throughout the building that may be impacted by the upcoming renovation. The paint chip samples were collected by scraping paint from the surface down to the substrate while taking care not to include substrate in the sample. All paint layers were included in each sample collected. A razor, knife or other similar tool was used, and the tools were cleaned after sample collection.

The following paints were found to be lead-containing by Flame AA analysis:

White Paint on Metal Door Frames  
White Paint on Sheetrock Walls

The following paints may be disturbed without special regard to lead:

Lavender Paint on Sheetrock Walls  
Light Blue Paint on Sheetrock Walls  
Tan Paint on Sheetrock Walls

### **Lead Recommendations**

The Cal/OSHA Lead in Construction Standard (8 CCR 1532.1) should be followed for any activities that will disturb the painted coatings in the project area that are listed as lead-containing. This is recommended as the standard applies to lead-related construction activities containing any detectable amount of lead. Elements of the standard that will be applicable include but may not be limited to training, exposure assessment monitoring, preparation of a site-specific lead compliance plan, use of personal protective equipment and hygiene facilities.

### **PCB's**

Four samples were collected from materials suspected of containing polychlorinated biphenyl (PCB's). PCB's are organic chlorine compounds. Polychlorinated biphenyls were once widely deployed as dielectric and coolant fluids in electrical apparatus, carbonless copy paper and in heat transfer fluids. They were also added as an unauthorized use into bulk materials such as sealants/caulking, paints/coatings, fiberglass, etc. between 1950 and 1979. Of the four samples collected two were found to contain PCB's. The gray window frame sealant was found to contain 160,000,000 µg/kg and the fiberglass TSI straights were found to contain 1100 µg/kg.

If PCB's are to be managed in place the following are the best management practices outlined by the EPA:

- Ensure ventilation systems are operating properly and regularly inspected and maintained according to system manufacturer instructions and guidelines or ANSI/SHRAE/ACCA standard 180-2012.
- Clean inside the building frequently to reduced dust or residue.
- Use a wet or damp cloth to mop or clean surfaces.
- Use vacuums with high efficiency particulate air (HEPA) filters.
- Wash hands with soap and water before eating.

All disposal of PCB's should meet the EPA requirement under 40 CFR part 761. All PCB waste must have a waste profile/characterization completed prior to disposal. If sampling shows PCB concentrations of >50 PPM all waste will need to be disposed of at a hazardous waste landfill permitted by the EPA under section 3004 of RCRA or by the state authorized under section 3006 of RCRA, or a PCB disposal facility approved under this part.



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November 18, 2019  
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This inspection is limited to the conditions and practices observed and information made available. The methods, conclusions and recommendations provided are based on PMP's judgment, expertise and the standard of practice for professional service. As with all environmental investigations, this investigation is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.

Thank you for the opportunity to perform this inspection. If you have any questions, please contact me at (916) 628-5124 or via e-mail at [pmpenvconsulting@gmail.com](mailto:pmpenvconsulting@gmail.com).

Sincerely,

A handwritten signature in blue ink that reads "Shannon Johanson".

Shannon Johanson  
President  
CAC 14-5310  
CDPH IA, PM 24367



Fiberglass TSI in Attic Found to contain PCB's



Duct Seam Tape-<1% Chrysotile



Sheetrock (<1% Chrysotile and 9" VFT with black Mastic (5% Chrysotile)



Fume Hoods - Transite (% Chrysotile)

November 11, 2019

PMP Environmental Consulting  
5325 Elkhorn Blvd #360  
Sacramento, CA 95842

**CLIENT PROJECT:** Solano College-Bldg. 300, 19-1021  
**CEI LAB CODE:** 6A190271

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on November 11, 2019. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH  
Laboratory Director



CEI

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# **ASBESTOS ANALYTICAL REPORT**

## **By: Polarized Light Microscopy**

Prepared for

### **PMP Environmental Consulting**

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CLIENT PROJECT: Solano College-Bldg. 300, 19-1021

LAB CODE: 6A190271

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 11/11/19

TOTAL SAMPLES ANALYZED: 46

# SAMPLES >1% ASBESTOS: 3



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# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Solano College-Bldg. 300, 19-1021

LAB CODE: 6A190271

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
1021-01A		F193882	Tan	Stucco	None Detected
1021-01B		F193883	Tan	Stucco	None Detected
1021-01C		F193884	Tan	Stucco	None Detected
1021-01D		F193885	Tan	Stucco	None Detected
1021-01E		F193886	Tan	Stucco	None Detected
1021-01F		F193887	Tan	Stucco	None Detected
1021-01G		F193888	Tan	Stucco	None Detected
1021-02A	Layer 1	F193889	White	Orange Peel Texture	None Detected
	Layer 2	F193889	Off-white	Drywall/Joint Compound	Chrysotile <1%
1021-02B		F193890	White	Orange Peel Texture	None Detected
1021-02C		F193891	White	Orange Peel Texture	None Detected
1021-02D	Layer 1	F193892	White	Orange Peel Texture	None Detected
	Layer 2	F193892	Off-white	Drywall/Joint Compound	Chrysotile <1%
1021-02E	Layer 1	F193893	White	Orange Peel Texture	None Detected
	Layer 2	F193893	Off-white	Drywall/Joint Compound	Chrysotile <1%
1021-03A	Layer 1	F193894	White	Surface Material	None Detected
	Layer 2	F193894	Off-white	Drywall/Joint Compound	Chrysotile <1%
1021-04A		F193895	Off-white	Drywall/Joint Compound	Chrysotile <1%
1021-04B		F193896	Off-white	Drywall/Joint Compound	Chrysotile <1%
1021-04C		F193897	Off-white	Drywall/Joint Compound	Chrysotile <1%
1021-05A		F193898	Gray	Plaster	Chrysotile <1%
1021-05B		F193899	Gray	Plaster	Chrysotile <1%
1021-05C		F193900	Gray	Plaster	Chrysotile <1%
1021-06A		F193901	Beige	Duct Seam Tape	None Detected
1021-06B		F193902	Beige	Duct Seam Tape	None Detected
1021-06C	Layer 1	F193903	Beige	Duct Seam Tape	Chrysotile 3%
	Layer 2	F193903	Beige	Duct Seam Tape	None Detected
1021-07A		F193904	Beige	Floor Tile	None Detected
1021-07A.1		F193905	Yellow	Mastic	None Detected
1021-07B		F193906	Beige	Floor Tile	None Detected
1021-07B.1		F193907	Yellow	Mastic	None Detected

# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

**PROJECT:** Solano College-Bldg. 300, 19-1021

**LAB CODE:** 6A190271

**METHOD:** EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
1021-07C		F193908	Beige	Floor Tile	None Detected
1021-07C.1		F193909	Yellow	Mastic	None Detected
1021-08A		F193910	Blue	Floor Tile	None Detected
1021-08A.1		F193911	Yellow	Mastic	None Detected
1021-09A		F193912	Tan	Covebase Mastic	None Detected
1021-09B		F193913	Brown	Covebase Mastic	None Detected
1021-09C		F193914	Tan	Covebase Mastic	None Detected
1021-10A		F193915	Blue	Floor Tile	None Detected
1021-10A.1		F193916	Black	Mastic	Chrysotile 5%
1021-11A		F193917	White	Ceiling Tile	None Detected
1021-11B		F193918	White	Ceiling Tile	None Detected
1021-12A		F193919	Black	Counter Tops	None Detected
1021-13A		F193920	Gray	Window Sealant	None Detected
1021-14A		F193921	Gray	Transite	Chrysotile 15%
1021-15A		F193922	Tan	Grout	None Detected
1021-16A		F193923	Gray	Seam Sealant	Chrysotile <1%
1021-17A		F193924	Off-white	Frp Mastic	None Detected
1021-18A		F193925	Tan	Grout	None Detected
1021-19A		F193926	Black	Counter Tops	None Detected
1021-20A		F193927	White	Ceiling Tile	None Detected



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# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** PMP Environmental Consulting  
5325 Elkhorn Blvd #360  
Sacramento, CA 95842

**Lab Code:** 6A190271  
**Date Received:** 11-11-19  
**Date Analyzed:** 11-11-19  
**Date Reported:** 11-11-19

**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
<b>1021-01A</b> F193882	Stucco	Homogeneous	40%	Binder	None Detected
		Tan	60%	Silicates	
		Non-fibrous			
		Bound			
<b>1021-01B</b> F193883	Stucco	Homogeneous	40%	Binder	None Detected
		Tan	60%	Silicates	
		Non-fibrous			
		Bound			
<b>1021-01C</b> F193884	Stucco	Homogeneous	40%	Binder	None Detected
		Tan	60%	Silicates	
		Non-fibrous			
		Bound			
<b>1021-01D</b> F193885	Stucco	Homogeneous	40%	Binder	None Detected
		Tan	60%	Silicates	
		Non-fibrous			
		Bound			
<b>1021-01E</b> F193886	Stucco	Homogeneous	40%	Binder	None Detected
		Tan	60%	Silicates	
		Non-fibrous			
		Bound			
<b>1021-01F</b> F193887	Stucco	Homogeneous	40%	Binder	None Detected
		Tan	60%	Silicates	
		Non-fibrous			
		Bound			
<b>1021-01G</b> F193888	Stucco	Homogeneous	40%	Binder	None Detected
		Tan	60%	Silicates	
		Non-fibrous			
		Bound			





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# ASBESTOS BULK ANALYSIS

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**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
<b>1021-02A</b> Layer 1 F193889	Orange Peel Texture	Heterogeneous	10%	Paint	None Detected
		White	35%	Calc Carb	
		Non-fibrous Bound	55%	Binder	
Layer 2 F193889	Drywall/Joint Compound	Heterogeneous	15%	Cellulose	<b>&lt;1% Chrysotile</b>
		Off-white	80%	Calc Carb	
		Fibrous Loosely Bound	5%	Gypsum	
Lab Notes: 2% Chrysotile in Joint Compound, <1% Composite					
<b>1021-02B</b> F193890	Orange Peel Texture	Heterogeneous	10%	Paint	None Detected
		White	35%	Calc Carb	
		Non-fibrous Bound	55%	Binder	
Lab Notes: No Sheetrock Present					
<b>1021-02C</b> F193891	Orange Peel Texture	Heterogeneous	10%	Paint	None Detected
		White	35%	Calc Carb	
		Non-fibrous Bound	55%	Binder	
Lab Notes: No Sheetrock Present					
<b>1021-02D</b> Layer 1 F193892	Orange Peel Texture	Heterogeneous	10%	Paint	None Detected
		White	35%	Calc Carb	
		Non-fibrous Bound	55%	Binder	
Layer 2 F193892	Drywall/Joint Compound	Heterogeneous	15%	Cellulose	<b>&lt;1% Chrysotile</b>
		Off-white	80%	Calc Carb	
		Fibrous Loosely Bound	5%	Gypsum	
Lab Notes: 2% Chrysotile in Joint Compound, <1% Composite					



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# ASBESTOS BULK ANALYSIS

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**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
<b>1021-02E</b> Layer 1 F193893	Orange Peel Texture	Heterogeneous White Non-fibrous Bound			10% 35% 55%	Paint Calc Carb Binder	None Detected
Layer 2 F193893	Drywall/Joint Compound	Heterogeneous Off-white Fibrous Loosely Bound	15%	Cellulose	5% 80%	Calc Carb Gypsum	<1% Chrysotile
Lab Notes: 2% Chrysotile in Joint Compound, <1% Composite							
<b>1021-03A</b> Layer 1 F193894	Surface Material	Heterogeneous White Fibrous Bound	40%	Cellulose	60%	Binder	None Detected
Layer 2 F193894	Drywall/Joint Compound	Heterogeneous Off-white Fibrous Loosely Bound	15%	Cellulose	5% 80%	Calc Carb Gypsum	<1% Chrysotile
Lab Notes: 2% Chrysotile in Joint Compound, <1% Composite							
<b>1021-04A</b> F193895	Drywall/Joint Compound	Heterogeneous Off-white Fibrous Loosely Bound	15%	Cellulose	5% 80%	Calc Carb Gypsum	<1% Chrysotile
Lab Notes: 2% Chrysotile in Joint Compound, <1% Composite							
<b>1021-04B</b> F193896	Drywall/Joint Compound	Heterogeneous Off-white Fibrous Loosely Bound	15%	Cellulose	5% 80%	Calc Carb Gypsum	<1% Chrysotile
Lab Notes: 2% Chrysotile in Joint Compound, <1% Composite							



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# ASBESTOS BULK ANALYSIS

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**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
<b>1021-04C</b> F193897	Drywall/Joint Compound	Heterogeneous Off-white Fibrous Loosely Bound	15%	Cellulose	5%	Calc Carb Gypsum	<1% Chrysotile
Lab Notes: 2% Chrysotile in Joint Compound, <1% Composite							
<b>1021-05A</b> F193898	Plaster	Homogeneous Gray Non-fibrous Bound			40%	Binder Silicates	<1% Chrysotile
<b>1021-05B</b> F193899	Plaster	Homogeneous Gray Non-fibrous Bound			40%	Binder Silicates	<1% Chrysotile
<b>1021-05C</b> F193900	Plaster	Homogeneous Gray Non-fibrous Bound			40%	Binder Silicates	<1% Chrysotile
<b>1021-06A</b> F193901	Duct Seam Tape	Heterogeneous Beige Fibrous Bound	40%	Cellulose	20%	Metal Foil Mastic Binder	None Detected
<b>1021-06B</b> F193902	Duct Seam Tape	Heterogeneous Beige Fibrous Bound	40%	Cellulose	60%	Binder	None Detected
<b>1021-06C</b> Layer 1 F193903	Duct Seam Tape	Heterogeneous Beige Fibrous Bound	5%	Cellulose	92%	Binder	3% Chrysotile



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# ASBESTOS BULK ANALYSIS

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**Date Reported:** 11-11-19

**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
Layer 2 F193903	Duct Seam Tape	Heterogeneous Beige Fibrous Bound	40%	Cellulose	60%	Binder	None Detected
<b>1021-07A</b> F193904	Floor Tile	Homogeneous Beige Non-fibrous Bound			100%	Vinyl	None Detected
<b>1021-07A.1</b> F193905	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
<b>1021-07B</b> F193906	Floor Tile	Homogeneous Beige Non-fibrous Bound			100%	Vinyl	None Detected
<b>1021-07B.1</b> F193907	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
<b>1021-07C</b> F193908	Floor Tile	Homogeneous Beige Non-fibrous Bound			100%	Vinyl	None Detected
<b>1021-07C.1</b> F193909	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected



CEI

# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** PMP Environmental Consulting  
5325 Elkhorn Blvd #360  
Sacramento, CA 95842

**Lab Code:** 6A190271  
**Date Received:** 11-11-19  
**Date Analyzed:** 11-11-19  
**Date Reported:** 11-11-19

**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
<b>1021-08A</b> F193910	Floor Tile	Homogeneous Blue Non-fibrous Bound	100%	Vinyl	None Detected
<b>1021-08A.1</b> F193911	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
<b>1021-09A</b> F193912	Covebase Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic	None Detected
<b>1021-09B</b> F193913	Covebase Mastic	Homogeneous Brown Non-fibrous Bound	100%	Mastic	None Detected
<b>1021-09C</b> F193914	Covebase Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic	None Detected
<b>1021-10A</b> F193915	Floor Tile	Homogeneous Blue Non-fibrous Bound	100%	Mastic	None Detected
<b>1021-10A.1</b> F193916	Mastic	Homogeneous Black Non-fibrous Bound	95%	Mastic	<b>5% Chrysotile</b>



CEI

# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** PMP Environmental Consulting  
5325 Elkhorn Blvd #360  
Sacramento, CA 95842

**Lab Code:** 6A190271  
**Date Received:** 11-11-19  
**Date Analyzed:** 11-11-19  
**Date Reported:** 11-11-19

**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
1021-11A F193917	Ceiling Tile	Heterogeneous	50%	Cellulose	5%	None Detected
		White Fibrous Loosely Bound	25%	Fiberglass	20%	
1021-11B F193918	Ceiling Tile	Heterogeneous	50%	Cellulose	5%	None Detected
		White Fibrous Loosely Bound	25%	Fiberglass	20%	
1021-12A F193919	Counter Tops	Homogeneous			25%	None Detected
		Black Non-fibrous Tightly Bound			75%	
1021-13A F193920	Window Sealant	Homogeneous			100%	None Detected
		Gray Non-fibrous Tightly Bound				
1021-14A F193921	Transite	Homogeneous			60%	15% Chrysotile
		Gray Fibrous Tightly Bound			25%	
1021-15A F193922	Grout	Homogeneous			25%	None Detected
		Tan Non-fibrous Bound			75%	
1021-16A F193923	Seam Sealant	Heterogeneous			75%	<1% Chrysotile
		Gray Non-fibrous Bound			15%	
					10%	

# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** PMP Environmental Consulting  
 5325 Elkhorn Blvd #360  
 Sacramento, CA 95842

**Lab Code:** 6A190271  
**Date Received:** 11-11-19  
**Date Analyzed:** 11-11-19  
**Date Reported:** 11-11-19

**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
<b>1021-17A</b> F193924	Frp Mastic	Homogeneous Off-white Non-fibrous Bound	100%	Mastic		None Detected	
<b>1021-18A</b> F193925	Grout	Homogeneous Tan Non-fibrous Bound	25% 75%	Binder Silicates		None Detected	
<b>1021-19A</b> F193926	Counter Tops	Homogeneous Black Non-fibrous Tightly Bound	100%	Silicates		None Detected	
<b>1021-20A</b> F193927	Ceiling Tile	Heterogeneous White Fibrous Loosely Bound	50% 25%	Cellulose Fiberglass	5% 20%	Paint Perlite	None Detected

---

**LEGEND:**    Non-Anth        = Non-Asbestiform Anthophyllite  
                 Non-Trem        = Non-Asbestiform Tremolite  
                 Calc Carb        = Calcium Carbonate

---

**METHOD:** EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

---

**REPORTING LIMIT:** <1% by visual estimation

---

**REPORTING LIMIT FOR POINT COUNTS:** 0.25% by 400 Points or 0.1% by 1,000 Points

---

**REGULATORY LIMIT:** >1% by weight

---

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Information provided by customer includes customer sample ID and sample description.

**ANALYST:** \_\_\_\_\_

  
Danielle Carrier

**APPROVED BY:** \_\_\_\_\_

  
Tianbao Bai, Ph.D., CIH  
Laboratory Director



## Bulk Request Analysis Form

**Client:** Solano Community College Dist.  
**Job Site:** Solano College-Bldg. 300  
**Project ID:** 19-1021  
**Project:** Shannon Johanson  
**Date Collected:** 11/9/19  
**Collected by:** Shannon Johanson  
**Date Submitted:** 11/10/19  
**Laboratory:** Eurofins CEI

**Analysis Requested:**  
 PLM with Dispersion Staining     Flame AA  
 TEM (Bulk)     Other:  
**Turnaround Time:**  Same Day     24 Hour  
 Other:  
**Special Instructions:**  
 Please fax results to  
 Please email results to: pmpenvconsulting@gmail.com  
 Other:

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
1	1021-01A	Stucco Building 300, East Side at Center	13,120 SF
2	1021-01B	Stucco Building 300, North Side at West End	
3	1021-01C	Stucco Building 300, West Side Walkway Overhang at Center	
4	1021-01D	Stucco Building 300, West Side at South End	
5	1021-01E	Stucco Building 300, East Side at North End	
6	1021-01F	Stucco Building 300, South Side at East End	
7	1021-01G	Stucco Building 300, North Side Walkway Overhang at Center	
8	1021-02A	Orange Peel Textured Sheetrock w/Joint Compound Building 300, Office 345 at Southeast Corner	9,000 SF
9	1021-02B	Orange Peel Textured Sheetrock Building 300, South Wall of Corridor by Room 331	
10	1021-02C	Orange Peel Textured Sheetrock Building 300, Room 228 at North Wall	
11	1021-02D	Orange Peel Textured Sheetrock w/Joint Compound Building 300, Room 329 at Northwest Corner	
12	1021-02E	Orange Peel Textured Sheetrock w/Joint Compound Building 300, Classroom 321 Prep at South Wall	

# PMP Environmental Consulting

5325 Elkhorn Blvd., Sacramento, CA 95642

(916) 628-5124 • PMPEnvConsulting@gmail.com

## Bulk Request Analysis Form

**Client:** Solano Community College Dist.  
**Job Site:** Solano College-Bldg. 300  
**Project ID:** 19-1021  
**Project:** Shannon Johanson  
**Date Collected:** 11/9/19  
**Collected by:** Shannon Johanson  
**Date Submitted:** 11/10/19  
**Laboratory:** Eurofins CEI

**Analysis Requested:**  
 PLM with Dispersion Staining     Flame AA  
 TEM (Bulk)     Other:  
**Turnaround Time:**  Same Day     24 Hour  
 Other:  
**Special Instructions:**  
 Please fax results to  
 Please email results to: pmpenvconsulting@gmail.com  
 Other:

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
13	1021-03A	Hatch Pattern Sheetrock (Under Orange Peel Texture in most of Building) Building 300, Room 332, North Wall	
14	1021-04A	Unfinished Sheetrock w/Joint Compound Building 300, Room 328 Attic	3,000 SF
15	1021-04B	Unfinished Sheetrock w/Joint Compound Building 300, Room 304 at North Wall	
16	1021-04C	Unfinished Sheetrock w/Joint Compound Building 300, Room 304 Attic	
17	1021-05A	Plaster Building 300, Room 323 at West Wall	450 SF
18	1021-05B	Plaster Building 300, Room 323, West Wall	450 SF
19	1021-05C	Plaster Building 300, Room 323	450 SF
20	1021-06A	Duct Seam Tape Building 300, Room 328, West End	1,000 LF
21	1021-06B	Duct Seam Tape Building 300, Room 304, South End	
22	1021-06C	Duct Seam Tape Building 300, Room 304 Attic Space	
23	1021-07A	12" VFT Beige and Mastic Building 300, Lobby Corridor at Damage	7,000 SF

# PMP Environmental Consulting

5325 Elkhorn Blvd., Sacramento, CA 95642

(916) 628-5124 • PMPEnvConsulting@gmail.com

## Bulk Request Analysis Form

**Client:** Solano Community College Dist.  
**Job Site:** Solano College-Bldg. 300  
**Project ID:** 19-1021  
**Project:** Shannon Johanson  
**Date Collected:** 11/9/19  
**Collected by:** Shannon Johanson  
**Date Submitted:** 11/10/19  
**Laboratory:** Eurofins CEI

**Analysis Requested:**

PLM with Dispersion Staining     Flame AA

TEM (Bulk)     Other:

**Turnaround Time:**  Same Day     24 Hour

Other: \_\_\_\_\_

**Special Instructions:**

Please fax results to

Please email results to: pmpenvconsulting@gmail.com

Other: \_\_\_\_\_

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
24	1021-07A.1	Mastic Building 300, Lobby Corridor at Damage	
25	1021-07B	12" VFT Beige Building 300, Room 328 at North End	
26	1021-07B.1	Mastic Building 300, Room 328 at North End	
27	1021-07C	12" VFT Beige Building 300, Room 327, West End	
28	1021-07C.1	Mastic Building 300, Room 327, West End	
29	1021-08A	12" VFT Blue Building 300, Lobby Corridor at West Wall	2,000 SF
30	1021-08A.1	Mastic Building 300, Lobby Corridor at West Wall	
31	1021-09A	Cove Base Mastic Building 300, Room 327, West Wall	
32	1021-09B	Cove Base Mastic Building 300, Room 332, North Wall	
33	1021-09C	Cove Base Mastic Building 300, Room 305, South Wall	
34	1021-10A	9" Blue VFT Building 300, Room 332 Prep at Damage, North End	2,000 SF
35	1021-10A.1	Black Mastic Building 300, Room 332 Prep at Damage, North End	

# PMP Environmental Consulting

5325 Elkhorn Blvd., Sacramento, CA 95642

(916) 628-5124 • PMPEnvConsulting@gmail.com

## Bulk Request Analysis Form

Client: Solano Community College Dist.  
 Job Site: Solano College-Bldg. 300  
 Project ID: 19-1021  
 Project: Shannon Johanson  
 Date Collected: 11/9/19  
 Collected by: Shannon Johanson  
 Date Submitted: 11/10/19  
 Laboratory: Eurofins CEI

Analysis Requested:  
 PLM with Dispersion Staining     Flame AA  
 TEM (Bulk)     Other:  
 Turnaround Time:  Same Day     24 Hour  
 Other: \_\_\_\_\_  
 Special Instructions:  
 Please fax results to  
 Please email results to: pmpenvconsulting@gmail.com  
 Other: \_\_\_\_\_

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
36	1021-11A	2'x4' FCP-Pinhole/Gouge Building 300, Room 303	26,000 SF
37	1021-11B	2'x4' FCP-Pinhole/Gouge Building 300, Room 332 Prep	
38	1021-12A	Black Counter Tops Building 300, Classroom 327, Fume Hood #2 Counter	60 SF
39	1021-13A	Gray Window Sealant Building 300 Exterior, North Side	450 LF
40	1021-14A	Transite Building 300, Room 327, Fume Hoods	270 SF
41	1021-15A	Brown Ceramic Tile Grout Building 300, Unisex Restroom at Entry	40 SF
42	1021-16A	Gray Seam Sealant Building 300, Room 323, At Counter	
43	1021-17A	FRP Mastic Building 300, Custodial Closet, South Wall	88 SF
44	1021-18A	Brown Ceramic Tile Grout Building 300, Room 323 at Floor	180 SF
45	1021-19A	Black Counter Tops Building 300, Classroom 327	256 SF
46	1021-20A	2'x4' FCP-Pinhole/Fissure Building 300, Room 332, West End at Water Damage	

Submitted by: Shannon Johanson

Date: 11-10-19

Submitted via:  Dropoff     FedEx     Courier     Other:

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

November 14, 2019

PMP Environmental Consulting  
5325 Elkhorn Blvd #360  
Sacramento, CA 95842

**CLIENT PROJECT:** Solano College-Bldg. 300, 19-1021  
**CEI LAB CODE:** 6A190271A

Dear Customer:

Enclosed are asbestos analysis results for PLM bulk samples received at our laboratory on November 13, 2019. The samples were analyzed for asbestos using polarized light microscopy (PLM) point count per the EPA 600 Method.

Sample results containing > 1% asbestos are considered asbestos-containing materials (ACMs) per the EPA regulatory requirements. The detection limit for the EPA 600 method is 0.25% for 400 point counts, or 0.1% for 1,000 point counts.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH  
Laboratory Director

---

**ASBESTOS ANALYTICAL REPORT**  
**By: Polarized Light Microscopy**

Prepared for

**PMP Environmental Consulting**

---

CLIENT PROJECT: Solano College-Bldg. 300, 19-1021

LAB CODE: 6A190271A

TEST METHOD: PLM Point Count  
EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 11/14/19



CEI

# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** PMP Environmental Consulting  
5325 Elkhorn Blvd #360  
Sacramento, CA 95842

**Lab Code:** 6A190271A  
**Date Received:** 11-13-19  
**Date Analyzed:** 11-14-19  
**Date Reported:** 11-14-19

**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS POINT COUNT PLM, EPA 600 METHOD

Client ID	Lab ID	Material Description	POINTS		ASBESTOS	
			Total	Asbestos	%	
<b>1021-02A</b>	F193889	Joint Compound (point Count)	400	14	3.5%	Chrysotile
	F193889	Drywall/Joint Compound (Composite Result from Point Count)	400		0.18%	Chrysotile
Lab Notes: Joint compound is 5% of the overall sample						
<b>1021-02D</b>	F193892	Joint Compound (point Count)	400	10	2.5%	Chrysotile
	F193892	Drywall/Joint Compound (Composite Result from Point Count)	400		0.13%	Chrysotile
Lab Notes: Joint compound is 5% of the overall sample						
<b>1021-02E</b>	F193893	Joint Compound (point Count)	400	8	2.0%	Chrysotile
	F193893	Drywall/Joint Compound (Composite Result from Point Count)	400		0.10%	Chrysotile
Lab Notes: Joint compound is 5% of the overall sample						
<b>1021-03A</b>	F193894	Joint Compound (point Count)	400	9	2.3%	Chrysotile
	F193894	Drywall/Joint Compound (Composite Result from Point Count)	400		0.12%	Chrysotile
Lab Notes: Joint compound is 5% of the overall sample						
<b>1021-04A</b>	F193895	Joint Compound (point Count)	400	11	2.8%	Chrysotile
	F193895	Drywall/Joint Compound (Composite Result from Point Count)	400		0.14%	Chrysotile
Lab Notes: Joint compound is 5% of the overall sample						
<b>1021-04B</b>	F193896	Joint Compound (point Count)	400	8	2.0%	Chrysotile
	F193896	Drywall/Joint Compound (Composite Result from Point Count)	400		0.10%	Chrysotile
Lab Notes: Joint compound is 5% of the overall sample						
<b>1021-04C</b>	F193897	Joint Compound (point Count)	400	9	2.3%	Chrysotile



CEI

# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** PMP Environmental Consulting  
5325 Elkhorn Blvd #360  
Sacramento, CA 95842

**Lab Code:** 6A190271A  
**Date Received:** 11-13-19  
**Date Analyzed:** 11-14-19  
**Date Reported:** 11-14-19

**Project:** Solano College-Bldg. 300, 19-1021

## ASBESTOS POINT COUNT PLM, EPA 600 METHOD

Client ID	Lab ID	Material Description	POINTS		ASBESTOS
			Total	Asbestos	%
	F193897	Drywall/Joint Compound (Composite Result from Point Count)	400		<b>0.12% Chrysotile</b>
Lab Notes: Joint compound is 5% of the overall sample					
<b>1021-05A</b>	F193898	Plaster	400	0	<b>&lt;0.25% Chrysotile</b>
Lab Notes: Chrysotile detected below limit of quantitation					
<b>1021-05B</b>	F193899	Plaster	400	0	<b>&lt;0.25% Chrysotile</b>
Lab Notes: Chrysotile detected below limit of quantitation					
<b>1021-05C</b>	F193900	Plaster	400	0	<b>&lt;0.25% Chrysotile</b>
Lab Notes: Chrysotile detected below limit of quantitation					



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**LEGEND:** None

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**METHOD:** EPA 600 / M4 / 82 / 020 (40 CFR Part 763, Sub. E, App. E)

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**REPORTING LIMIT:** 0.25% by 400 points or 0.1% by 1,000 points

---

**REGULATORY LIMIT:** >1% by weight

---

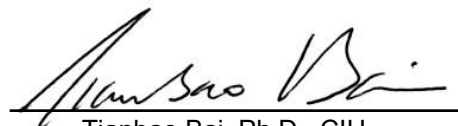
This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. *Estimated measurement of uncertainty is available on request.* This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

**ANALYST:**

  
Danielle Carrier

**APPROVED BY:**

  
Tianbao Bai, Ph.D., CIH  
Laboratory Director

## Taylor Metcalf

---

**From:** Shannon Johanson <pmpenvconsulting@gmail.com>  
**Sent:** Wednesday, November 13, 2019 3:24 PM  
**To:** #US73\_Eurofins\_CEI\_Folsom  
**Subject:** Re: Laboratory Report for Solano College-Bldg. 300, 19-1021 (6A190271)

Can you please point count all less than one percent sheet rock and plaster samples. I believe there are ten samples. The turn around time is 24 hrs.

Thanks

Sent from my iPhone

On Nov 12, 2019, at 8:17 AM, [US73 Eurofins CEI Folsom@Eurofins.com](mailto:US73_Eurofins_CEI_Folsom@Eurofins.com) <[US73 Eurofins CEI Folsom@eurofins.com](mailto:US73_Eurofins_CEI_Folsom@eurofins.com)> wrote:

Attached is the laboratory report for your recently submitted samples. Please print out a copy for your records.

Thank you for choosing Eurofins CEI.

Eurofins CEI  
180 Blue Ravine Rd  
Folsom, CA 95630  
USA  
916-496-5286

Website: [www.EurofinsUS.com/CEI](http://www.EurofinsUS.com/CEI)

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Notify us [here](#) to report this email as spam.

**\* WARNING - EXTERNAL: This email originated from outside of Eurofins. Do not click any links or open any attachment unless you trust the sender and know that the content is safe!**

<6A190271.pdf>

**Client: PMP Environmental Consulting**  
 5325 Elkhorn Blvd #360  
 Sacramento, CA 95842

**Lab Code:** 6C190015  
**Received:** 11-11-19  
**Analyzed:** 11-13-19  
**Reported:** 11-13-19

**Project:** Solano College-Bldg. 300, 19-1021

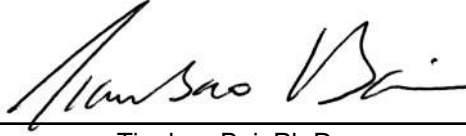
**ANALYSIS METHOD: EPA SW846 7000B**

CLIENT ID	LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT
DOOR FRAMES B300, C327	F193877	1200	0.12
SHEETROCK WALLS B300, R328	F193878	43	0.0043
SHEETROCK WALLS B300, R327 Sample contains substrate, potentially affecting results	F193879	<50	<0.0050
SHEETROCK WALLS B300, UNISEX RESTROOM Sample weight below protocol guidelines	F193880	<110	<0.011
SHEETROCK WALLS B300, LOBBY WEST WALL	F193881	<65	<0.0065

**ANALYSIS METHOD: EPA SW846 7000B**

CLIENT ID	LAB ID	PPM ( $\mu\text{g/g}$ )	CONCENTRATION % BY WEIGHT
-----------	--------	-------------------------	------------------------------

Reviewed By:



Tianbao Bai, Ph.D.  
Laboratory Director

**This method has been validated for sample weights of 0.020g or greater. When samples with a weight of less than that are analyzed those results fall outside of the scope of accreditations.**

**\* The analysis of composite wipe samples as a single samples is not included under AIHA accreditation.**

Minimum reporting limit is 10  $\mu\text{g}$  total lead. Sample results denoted with a "less than" (<) sign contain less than 10.0  $\mu\text{g}$  total lead, based on a 40ml sample volume.

Lead samples are not analyzed by Eurofins CEI Lead samples are submitted to an AIHA ELLAP accredited laboratory for lead analysis of soil, dust, paint, and TCLP samples.

Laboratory results represent the analysis of samples as submitted by the client. Information regarding sample location, description, area, volume, etc., was provided by the client. Unless notified in writing to return samples, Eurofins CEI discards client samples after 30 days. This report shall not be reproduced, except in full, without the written consent of Eurofins CEI.

Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

**REGULATORY LIMITS**

OSHA Standard: No safe limit.  
Consumer Products Safety Standard: Greater than 0.009% lead by weight.  
Federal Lead Standard / HUD: 0.5% lead by weight.

**LEGEND**

$\mu\text{g}$  = microgram                      ppm = parts per million                      g = grams  
ml = milliliter                              Pb = lead    wt = weight

**End of Report**

# PMP Environmental Consulting

CC170015  
6A196271  
F193877-81  
(5)

5325 Elkhorn Blvd., Sacramento, CA 95642

(916) 628-5124 • PMPEnvConsulting@gmail.com

## Bulk Request Analysis Form

**Client:** Solano Community College Dist.  
**Job Site:** Solano College-Bldg. 300  
**Project ID:** 19-1021  
**Project:** Shannon Johanson  
**Date Collected:** 11/9/19  
**Collected by:** Shannon Johanson  
**Date Submitted:** 11/10/19  
**Laboratory:** Eurofins CEI

**Analysis Requested:**  
 PLM with Dispersion Staining     Flame AA  
 TEM (Bulk)     Other:  
**Turnaround Time:**  Same Day     24 Hour  
 Other:  
**Special Instructions:**  
 Please fax results to  
 Please email results to: pmpenvconsulting@gmail.com  
 Other:

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	PAINT CONDITION
1	1021-01Pb	White Paint on Metal Door Frames Building 300, Classroom 327	Intact
2	1021-02Pb	White Paint on Sheetrock Walls Building 300, Room 328, West Wall	Intact
3	1021-03Pb	Lavender Paint on Sheetrock Walls Building 300, Room 327, North Wall	Intact
4	1021-04Pb	Light Blue Paint on Sheetrock Walls Building 300, Unisex Restrooms, South Wall	Intact
5	1021-05Pb	Tan Paint on Sheetrock Walls Building 300, Lobby West Wall at Damage	Intact

Submitted by: Shannon Johanson

Date: 11-10-19

Submitted via:  Dropoff     FedEx     Courier     Other:

Received by: DC 11-9 8:00

Date: \_\_\_\_\_

EUROFINS CEI, INC  
 SAMPLES ACCEPTED  
 ✓



**CALIFORNIA LABORATORY SERVICES**

*Committed. Responsive. Flexible.*

November 18, 2019

**CLS Work Order #: 19K0530**

**COC #:**

Shannon Johanson  
PMP Environmental Consulting  
5325 Elkhorn Blvd.  
Sacramento, CA 95642

**Project Name: Solano Community College Dist.**

Enclosed are the results of analyses for samples received by the laboratory on 11/11/19 16:23. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.  
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

# PMP Environmental Consulting

5325 Elkhorn Blvd., Sacramento, CA 95612

(916) 628-5124 • [PMPEnvConsulting@gmail.com](mailto:PMPEnvConsulting@gmail.com)

1920530

## Bulk Request Analysis Form

Client: Project name  
Solano Community College Dist.  
Job Site: Building 300  
Project ID: 19-1021  
Project Manager: Shannon Johanson  
Date Collected: 11/9/19  
Collected by: Shannon Johanson  
Date Submitted: 11/10/19  
Laboratory: \_\_\_\_\_

Analysis Requested:  
 PLM with Dispersion Staining  Flame AA  
 TEM (Bulk)  Other: PCB 8082A  
Turnaround Time:  Same Day  24 Hour  
 Other: 3-Day TAT  
Special Instructions:  
 Please fax results to \_\_\_\_\_  
 Please email results to: [pmpenvconsulting@gmail.com](mailto:pmpenvconsulting@gmail.com)  
 Other: \_\_\_\_\_

\* Sampled on 11/9/19 @ 1000

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION
1	1021-01PCB	Gray Sealant at Door Frame Building 300, Exterior Classroom 302 South Side
2	1021-02PCB	Gray Window Frame Sealant Building 300, North Side at East End
3	1021-03PCB	Fiberglass TSI Building 300, Room 328, Attic
4	1021-04PCB	Fiberglass Batt Insulation Building 300, Classroom 327 Attic

Submitted by: Shannon Johanson  
Submitted via:  Dropoff  FedEx  Courier  Other:  
Received by: u

Date: 11-10-19 1423

Date: 11-11-19 1423

11/3/19







PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: Solano Community College Dist. Project Number: [none] Project Manager: Shannon Johanson	CLS Work Order #: 19K0530 COC #:
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**Polychlorinated Biphenyls by EPA Method 8082A**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>1021-03PCB (19K0530-03) Soil</b> Sampled: 11/09/19 10:00 Received: 11/11/19 16:23									<b>QRL-7</b>
Aroclor 1268	ND	1100	µg/kg	1	1909486	"	11/13/19	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl</i>		98 %	50-150		"	"	"	"	
<b>1021-04PCB (19K0530-04) Soil</b> Sampled: 11/09/19 10:00 Received: 11/11/19 16:23									<b>QRL-7</b>
Aroclor 1016	ND	350	µg/kg	1	1909486	11/12/19	11/13/19	EPA 8082A	
Aroclor 1221	ND	350	"	"	"	"	"	"	
Aroclor 1232	ND	350	"	"	"	"	"	"	
Aroclor 1242	ND	350	"	"	"	"	"	"	
Aroclor 1248	ND	350	"	"	"	"	"	"	
Aroclor 1254	ND	350	"	"	"	"	"	"	
Aroclor 1260	ND	350	"	"	"	"	"	"	
Aroclor 1268	ND	350	"	"	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>		630 %	50-150		"	"	"	"	<i>QS-4</i>



PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: Solano Community College Dist. Project Number: [none] Project Manager: Shannon Johanson	CLS Work Order #: 19K0530 COC #:
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**Polychlorinated Biphenyls by EPA Method 8082A - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1909486 - LUFT-DHS GCNV**

<b>Blank (1909486-BLK1)</b>										
					Prepared: 11/12/19 Analyzed: 11/13/19					
Aroclor 1016	ND	20	µg/kg							
Aroclor 1221	ND	20	"							
Aroclor 1232	ND	20	"							
Aroclor 1242	ND	20	"							
Aroclor 1248	ND	20	"							
Aroclor 1254	ND	20	"							
Aroclor 1260	ND	20	"							
Aroclor 1268	ND	20	"							
<i>Surrogate: Decachlorobiphenyl</i>	8.65		"	8.33		104	50-150			
<b>LCS (1909486-BS1)</b>										
					Prepared: 11/12/19 Analyzed: 11/13/19					
Aroclor 1260	71.1	20	µg/kg	83.3		85	29-131			
<i>Surrogate: Decachlorobiphenyl</i>	8.64		"	8.33		104	50-150			
<b>LCS Dup (1909486-BSD1)</b>										
					Prepared: 11/12/19 Analyzed: 11/13/19					
Aroclor 1260	73.1	20	µg/kg	83.3		88	29-131	3	30	
<i>Surrogate: Decachlorobiphenyl</i>	8.74		"	8.33		105	50-150			
<b>Matrix Spike (1909486-MS1)</b>										
					Source: 19K0478-01		Prepared: 11/12/19 Analyzed: 11/13/19			
Aroclor 1260	72.6	20	µg/kg	83.3	ND	87	29-131			
<i>Surrogate: Decachlorobiphenyl</i>	6.77		"	8.33		81	50-150			
<b>Matrix Spike Dup (1909486-MSD1)</b>										
					Source: 19K0478-01		Prepared: 11/12/19 Analyzed: 11/13/19			
Aroclor 1260	60.7	20	µg/kg	83.3	ND	73	29-131	18	30	
<i>Surrogate: Decachlorobiphenyl</i>	7.51		"	8.33		90	50-150			



PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: Solano Community College Dist. Project Number: [none] Project Manager: Shannon Johanson	<b>CLS Work Order #: 19K0530</b> COC #:
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**Notes and Definitions**

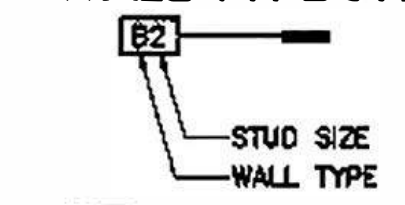
- QS-4 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QS-1 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
- QRL-8 The extract of this sample was dark and/or oily. Therefore, the sample was analyzed with a dilution and the reporting limit was raised for all target compounds.
- QRL-7 The initial volume was decreased or the final volume of the extract was increased due to matrix interference, which resulted in higher reporting limits.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference



**WALL LEGEND:**

- (E) CONCRETE WALL (TO REMAIN)
- (E) WOOD FRAME WALL (TO REMAIN)
- (H) WOOD FRAME WALL TYP. (U.N.O.)
- (N) 1 HOUR RATED OCCUPANCY SEPARATION WALL

**WALL TYPE SYMBOL**



NOTE:  
SEE SHEETS A3.2 FOR WALL TYPES.

**ASSEMBLY FIRE RATING**  
MUST MEET REQUIREMENTS FOR UL ASSEMBLY LISTED IN WALL TYPES. SEE A3.2

**KEY NOTES:**

- 6101 RE-NAL (E) SHEATHING PER STRUCTURAL DRAWINGS
- 6406 (E) CASEWORK, REMAINS
- 6407 (E) STUDENT ISLAND, REMAINS
- 6408 (E) CADAVER TABLE, TEMPORARILY MOVE FOR INSTALLATION OF VOT. FINAL RELOCATION BY OWNER
- 6410 36" WIDE X 30" DEEP X 36" HIGH BASE CABINET AND DOUBLE DRAWERS W/ EPOXY RESIN TOP AND BACKSPLASH
- 6411 ADA COMPLIANT TABLE 48" WIDE X 30" DEEP X 34" HIGH W/ EPOXY RESIN TOP WITH ELECTRIC AND DATA RECEPTACLES
- 6415 ADA COMPLIANT SINK CABINET 36" WIDE X 30" DEEP X 34" HIGH WITH EPOXY RESIN TOP, BACKSPLASH AND DECK MOUNTED HAND HELD EYEWASH
- 6416 ADA COMPLIANT TABLE W/ CABINET 50" WIDE X 30" DEEP X 34" HIGH W/ EPOXY RESIN TOP WITH ELECTRIC AND DATA RECEPTACLES
- 6417 1" THICK END SUPPORT PANEL
- 6418 ADA COMPLIANT TABLE 36" WIDE X 30" DEEP X 34" HIGH W/ EPOXY RESIN TOP
- 6432 FOUR STUDENT ISLAND UNIT, 60" WIDE X 60" DEEP X 36" HIGH WITH ELECTRIC AND DATA RECEPTACLES
- 6433 SIX STUDENT ISLAND UNIT, 84" WIDE X 60" DEEP X 36" HIGH WITH ELECTRIC AND DATA RECEPTACLES
- 6434 FOUR STUDENT ISLAND UNIT, 84" WIDE X 48" DEEP X 36" HIGH WITH ELECTRIC AND DATA RECEPTACLES
- 6435 (E) WALL MOUNTED STORAGE CUBICLES REMAIN
- 6437 TWO STUDENT ISLAND UNIT, 72" WIDE X 30" DEEP X 36" HIGH WITH ELECTRIC AND DATA RECEPTACLES
- 6441 ADA COMPLIANT TABLE 60" WIDE X 24" DEEP X 34" HIGH WITH ELECTRIC AND DATA RECEPTACLES, EPOXY RESIN TOP
- 6442 ADA COMPLIANT TABLE 48" WIDE X 30" DEEP X 34" HIGH WITH EPOXY RESIN SINK, DECK MOUNTED HAND HELD EYEWASH, AND BACKSPLASH
- 6443 EIGHT STUDENT ISLAND UNIT 18"-0" WIDE X 48" DEEP X 36" HIGH WITH GAS, ELECTRIC AND DATA RECEPTACLES
- 6445 SIX STUDENT ISLAND UNIT 12'-0" WIDE X 48" DEEP X 36" HIGH WITH GAS, ELECTRIC AND DATA RECEPTACLES
- 6446 DOUBLE TABLE SERVICE HUB AND SINK 48" WIDE X 24" DEEP X 36" HIGH
- 6447 DOUBLE TABLE SERVICE HUB AND SINK 48" WIDE X 24" DEEP X 34" HIGH
- 6448 ADA COMPLIANT TABLE 48" WIDE X 24" DEEP X 34" HIGH W/ EPOXY RESIN TOP
- 6449 30" WIDE X 24" DEEP X 36" HIGH BASE CABINET AND DRAWER WITH EPOXY RESIN COUNTERTOP AND BACKSPLASH
- 6450 STUDENT WORKTABLE 48" WIDE X 24" DEEP X 34" HIGH W/ EPOXY RESIN TOP
- 6451 MICROSCOPE STORAGE CASE
- 6452 FOUR STUDENT ADA COMPLIANT UNIT, 60" WIDE X 60" DEEP X 36" HIGH WITH ELECTRIC AND DATA RECEPTACLES
- 10431 BUILDING ENTRANCE SIGNAGE, SEE DETAIL
- 10432 DIRECTION ACCESSIBILITY SIGNAGE, SEE DETAIL
- 10441 ROOM I.D. SIGNAGE, SEE DETAIL
- 10442 EXIT SIGNAGE, SEE DETAIL
- 10501 (E) FIRE EXTINGUISHER CABINET
- 10502 (E) WALL MOUNTED FIRE EXTINGUISHER
- 10503 (N) FIRE EXTINGUISHER CABINET, SEE SPECIFICATION SECTION 10520, TYP.
- 11801 (E) FUME HOOD(S) REMAIN
- 64407 NEW ADA EYEWASH AND EMERGENCY SHOWER

**RELOCATION TAGS:**

- 304 TWO FULL HEIGHT CABINETS (FROM WITHIN ANATOMY 306)
- 305 ONE FULL HEIGHT CABINET (FROM WITHIN ANATOMY 308)
- 306 48" W X 48" H BULLETIN BOARD (FROM ANATOMY 306)
- 326 ELECTRIC CLOCK (FROM LECTURE HALL 308)

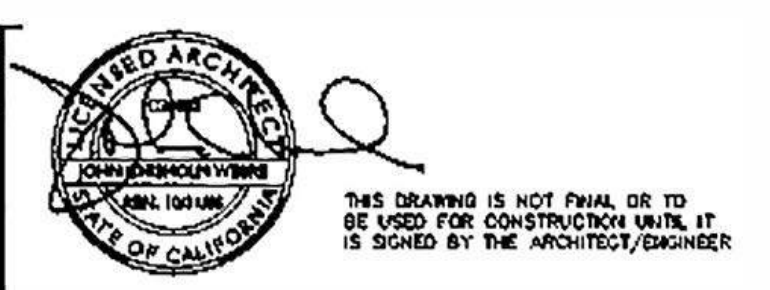
**LEGEND**

- NEW EPOXY RESIN COUNTERTOP
- NEW UTILITY TRENCH. SEE 10517
- NO WORK AREA

**GENERAL NOTES:**

1. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL ESTABLISH LOCATION OF ALL PARTITIONS. CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES IN THE DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION.
2. PARTITIONS ARE DIMENSIONED FROM FACE OF FINISH.
3. PARTITIONS ARE PARALLEL OR PERPENDICULAR TO COLUMN GRID, U.O.N.
4. NOTES TO ALIGN SHALL MEAN TO ALIGN FINISHED FACE OF PARTITION, U.O.N., AND SHALL HAVE PRIORITY OVER DIMENSIONED LOCATION.
5. SEE STRUCTURAL DRAWINGS (TYPICAL DETAILS) FOR WALL MOUNTED EQUIPMENT AND CASEWORK BACKING. CONTRACTOR TO SELECT APPROPRIATE CONDITION BASED ON WEIGHT OF EQUIPMENT TO BE MOUNTED.
6. SEE TYPICAL DETAILS (E) FOR ACQUISITUAL TREATMENT AT ELECTRICAL BOXES AND SWITCHES RECESSED IN WALL.
7. SEE TYPICAL DETAIL (E) FOR GYPSUM WALL BOARD INSTALLATION.
8. SEE ENLARGED RESTROOM PLANS FOR SANITARY FACILITY SIGNAGE.
9. SEE ELECTRICAL DRAWINGS FOR ILLUMINATED EXIT SIGNAGE.
10. PATCH & REPAIR (E) GYP. BOARD DAMAGED DURING DEMOLITION OF WALL COVERING OR OTHER CONSTRUCTION. APPLY A THIN SKIM COAT OF JOINT COMPOUND, SAND AND APPLY GROUT PEEL TEXTURE TO THE ENTIRE SURFACE.

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
OFFICE OF REGULATION SERVICES  
A#02-106804  
AC 4/15/88 SS/SLC  
DATE 2-22-2005



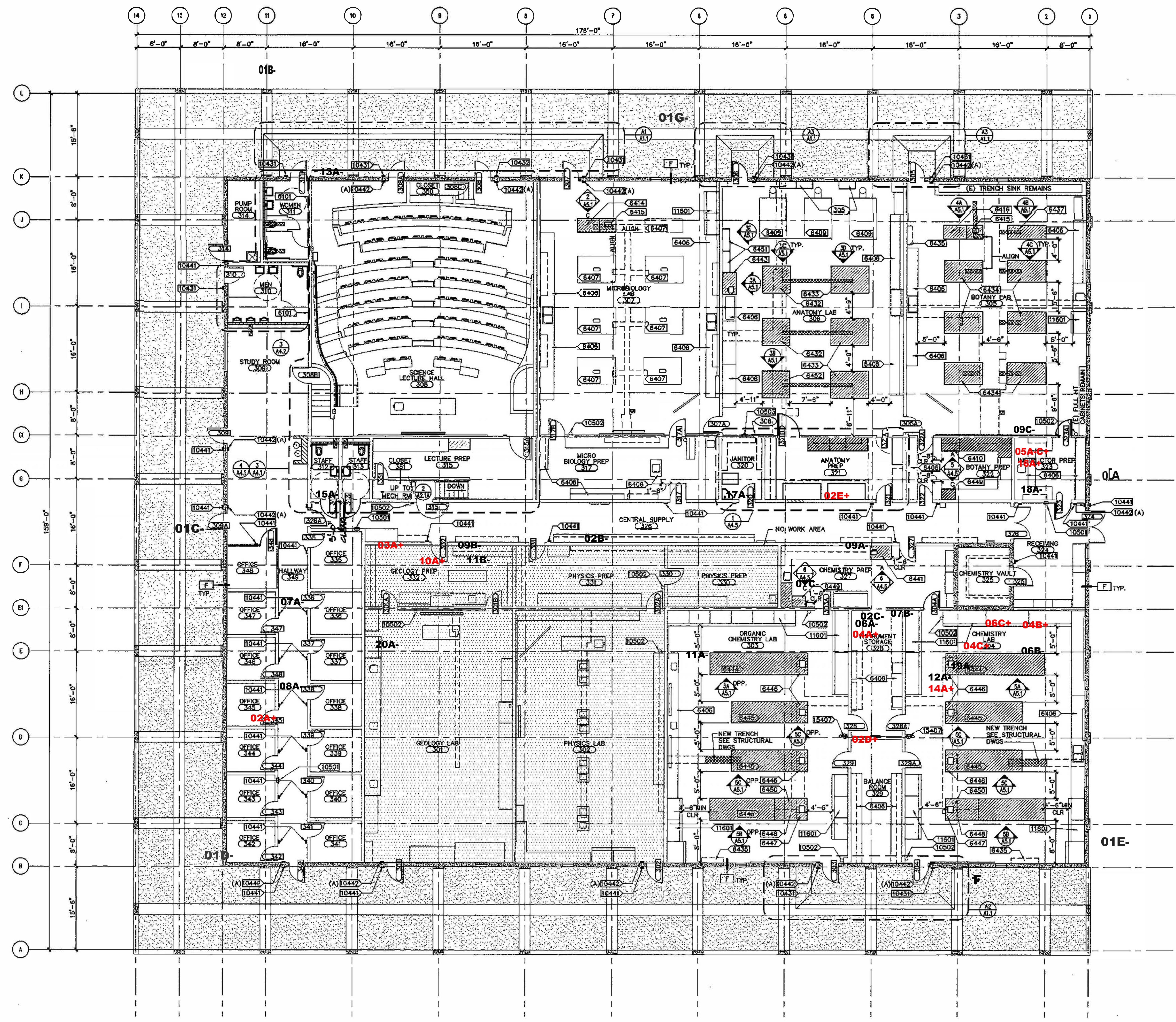
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SOLANO COMMUNITY COLLEGE  
BUILDINGS 300, 500, 1500  
MODERNIZATION

**BUILDING 300  
FLOOR PLAN**



A4745.02 - 04  
1/8" = 1'-0"  
21 MARCH 2005  
**A2.1A**



OVERALL FLOOR PLAN - BUILDING 300

1/8" = 1'-0"



State of California  
Division of Occupational Safety and Health  
**Certified Asbestos Consultant**

**Shannon M Johanson**

Name

Certification No. **14-5310**

Expires on **10/15/20**



This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.



DOCUMENT 01 11 00

**SUMMARY OF WORK**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access Conditions and Requirements;
- B. Special Conditions.

**1.02 SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS**

- A. The Work of this Contract consists of the following:

All labor, materials, equipment, and supplies necessary for the renovation/ conversion of existing spaces in Building 300 into the campus' future mailroom and graphics services area. The project includes the conversion of an organic chemistry lab and adjacent chemistry storage rooms into the new Graphics Services Center. The chemistry prep area will be converted into the campus' Mailroom. Building 300 will be occupied during the duration of the project and all services must be maintained to the building.

Contractor shall include the safe-off of all utilities, including but not limited to all electrical, fire alarm, data, security, and plumbing. The scope of work for this project is further defined in the contract documents. The Contractor will provide and install all security fencing, safety barriers, portable toilets, and debris bins per the contract specifications. Multiple relocations of site fencing/ safety barriers may be required for the completion of this project. All campus pedestrian access shall be maintained and existing buildings shall remain functional during the duration of the project.

**1.03 CONTRACTS**

- A. Perform the Work under a single, fixed-price Contract.

**1.04 WORK BY OTHERS**

- A. Work on the Project that will be performed and completed prior to the start of the Work of this Contract:
  - (1) None identified.
- B. Work on the Project that will be performed by others concurrent with the Work of this Contract:

- (1) None identified.

#### **1.05 CODES, REGULATIONS, AND STANDARDS**

- A. The codes, regulations, and standards adopted by the state and federal agencies having jurisdiction shall govern minimum requirements for this Project. Where codes, regulations, and standards conflict with the Contract Documents, these conflicts shall be brought to the immediate attention of the District and the Architect.
- B. Codes, regulations, and standards shall be as published effective as of date of bid opening, unless otherwise specified or indicated.

#### **1.06 PROJECT RECORD DOCUMENTS**

- A. Contractor shall maintain on Site one set of the following record documents; Contractor shall record actual revisions to the Work:
  - (1) Contract Drawings.
  - (2) Specifications.
  - (3) Addenda.
  - (4) Change Orders and other modifications to the Contract.
  - (5) Reviewed shop drawings, product data, and samples.
  - (6) Field test records.
  - (7) Inspection certificates.
  - (8) Manufacturer's certificates.
- B. Contractor shall store Record Documents separate from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.
- C. Contractor shall record information concurrent with construction progress.
- D. Specifications: Contractor shall legibly mark and record at each product section of the Specifications the description of the actual product(s) installed, including the following:
  - (1) Manufacturer's name and product model and number.
  - (2) Product substitutions or alternates utilized.
  - (3) Changes made by Addenda and Change Orders and written directives.

**1.07 EXAMINATION OF EXISTING CONDITIONS**

- A. Contractor shall be held to have examined the Project Site and acquainted itself with the conditions of the Site and of the streets or roads approaching the Site.
- B. Prior to commencement of Work, Contractor shall survey the Site and existing buildings and improvements to observe existing damage and defects such as cracks, sags, broken, missing or damaged glazing, other building elements and Site improvements, and other damage.
- C. Should Contractor observe cracks, sags, and other damage to and defects of the Site and adjacent buildings, paving, and other items not indicated in the Contract Documents, Contractor shall immediately report same to the District and the Architect.

**1.08 CONTRACTOR'S USE OF PREMISES**

- A. If unoccupied and only with District's prior written approval, Contractor may use the building(s) at the Project Site without limitation for its operations, storage, and office facilities for the performance of the Work. If the District chooses to beneficially occupy any building(s), Contractor must obtain the District's written approval for Contractor's use of spaces and types of operations to be performed within the building(s) while so occupied. Contractor's access to the building(s) shall be limited to the areas indicated.
- B. If the space at the designated contractor staging areas is not sufficient for Contractor's operations, storage, office facilities and/or parking, Contractor shall arrange and pay for any additional facilities needed by Contractor.
- C. Contractor shall not interfere with use of or access to occupied portions of the building(s) or adjacent property.
- D. Contractor shall maintain corridors, stairs, halls, and other exit-ways of building clear and free of debris and obstructions at all times.
- E. No one other than those directly involved in the demolition and construction, or specifically designated by the District or the Architect shall be permitted in the areas of work during demolition and construction activities.
- F. The Contractor shall install the construction fence and maintain that it will be locked when not in use. Keys to this fencing will be provided to the District.

**1.09 PROTECTION OF EXISTING STRUCTURES AND UTILITIES**

- A. The Drawings and Reference Documents show above-grade and below-grade structures, utility lines, and other installations that are known or believed to exist in the area of the Work. Contractor shall locate these existing installations before proceeding with excavation and other operations that could damage same; maintain them in service, where appropriate; and repair damage to them caused by the performance of the Work. Should damage



occur to these existing installations, the costs of repair shall be at the Contractor's expense and made to the District's satisfaction.

- B. Contractor shall be alert to the possibility of the existence of additional structures and utilities. If Contractor encounters additional structures and utilities, Contractor will immediately report to the District for disposition of same as indicated in the General Conditions.

#### **1.10 UTILITY SHUTDOWNS AND INTERRUPTIONS**

- A. Contractor shall give the District a minimum of five (5) days written notice in advance of any need to shut off existing utility services or to effect equipment interruptions. The District will set exact time and duration for shutdown, and will assist Contractor with shutdown. Work required to re-establish utility services shall be performed by the Contractor.
- B. Contractor shall obtain District's written approval as indicated in the General Conditions in advance of deliveries of material or equipment or other activities that may conflict with District's use of the building(s) or adjacent facilities.
- C. Power Shutdowns of a substation or campus wide power can only be done at a few limited times of the year, due to ongoing operations. The District data center that supports all three campuses is located at the Fairfield campus. Therefore these shutdowns dates need to be approved by the District and need to be coordinated/ planned with the District six months in advanced.

#### **1.11 STRUCTURAL INTEGRITY**

- A. Contractor shall be responsible for and supervise each operation and work that could affect structural integrity of various building elements, both permanent and temporary.
- B. Contractor shall include structural connections and fastenings as indicated or required for complete performance of the Work.

**PART 2 – PRODUCTS Not Used.**

**PART 3 – EXECUTION Not Used.**

END OF DOCUMENT

DOCUMENT 01 25 13

**PRODUCT OPTIONS AND SUBSTITUTIONS**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. Instructions to Bidders;
- B. General Conditions, including, without limitation, Substitutions For Specified Items; and
- C. Special Conditions.

**1.02 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT**

- A. Catalog numbers and specific brands or trade names followed by the designation "or equal" are used in conjunction with material and equipment required by the Specifications to establish the standards of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be reviewed subject to the provisions of the General Conditions.
- B. Wherever more than one manufacturer's product is specified, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such alternatives are proposed by Contractor and are approved by the District and/or the Architect, Contractor shall assume all costs required to make necessary revisions and modifications of the design resulting from the substitutions requested by the Contractor.
- C. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name and "or approved equal," supporting data for the second product, if proposed by Contractor, shall be submitted in accordance with the requirements for substitutions. The District's Board has found and determined that certain item(s) shall be used on this Project based on the purpose(s) indicated pursuant to Public Contract Code section 3400(c).
- D. The Contractor will not be allowed to substitute specified items unless the request for substitution is submitted as follows:
  - (1) District must receive any notice of request for substitution of a specified item a minimum of ten (10) calendar days prior to bid opening.

- (2) Within 35 days after the date of the Notice of Award, the Contractor shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the technical Specifications. Insufficient information shall be grounds for rejection of substitution.
- E. If the District and/or Architect, in reviewing proposed substitute materials and equipment, require revisions or corrections to be made to previously accepted Shop Drawings and supplemental supporting data to be resubmitted, Contractor shall promptly do so. If any proposed substitution is judged by the District and/or Architect to be unacceptable, the specified material or equipment shall be provided.
- F. Samples may be required. Tests required by the District and/or Architect for the determination of quality and utility shall be made at the expense of Contractor, with acceptance of the test procedure first given by the District.
- G. In reviewing the supporting data submitted for substitutions, the District and/or Architect will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Contract Documents. If more than two (2) submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by Contractor, and the District will deduct the costs from the Contract Price. The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute.
- H. The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit. In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.
- I. In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.
- J. All substitutions related to Structural (SSS), Access/ ADA (ACS), and Fire & Life Safety (FLS) are considered construction changes and require DSA review and approval.
  - (1) DSA approval is required and final acceptance and use of the product will be withheld pending approval from DSA.
  - (2) Provide all documentation for DSA approval related to the substitution. This may include revised structural backing details.

**PART 2 – PRODUCTS Not Used.**

**PART 3 – EXECUTION Not Used.**

END OF DOCUMENT

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DOCUMENT 01 26 00

**CHANGES IN THE WORK**

**PART 1 - GENERAL**

**1.1 ADDENDA**

- A. Any changes, even those beyond structural, fire and life safety and accessibility portions of the work, made to DSA-approved construction documents are required to be submitted to DSA for review and approval, if the changes are made prior to letting a construction contract.

**1.2 CONSTRUCTION CHANGE DIRECTIVES**

- A. When the Owner and Contractor are not in agreement on terms of a Change Order Proposal Request, a Construction Change Directive may be issued by the Construction Manager upon approval of the Owner, instructing the Contractor to proceed with a change, for subsequent inclusion in a Change Order.
- B. Construction Change Directive will contain a complete description of the change and designate method to be followed to determine change in the Contract Sum or Time.
- C. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
- D. CCDs may require DSA approval. Any CCD work done prior to DSA approval is done at the Contractor's own risk.
- E. After completion of the change submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

**1.3 CHANGE ORDER PROCEDURES**

- A. Upon signed authorization by the Owner, the Construction Manager will issue a Change Order for signatures of the Owner, Architect and Contractor, as provided in the Conditions of the Contract.

**1.4 ACHIEVING PROJECT CERTIFICATION**

- A. The project will be certified and indicated as such in Certification Box when all of the following are verified:
  - 1. All Final Verified Reports are submitted to DSA.
  - 2. All addenda, revisions, Category A CCDs and deferred submittals are approved by DSA.
  - 3. All systems and components relating to structural, fire and life safety and accessibility portions of the work are constructed in compliance with the DSA-approved documents.
  - 4. All required fees are received by DSA.
  - 5. The Notice of Completion or "Statement of Actual Project Cost" (form DSA 168) has been received.

**PART 2 - PRODUCTS – NOT USED**

**PART 3 - EXECUTION – NOT USED**

**CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS IN THE AGREEMENT, GENERAL CONDITIONS, AND SPECIAL CONDITIONS, IF USED, RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES.**

END OF DOCUMENT

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

DOCUMENT 01 29 00

**APPLICATION FOR PAYMENT AND  
CONDITIONAL AND UNCONDITIONAL WAIVER AND RELEASE FORMS**

**CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS IN THE GENERAL  
CONDITIONS (SPECIFICATION SECTION 00 72 13) RELATED TO APPLICATIONS  
FOR PAYMENT AND/OR PAYMENTS.**

**SOLANO COMMUNITY COLLEGE DISTRICT**

**APPLICATION FOR PAYMENT AND  
CONDITIONAL AND UNCONDITIONAL  
WAIVER AND RELEASE FORMS  
DOCUMENT 01 29 00-1**



**CONDITIONAL WAIVER AND RELEASE  
ON PROGRESS PAYMENT  
(CIVIL CODE SECTION 8132)**

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Name of Claimant: \_\_\_\_\_

Name of Customer: \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

Through Date: \_\_\_\_\_

**Conditional Waiver and Release**

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: \_\_\_\_\_

Amount of Check: \$ \_\_\_\_\_

Check Payable to: \_\_\_\_\_

**Exceptions**

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:

Date(s) of waiver and release: \_\_\_\_\_

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

Amount(s) of unpaid progress payment(s): \$ \_\_\_\_\_

- (4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**UNCONDITIONAL WAIVER AND RELEASE  
ON PROGRESS PAYMENT  
(CIVIL CODE SECTION 8134)**

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Name of Claimant: \_\_\_\_\_

Name of Customer: \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

Through Date: \_\_\_\_\_

**Unconditional Waiver and Release**

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has received the following progress payment: \$\_\_\_\_\_

**Exceptions**

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**CONDITIONAL WAIVER AND RELEASE  
ON FINAL PAYMENT  
(CIVIL CODE SECTION 8136)**

**NOTICE:** THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Name of Claimant: \_\_\_\_\_

Name of Customer: \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

**Conditional Waiver and Release**

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: \_\_\_\_\_

Amount of Check: \$ \_\_\_\_\_

Check Payable to: \_\_\_\_\_

**Exceptions**

This document does not affect any of the following: \_\_\_\_\_

Disputed claims for extras in the amount of: \$ \_\_\_\_\_

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**UNCONDITIONAL WAIVER AND RELEASE  
ON FINAL PAYMENT  
(CIVIL CODE SECTION 8138)**

**NOTICE TO CLAIMANT:** THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Name of Claimant: \_\_\_\_\_

Name of Customer: \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

**Unconditional Waiver and Release**

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

**Exceptions**

This document does not affect any of the following: \_\_\_\_\_

Disputed claims for extras in the amount of: \$ \_\_\_\_\_

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

DOCUMENT 01 31 19

**PROJECT MEETINGS**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions; and
- B. Special Conditions.

**1.02 PROGRESS MEETINGS:**

- A. Contractor shall schedule and hold regular weekly progress meetings after a minimum of one week's prior written notice of the meeting date and time to all Invitees as indicated below.
- B. Location: Contractor's field office.
- C. The Contractor shall notify and invite the following entities ("Invitees"):
  - (1) District Representative.
  - (2) Inspector of Record
  - (3) Contractor.
  - (4) Contractor's Project Manager.
  - (5) Contractor's Superintendent.
  - (6) Subcontractors, as appropriate to the agenda of the meeting.
  - (7) Suppliers, as appropriate to the agenda of the meeting.
  - (8) Construction Manager.
  - (9) Architect
  - (10) Engineer(s), if any and as appropriate to the agenda of the meeting.
  - (11) Others, as appropriate to the agenda of the meeting.
- D. The District's, the Architect's, and/or an engineer's Consultants will attend at their discretion, in response to the agenda.

- E. The District's Construction Manager will chair the meeting, take and distribute meeting notes to attendees and other concerned parties. If exceptions are taken to anything in the meeting notes, those exceptions shall be stated in writing to the District within five (5) working days following District's distribution of the meeting notes.

**1.03 PRE-INSTALLATION/PERFORMANCE MEETING:**

- A. Contractor shall schedule a meeting prior to the start of each of the following portions of the Work: cutting and patching of plaster and roofing, and other weather-exposed and moisture-resistant products. Contractor shall invite all Invitees to this meeting, and others whose work may affect or be affected by the quality of the cutting and patching work.
- B. Contractor shall review in detail prior to this meeting, the manufacturer's requirements and specifications, applicable portions of the Contract Documents, Shop Drawings, and other submittals, and other related work. At this meeting, invitees shall review and resolve conflicts, incompatibilities, or inadequacies discovered or anticipated.
- C. Contractor shall review in detail Project conditions, schedule, requirements for performance, application, installation, and quality of completed Work, and protection of adjacent Work and property.
- D. Contractor shall review in detail means of protecting the completed Work during the remainder of the construction period.

**PART 2 - PRODUCTS Not Used.**

**PART 3 - EXECUTION Not Used.**

END OF DOCUMENT

DOCUMENT 01 31 20

**PROJECT MANAGEMENT SOFTWARE**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS**

- A. All Contract Documents apply to the work of this section.
- B. This section contains general information that applies to all work performed under the Contract, and is made inherently a part of each specification section.

**1.02 GENERAL PROJECT MANAGEMENT**

- A. The District hereby directs Contractor to use the Project's existing Internet/Web- based EaDoc project management software to track and manage the Project.
- B. Use of this project management software will not replace or change any contractual responsibilities of the project team members.
- C. Each Project Team Member of the Contractor: Superintendent, Project Engineer, Scheduler, and Project Manager, etc., shall have access to the Internet and an Internet e- mail address in order to communicate with various project team members. The Contractor shall provide immediately upon receipt of the Notice to Proceed confirmation of these conditions and the names, positions, and e-mail addresses to the District.

**1.03 SOFTWARE AND HARDWARE REQUIREMENTS**

- A. The Contractor is required to provide at both the field office and home office locations from where this project is managed, the computer hardware, software and high speed Internet access that meet the requirements of the EaDoc project management software. EaDoc is a web-based application that does not require the Contractor to purchase EaDoc software. The Contractor will be given the ability to create additional user logins so that it may give access to those it determines to be necessary at no additional cost. Contractor's access to the Library/ Learning Resource Center Project (Building 100 Replacement) EaDoc database will be limited to in accordance with permission levels configured by the District.
- B. The District shall provide the Contractor with EaDoc training (if required). The anticipated training will take place after the Notice to Proceed has been issued and will be held in Fairfield, California. The District will pay for the training course only for up to twenty (20) Contractor staff members. Training for Contractor is expected to be completed in up to two separate half day sessions.



Training for additional staff can be arranged directly with EaDoc at additional cost to the Contractor.

- C. The administrator for this project is the District's Representative or authorized designee.
- D. The Contractor shall provide an adequate number of trained users to properly manage the Project in accordance with the Project schedule. The Contractor shall have Internet access through an Internet service provider of its choice at its cost.
- E. Software requirements are as follows:
  - (1) A 32-bit operating system such as Windows XP or above with Service Pack 2 or above
  - (2) Internet Explorer Version 7.0 or above
- F. Hardware requirements are as follows:
  - (1) Pentium based (or equivalent) workstation or laptop
  - (2) 32 megs of RAM minimum; ideally 128 megs of RAM or above
  - (3) A connection to the Internet (128 kb/s or above)
- G. More information on EaDoc may be obtained via the World Wide Web, at [www.eadocsoftware.com](http://www.eadocsoftware.com).

#### **1.04 SYSTEM MANAGEMENT AND USE**

- A. The District's Representative will administer the EaDoc user account.
- B. All costs associated with using this system, including computer hardware and internet service are the responsibility of the Contractor.

#### **1.05 USE BY SUBCONTRACTORS**

- A. The District encourages the Contractor to utilize EaDoc project management software for communicating with its Subcontractors. The Contractor shall inform all Subcontractors of the purpose of the project management system and how it can assist them in obtaining information for the project.

#### **1.06 COMMUNICATION PROCESS**

- A. The District's Representative will outline and detail communication, correspondence and coordination procedures at the initial Project Team meeting.
- B. Most Project communication will take place in the EaDoc project management system by creating and distributing documents directly within the system, or

by entering manually in the system dates and descriptions of items to track over time. All documents requiring formal signatures will be printed, and their hard copies signed and distributed.

- C. The official submittal log will be maintained within EaDoc. The Contractor will use the EaDoc transmittal format for each submittal transmittal; however, the Contractor will distribute prints, documents, reports, samples, etc. in the traditional manner, outside the system. The EaDoc project management system will be used to track and expedite processing of these items.
- D. Contractor will be required to maintain all current drawings within EaDoc. The Contractor will be able to control administration of the drawings which includes but is not limited to: the ability to create a custom folder structure; folder-level permissions; auto-notifications for certain events (e.g., delete, check out) using EaDoc messaging system and the user's email address; auto-detection and uploading of a drawing's reference files; detailed history for a document, including revisions and access logs; check-in and check-out capabilities; view and markup capabilities.
- E. Contractor will be required to utilize modules including but not limited to: daily reports; meeting minutes; punch lists; requests for information {RFI}; change items; cost events; and owner change order within the EaDoc project management system. The Contractor can enter a RFI and the Architect/Engineer respond to the RFI completely within the EaDoc project management system without creating a hard copy. Support documentation in hard copy format for any document in EaDoc may be scanned into an electronic file and attached in EaDoc to documents.
- F. Contractor is required to use a digital camera in order to photo-document job progress and upload the associated images taken on a regular basis to the EaDoc internet site. Each report required under Section 00500 {Agreement} should be accompanied by progress photograph{s}. Cost for digital camera to be borne by Contractor.

### **1.07 ARCHIVING**

- A. District may, at its cost and expense, obtain backups (on CDs or otherwise) of documents in EaDoc. In the event of any dispute as to what items are the true and correct project records, Items contained on the backups will control.

## **PART 2 – PRODUCTS**

**2.01** Extranet application service provider shall be the following (no substitution)

EaDoc: [www.eadocsoftware.com](http://www.eadocsoftware.com)

## **PART 3 – EXECUTION**

**3.01** Project Management Application is an Internet-Accessed Centralized Database of project information and consists of several separate modules or master file divisions for ease of organization. Available file divisions include but are not limited to:

Correspondence, Daily Reports, RFI's, Transmittals, Submittals, Meetings, Documents, Drawings, Specifications, Punch Lists, Reports, Project Photos, Project Team, Schedule of Values, change items, cost events, owner change orders, owner request for proposals, etc.

- 3.02** The District shall provide the Contractor with access to the Library/ Learning Resource Center Project (Building 100 Replacement) in EaDoc described in paragraph 1.3.1 above. Each major team member for the Contractor (i.e. project manager, superintendent, architect, etc.) must have access to EaDoc and the required training to access the system. The Contractor shall insure that all major team members on this project have Internet access available and access to EaDoc during the duration of this Project.
- 3.03** Major Subcontractors are encouraged to utilize EaDoc for the duration of their scope of work from commencement to completion of their scope of work. Major Subcontractors as a minimum shall be defined as sitework, mechanical, electrical, plumbing, structural, civil, landscape, telecommunications, concrete/masonry, security, storefront/windows, metal panels, drywall, roofing, and others deemed beneficial by the Contractor.

All other Subcontractors and suppliers shall utilize email or fax for submission of documents to the Contractor, and Contractor shall log items into EaDoc.

END OF DOCUMENT

DOCUMENT 01 32 13

**SCHEDULING OF WORK**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Summary of Work; and
- D. Submittals.

**1.02 SECTION INCLUDES**

- 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 resource loading of the schedule, monthly payment requests, and project status reporting requirements of the Contract shall employ computerized Critical Path Method ("CPM") scheduling ("CPM Schedule").
  - (2) CPM Schedule shall be cost loaded based on Schedule of Values as approved by District.
  - (3) Submit schedules and reports as specified in the 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.

**1.03 CONSTRUCTION SCHEDULE**

- A. Within ten (10) days of being awarded the Contract and before request for first progress payment, the Contractor shall prepare and submit to the Project Manager a construction progress schedule conforming to the Milestone Schedule below.
- B. The Construction Schedule shall be continuously updated, and an updated schedule shall be submitted with each application for progress payment. Each revised schedule shall indicate the work actually accomplished during the previous period and the schedule for completion of the remaining work.

C. Milestone Schedule:

**ACTIVITY DESCRIPTION**

**REQUIRED COMPLETION**

**Notice to Proceed**  
**Final Project Completion**

**March 26<sup>th</sup>, 2020**  
**June 19<sup>th</sup>, 2020**

**1.04 QUALIFICATIONS**

- A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of [i.e., Primavera Project Planner]. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose.
- (1) The written statement shall identify the 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 (2) projects of similar nature and scope with value not less than three fourths ( $\frac{3}{4}$ ) of the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.
- B. District reserves the right to approve or reject Contractor's scheduler or consultant at any time. District reserves the right to refuse replacing of Contractor's scheduler or consultant, if District believes replacement will negatively affect the scheduling of Work under this Contract.

**1.05 GENERAL**

- A. Progress Schedule shall be based on and incorporate milestone and completion dates specified in Contract Documents.
- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in the Contract, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by District. Any such agreement shall be formalized by a Change Order.
- (1) District is not required to accept an early completion schedule, i.e., one that shows an earlier completion date than the Contract Time.
  - (2) Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier completion schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in its early completion schedule but within the Contract Time.

- (3) A schedule showing the work completed in less than the Contract Time, and that has been accepted by District, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and the Completion Date. Project Float is a resource available to both District and the Contractor.
- C. Ownership Project Float: Neither the District nor Contractor owns Project Float. The Project owns the Project Float. As such, liability for delay of the Completion Date rests with the party whose actions, last in time, actually cause delay to the Completion Date.
- (1) For example, if Party A uses some, but not all of the Project Float and Party B later uses remainder of the Project Float as well as additional time beyond the Project Float, Party B shall be liable for the time that represents a delay to the Completion Date.
  - (2) Party A would not be responsible for the time since it did not consume the entire Project Float and additional Project Float remained; therefore, the Completion Date was unaffected by Party A.
- D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract CPM Schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- E. Failure of Progress Schedule to include any element of the Work, or any inaccuracy in Progress Schedule, will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. District's acceptance of schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests and shall not, in any manner, impose a duty of care upon District, or act to relieve Contractor of its responsibility for means and methods of construction.
- F. Software: Contractor to use a scheduling software approved by the Construction Manager. Such software shall be compatible with Windows operating system. Contractor shall transmit contract file to District on compact disk at times requested by District.
- G. Transmit each item under the form approved by District.
- (1) Identify Project with District Contract number and name of Contractor.
  - (2) Provide space for Contractor's approval stamp and District's review stamps.
  - (3) Submittals received from sources other than Contractor will be returned to the Contractor without District's review.

**1.06 INITIAL 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 ninety (90) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; procurement of materials and equipment. Show Work beyond ninety (90) calendar days in summary form.
- C. Initial CPM Schedule shall be time scaled.
- D. Initial CPM Schedule shall be cost and resource loaded. Accepted cost and resource 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 ninety (90) calendar days.
- E. District and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to District.
  - (1) District's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements).
  - (2) Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by District. Contractor shall resubmit Initial CPM Schedule if requested by District.
- F. If, during the first ninety (90) days after Notice to Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to District a written Time Impact Evaluation ("TIE") in accordance with Article 1.12 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

**1.07 ORIGINAL 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. Progress Schedule shall include or comply with following requirements:
  - (1) Time scaled, cost and resource (labor and major equipment) loaded CPM schedule.
  - (2) No activity on schedule shall have duration longer than fifteen (15) work days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by District.

- (a) Activity durations shall be total number of actual work days required to perform that activity.
- (3) The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.
- (4) District furnished materials and equipment, if any, identified as separate activities.
- (5) Activities for maintaining Project Record Documents.
- (6) Dependencies (or relationships) between activities.
- (7) Processing/approval of submittals and shop drawings for all material and equipment required per the Contract. 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, re-submittals and reviews by District. Coordinate with accepted schedule for submission of Shop Drawings, samples, and other submittals.
  - (b) Contractor shall be responsible for all impacts resulting from re-submittal of Shop Drawings and submittals.
- (8) Procurement of major equipment, through receipt and inspection at jobsite, identified as separate activity.
  - (a) Include time for fabrication and delivery of manufactured products for the Work.
  - (b) Show dependencies between procurement and construction.
- (9) Activity description; what Work is to be accomplished and where.
- (10) The total cost of performing each activity shall be total of labor, material, and equipment, excluding overhead and profit of Contractor. Overhead and profit of the General Contractor shall be shown as a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.
- (11) Resources required (labor and major equipment) to perform each activity.
- (12) Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.
- (13) 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 (10) days.



**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

- (14) Twenty (20) workdays 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.
  - (15) Interface with the work of other contractors, District, and agencies such as, but not limited to, utility companies.
  - (16) 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 District, 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 District, 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 District. District shall be permitted to attend scheduled meetings as an observer.
  - (17) Activity durations shall be in Work days.
  - (18) Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays. The Progress Schedule shall exclude in its Work day calendar all non-Work days on which Contractor anticipates critical Work will not be performed.
- C. Original CPM Schedule Review Meeting: Contractor shall, within sixty (60) days from the Notice to Proceed date, meet with District to review the Original CPM Schedule submittal.
- (1) Contractor shall have its Project Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by District, in attendance. The meeting will take place over a continuous one (1) day period.
  - (2) District'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) 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 Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by District at the Meeting.

#### **1.08 ADJUSTMENTS TO 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 District's review.
- (1) District, within ten (10) 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 District to monitor Project's progress, resources, and status or evaluate monthly payment request by Contractor.
  - (2) District 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 the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
  - (4) District reserves right to require Contractor to adjust, add to, or clarify any portion of 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 District will be based solely upon schedule's compliance with Contract requirements.
- (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 District 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' letterheads to Contractor and transmitted to District for the record.

#### **1.09 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 anticipated changes to planned activities.
  - (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; actual and anticipated activity sequence changes; actual and anticipated duration changes; and 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 five (5) working days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.

- D. Within five (5) work days of receipt of above noted revised submittals, District 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. Neither updating, changing or revising of any report, curve, schedule, or narrative submitted to District by Contractor under this Contract, nor District's review or acceptance of any such report, curve, schedule or narrative shall have the effect of amending or modifying in any way the Completion Date or milestone dates or of modifying or limiting in any way Contractor's obligations under this Contract.

### **1.10 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 District 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 District. District may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide District with a complete written narrative response to District's request.
- D. If the Contractor's revision is still not accepted by District, and the Contractor disagrees with District's position, the Contractor has seven (7) calendar days from receipt of District's letter rejecting the revision to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within seven (7) calendar days of District's written rejection of a schedule revision shall be contractually interpreted as acceptance of District's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding District's position.
- E. At District's discretion, the Contractor can be required to provide Subcontractor certifications of performance regarding proposed schedule revisions affecting said Subcontractors.

**1.11 RECOVERY SCHEDULE**

- A. If the Schedule Update shows a completion date twenty-one (21) calendar days beyond the Contract Completion Date, or individual milestone completion dates, the Contractor shall submit to District 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 District.
- C. If the Contractor's revisions are not accepted by District, District and the Contractor shall follow the procedures in paragraph 1.09.C, 1.09.D and 1.09.E above.
- D. At District's discretion, the Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

**1.12 TIME IMPACT EVALUATION ("TIE") FOR CHANGE ORDERS, AND OTHER DELAYS**

- A. When Contractor is directed to proceed with changed Work, the Contractor shall prepare and submit within fourteen (14) calendar days from the Notice to Proceed a TIE which includes both a written narrative and a schedule diagram depicting how the changed Work affects other schedule activities. The schedule diagram shall show how the Contractor proposes to incorporate the changed Work in the schedule and how it impacts the current schedule-update critical path. The Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram must be tied to the main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path.
- 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 TIEs, and the process of incorporating them into the current schedule update. The Contractor shall provide District with four (4) copies of each TIE.
- D. Once agreement has been reached on a TIE, the Contract Time will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Time may be extended in an amount District allows, and the Contractor may submit a claim for additional time claimed by contractor.

### **1.13 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 the General Conditions.
- B. Where an event for which District is responsible impacts the projected 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 District-caused time impact. The Contractor shall submit its mitigation plan to District within fourteen (14) calendar days from the date of discovery of the impact. The Contractor is responsible for the cost to prepare the mitigation plan.
- C. Failure to request time, provide TIE, or provide 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. District will not be obligated to consider any time extension request unless the Contractor complies with the requirements of Contract Documents.
- 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.

### **1.14 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 activity listing reports: one sorted by activity number and one by total Project Float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, Project Float, responsibility code, and the logic relationship of activities.
  - (2) Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value- to date, previous payments, and amount earned for current update period.

- (3) Schedule plots presenting time-scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.
- (4) Cash flow report calculated by early start, late start, and indicating actual progress. Provide an exhibit depicting this information in graphic form.
- (5) Planned versus actual resource (i.e., labor) histogram calculated by early start and late start.

C. Other Reports:

In addition to above reports, District may request, from month to month, any two of the following reports. Submit four (4) copies of all reports.

- (1) Activities by early start.
- (2) Activities by late start.
- (3) Activities grouped by Subcontractors or selected trades.
- (4) Activities with scheduled early start dates in a given time frame, such as fifteen (15) or thirty (30) day outlook.

D. Furnish District with report files on compact disks containing all schedule files for each report generated.

### **1.15 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 District. Written status reports shall include:
- (1) Status of major Project components (percent (%) complete, amount of time ahead or behind schedule) and an explanation of how Project will be brought back on schedule if delays have occurred.
  - (2) Progress made on critical activities indicated on CPM Schedule.
  - (3) Explanations for any lack of work on critical path activities planned to be performed during last month.
  - (4) Explanations for any schedule changes, including changes to logic or to activity durations.
  - (5) List of critical activities scheduled to be performed next month.

- (6) Status of major material and equipment procurement.
- (7) Any delays encountered during reporting period.
- (8) Contractor shall provide printed report indicating actual versus planned resource loading for each trade and each activity. This report shall be provided on weekly and monthly basis.
  - (a) Actual resource shall be accumulated in field by Contractor, and shall be as noted on Contractor's daily reports. These reports will be basis for information provided in computer-generated monthly and weekly printed reports.
  - (b) Contractor shall explain all variances and mitigation measures.
- (9) Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by District at no additional cost.
- (10) Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

#### **1.16 WEEKLY SCHEDULE REPORT**

At the Weekly Progress Meeting, the Contractor shall provide and present a time-scaled 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).

#### **1.17 DAILY CONSTRUCTION REPORTS**

On a daily basis, Contractor shall submit a daily activity report to Construction Manager 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 District, furnish computer disk of this data base. Obtain District's written approval of daily construction report data base 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.



**1.18 PERIODIC VERIFIED REPORTS**

Contractor shall complete and verify construction reports on a form prescribed by the Division of the State Architect and file reports on the first day of February, May, August, and November during the preceding quarter year; at the completion of the Contract; at the completion of the Work; at the suspension of Work for a period of more than one (1) month; whenever the services of Contractor or any of Contractor's Subcontractors are terminated for any reason; and at any time a special verified report is required by the Division of the State Architect. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

**PART 2 – PRODUCTS** Not Used.

**PART 3 - EXECUTION** Not Used.

END OF DOCUMENT

DOCUMENT 01 33 00

**SUBMITTALS**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Contractor's Submittals and Schedules, Drawings and Specifications;
- B. Special Conditions.

**1.02 SECTION INCLUDES:**

- A. Definitions:
  - (1) Shop Drawings and Product Data are as indicated in the General Conditions and include, but are not limited to, fabrication, erection, layout and setting drawings, formwork and falsework drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams. In addition, there are other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and all positions conform to the requirement of the Contract Documents, including, without limitation, the Drawings.
  - (2) "Manufactured" applies to standard units usually mass-produced; "fabricated" means specifically assembled or made out of selected materials to meet design requirements. Shop Drawings shall establish the actual detail of manufactured or fabricated items, indicated proper relation to adjoining work and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.
  - (3) Manufacturer's Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed, at a minimum, in accordance with a specified product manufacturer's instructions, the Contractor shall procure and distribute copies of these to the District, the Architect, and all other concerned parties and shall furnish, install, or perform the work, at a minimum, in accordance with those instructions.
- B. Samples, Shop Drawings, Product Data, and other items as specified, in accordance with the following requirements:

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- (1) Contractor shall submit all Shop Drawings, Product Data, and Samples to the District, the Architect, the Project Inspector, and the Construction Manager.
- (2) At Contractor's written request, electronic copies of the architectural plans and elevations will be provided by the Architect for Contractor's use in preparing submittals, subject to the conditions stated on the "Electronic Use Disclaimer" form available from Architect upon request. Architect's digital files of project details will not be provided; Contractor must submit original drawings of proposed details.
  - (a) After receipt of signed release form, Autodesk Revit (in lieu of Cad) files will be made available at completion of DSA approval in the Architect's working formats without modifications.
- (3) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall submit required information in sufficient time to permit proper consideration and action before ordering any materials or items represented by such Shop Drawings, Product Data, and/or Samples.
- (4) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall allow sufficient time so that no delay occurs due to required lead time in ordering or delivery of any item to the Site. Contractor shall be responsible for any delay in progress of Work due to its failure to observe these requirements.
- (5) Time for completion of Work shall not be extended on account of Contractor's failure to promptly submit Shop Drawings, Product Data, and/or Samples.
- (6) Reference numbers on Shop Drawings shall have Architectural and/or Engineering Contract Drawings reference numbers for details, sections, and "cuts" shown on Shop Drawings. These reference numbers shall be in addition to any numbering system that Contractor chooses to use or has adopted as standard.
- (7) When the magnitude or complexity of submittal material prevents a complete review within the stated time frame, Contractor shall make this submittal in increments to avoid extended delays.
- (8) Contractor shall certify on submittals for review that submittals conform to Contract requirements. In event of any variance, Contractor shall specifically state in transmittal and on Shop Drawings, portions vary and require approval of a substitute. Also certify that Contractor-furnished equipment can be installed in allocated space.
- (9) Unless specified otherwise, sampling, preparation of samples, and tests shall be in accordance with the latest standard of the American Society for Testing and Materials.

- (10) Upon demand by Architect or District, Contractor shall submit samples of materials and/or articles for tests or examinations and consideration before Contractor incorporates same in Work. Contractor shall be solely responsible for delays due to sample(s) not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved samples in every respect. Samples that are of value after testing will remain the property of Contractor.

C. Submittal Schedule:

- (1) Contractor shall prepare its proposed submittal schedule that is coordinated with the its proposed construction schedule and submit both to the District within ten (10) days after the date of the Notice to Proceed. Contractor's proposed schedules shall become the Project Construction Schedule and the Project Submittal Schedule after each is approved by the District.
- (2) Contractor is responsible for all lost time should the initial submittal be rejected, marked "revise and resubmit", etc.
- (3) All Submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those Submittals shall be forwarded to the District so as not to delay the Construction Schedule.

D. Identification: Place a permanent label or title block on each submittal for identification.

- (1) Indicate name of firm or entity that prepared each submittal on label or title block.
- (2) Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Owner's Representative.
- (3) Include the following information on label for processing and recording action taken:
  - (a) Each submittal must contain the DSA application number.
  - (b) Project name.
  - (c) Date.
  - (d) Name and address of Architect and Owner's Representative.
  - (e) Name and address of Contractor.
  - (f) Name and address of subcontractor.

- (g) Name and address of supplier.
  - (h) Name of manufacturer.
  - (i) Submittal number or other unique identifier, including revision identifier.
    - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
  - (j) Number and title of appropriate Specification Section.
  - (k) Drawing number and detail references, as appropriate.
  - (l) Location(s) where product is to be installed, as appropriate.
  - (m) Other necessary identification.
- E. Deferred-Approval Submittal: Approval of shop drawings and calculations by DSA.
- (1) Contractor shall submit engineered drawings (shop drawing level) for this specific project; wet-stamped and signed by a qualified professional engineer licensed in the State of California, showing all work as specified or as required by DSA including design criteria, layouts, elevations, attachments to structure, component attachments, and component properties.
  - (2) Provide 2 sets of drawings, full size.
  - (3) Contractor shall submit engineering calculations indicating code compliance of the system depicted in the engineered Drawings, 2 sets, wet-stamped and signed.
  - (4) Complete Deferred Approval will be submitted to DSA by the Architect following the Architect and Engineer's review of the submittal.
  - (5) No components of the system may be installed until Shop Drawings and calculations are approved by the Architect. The Architect will not approve the submittal until it is approved by DSA. Contractor shall allow substantial time (a minimum of 6 weeks) in their schedule for DSA review and approval (not including review time for Architect specified in Division 1). Contractor shall allow for a minimum of one re-submittal specifically to address DSA comments (not including Architect's review of comments which may have been provided previously). No extra time will be given for delays due to DSA review of Deferred Approval Submittals.

**1.03 SHOP DRAWINGS:**

- A. Contractor shall submit one (1) digital copy for review. The District will review and return one (1) digital copy to Contractor. Allow for one copy of submittal material in digital form.
- B. The submittal process is meant to indicate the Contractor's understanding for the installation of a "System" therefore the Shop Drawings cannot consist of "cut-and-paste" details from the project plans or published product data but must be wholly developed by the contractor and/or its consultant(s).
- C. Before commencing installation of any Work, the Contractor shall submit and receive approval of all drawings, descriptive data, and material list(s) as required to accomplish Work.
- D. Review of Shop Drawings is regarded as a service to assist Contractor and in all cases original Contract Documents shall take precedence as outlined under General Conditions.
- E. No claim for extra time or payment shall be based on work shown on Shop Drawings unless the claim is (1) noted on Contractor's transmittal letter accompanying Shop Drawings and (2) Contractor has complied with all applicable provisions of the General Conditions, including, without limitation, provisions regarding changes and payment, and all required written approvals.
- F. District shall not review Shop Drawings for quantities of materials or number of items supplied.
- G. District's and/or Architect's review of Shop Drawing will be general. District and/or Architect does not relieve Contractor of responsibility for dimensions, accuracy, proper fitting, construction of Work, furnishing of materials, or Work required by Contract Documents and not indicated on Shop Drawings. The District's and/or Architect's review of Shop Drawings is not to be construed as approving departures from Contract Documents.
- H. Review of Shop Drawings and Schedules does not relieve Contractor from responsibility for any aspect of those Drawings or Schedules that is a violation of local, County, State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or utilities having jurisdiction.
- I. Before submitting Shop Drawings for review, Contractor shall check Shop Drawings of its subcontractors for accuracy, and confirm that all Work contiguous with and having bearing on other work shown on Shop Drawings is accurately drawn and in conformance with Contract Documents.
- J. Submitted drawings and details must bear stamp of approval of Contractor:
  - (1) Stamp and signature shall clearly certify that Contractor has checked Shop Drawings for compliance with Drawings.

- (2) If Contractor submits a Shop Drawing without an executed stamp of approval, or whenever it is evident (despite stamp) that Drawings have not been checked, the District and/or Architect will not consider them and will return them to the Contractor for revision and resubmission. In that event, it will be deemed that Contractor has not complied with this provision and Contractor shall bear risk of all delays to same extent as if it had not submitted any Shop Drawings or details.
- K. Submission of Shop Drawings (in either original submission or when resubmitted with correction) constitutes evidence that Contractor has checked all information thereon and that it accepts and is willing to perform Work as shown.
- L. Contractor shall pay for cost of any changes in construction due to improper checking and coordination. Contractor shall be responsible for all additional costs, including coordination. Contractor shall be responsible for costs incurred by itself, the District, the Architect, the Project Inspector, the Construction Manager, any other Subcontractor or contractor, etc., due to improperly checked and/or coordination of submittals.
- M. Shop Drawings must clearly delineate the following information:
- (1) Project name and address.
  - (2) Specification number and description.
  - (3) Architect's name and project number.
  - (4) Shop Drawing title, number, date, and scale.
  - (5) Names of Contractor, Subcontractor(s) and fabricator.
  - (6) Working and erection dimensions.
  - (7) Arrangements and sectional views.
  - (8) Necessary details, including complete information for making connections with other Work.
  - (9) Kinds of materials and finishes.
  - (10) Descriptive names of materials and equipment, classified item numbers, and locations at which materials or equipment are to be installed in the Work. Contractor shall use same reference identification(s) as shown on Contract Drawings.
- N. Contractor shall prepare composite drawings and installation layouts when required to solve tight field conditions.
- (1) Shop Drawings shall consist of dimensioned plans and elevations and must give complete information, particularly as to size and location of

sleeves, inserts, attachments, openings, conduits, ducts, boxes, structural interferences, etc.

- (2) Contractor shall coordinate these composite Shop Drawings and installation layouts in the field between itself and its Subcontractor(s) for proper relationship to the Work, the work of other trades, and the field conditions. The Contractor shall check and approve all submittal(s) before submitting them for final review.

#### **1.04 PRODUCT DATA OR NON REPRODUCIBLE SUBMITTALS:**

- A. Contractor shall submit manufacturer's literature in digital form. Any fading type of reproduction will not be accepted. Contractor must submit one (1) digital copy, to the District. District shall return one (1) digital copy to the Contractor, who shall reproduce whatever additional copies it requires for distribution.
  - (1) Allow for one copy of submittal material in digital form.
- B. Contractor shall submit one (1) digital copy of a complete list of all major items of mechanical, plumbing, and electrical equipment and materials in accordance with the approved Submittal Schedule, except as required earlier to comply with the approved Construction Schedule. Other items specified are to be submitted prior to commencing Work. Contractor shall submit items of like kind at one time in a neat and orderly manner. Partial lists will not be acceptable.
  - (1) Allow for one copy of submittal material in digital form.
- C. Submittals shall include manufacturer's specifications, physical dimensions, and ratings of all equipment. Contractor shall furnish performance curves for all pumps and fans. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on sheet and superfluous information shall be crossed out. If highlighting is used, Contractor shall mark all copies.
- D. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and supplemental information that may be requested.
- E. Imported Materials Certification must be submitted at least ten (10) days before material is delivered.

#### **1.05 SAMPLES:**

- A. Contractor shall submit for approval Samples as required and within the time frame in the Contract Documents. Materials such as concrete, mortar, etc., which require on-site testing will be obtained from Project Site.
- B. Contractor shall submit four (4) samples except where greater or lesser number is specifically required by Contract Documents including, without limitation, the Specifications.



- (1) Samples must be of sufficient size and quality to clearly illustrate functional characteristics, with integrally related parts and attachment devices.
  - (2) Samples must show full range of texture, color, and pattern.
- C. Contractor shall make all Submittals, unless it has authorized Subcontractor(s) to submit and Contractor has notified the District in writing to this effect.
  - D. Samples to be shipped prepaid or hand-delivered to the District.
  - E. Contractor shall mark samples to show name of Project, name of Contractor submitting, Contract number and segment of Work where representative Sample will be used, all applicable Specifications Sections and documents, Contract Drawing Number and detail, and ASTM or FS reference, if applicable.
  - F. Contractor shall not deliver any material to Site prior to receipt of District's and/or Architect's completed written review and approval. Contractor shall furnish materials equal in every respect to approved Samples and execute Work in conformance therewith.
  - G. District's and/or Architect's review, acceptance, and/or approval of Sample(s) will not preclude rejections of any material upon discovery of defects in same prior to final acceptance of completed Work.
  - H. After a material has been approved, no change in brand or make will be permitted.
  - I. Contractor shall prepare its Submittal Schedule and submit Samples of materials requiring laboratory tests to specified laboratory for testing not less than ninety (90) days before such materials are required to be used in Work.
  - J. Samples which are rejected must be resubmitted promptly after notification of rejection and be marked "Resubmitted Sample" in addition to other information required.
  - K. Field Samples and Mock-Ups are to be removed by Contractor at District's direction:
    - (1) Size: As Specified.
    - (2) Furnish catalog numbers and similar data, as requested.

**1.06 REVIEW AND RESUBMISSION REQUIREMENTS:**

- A. The District will arrange for review of Sample(s), Shop Drawing(s), Product Data, and other submittal(s) by appropriate reviewer and return to Contractor as provided below within twenty-one (21) days after receipt or within twenty-one (21) days after receipt of all related information necessary for such review, whichever is later.

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- B. One (1) copy of product or materials data will be returned to Contractor with the review status.
- C. Samples to be incorporated into the Work will be returned to Contractor, together with a written notice designating the Sample with the appropriate review status and indicating errors discovered on review, if any. Other Samples will not be returned, but the same notice will be given with respect thereto, and that notice shall be considered a return of the Sample.
- D. Contractor shall revise and resubmit any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) as required by the reviewer. Such resubmittals will be reviewed and returned in the same manner as original Sample(s), Shop Drawing(s), Product Data, and other submittal(s), within fourteen (14) days after receipt thereof or within fourteen (14) days after receipt of all related information necessary for such review. Such resubmittal shall not delay the Work.
- E. Contractor may proceed with any of the Work covered by Sample(s), Shop Drawing(s), Product Data, and other submittal(s) upon its return if designated as no exception taken, or revise as noted, provided the Contractor proceeds in accordance with the District and/or the Architect's notes and comments.
- F. Contractor shall not begin any of the work covered by a Sample(s), Shop Drawing(s), Product Data, and other submittal(s), designated as revise and resubmit or rejected, until a revision or correction thereof has been reviewed and returned to Contractor.
- G. Sample(s), Shop Drawing(s), Product Data, and other submittal(s) designated as revise and resubmit or rejected and requiring resubmittal, shall be revised or corrected and resubmitted to the District no later than fourteen (14) days or a shorter period as required to comply with the approved Construction Schedule, after its return to Contractor.
- H. Neither the review nor the lack of review of any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) shall waive any of the requirements of the Contract Documents, or relieve Contractor of any obligation thereunder.
- I. District's and/or Architect's review of Shop Drawings does not relieve the Contractor of responsibility for any errors that may exist. Contractor is responsible for the dimensions and design of adequate connections and details and for satisfactory construction of all the Work.

**PART 2 – PRODUCTS Not Used.**

**PART 3 - EXECUTION Not Used.**

END OF DOCUMENT



DOCUMENT 01 35 13.23

**SITE STANDARDS**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including without limitation, Site Access, Conditions, and Regulations;
- B. Special Conditions;
- C. Drug-Free Workplace Certification;
- D. Tobacco-Free Environment Certification;
- E. Criminal Background Investigation/Fingerprinting Certification;
- F. Temporary Facilities and Controls.

**1.02 REQUIREMENTS OF THE DISTRICT:**

- A. Drug-Free Schools and Safety Requirements:
  - (1) All school sites and other District Facilities have been declared "Drug-Free Zones." No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, or contractors are to use drugs on these sites.
  - (2) Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. Contractor shall post: "Non-Smoking Area" in a highly visible location in each work area, staging area, and parking area. Contractor may designate a smoking area outside of District property within the public right-of-way, provided that this area remains quiet and unobtrusive to adjacent neighbors. This smoking area is to be kept clean at all times.
  - (3) Contractor shall ensure that no alcohol, firearms, weapons, or controlled substances enter or are used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee(s) found in violation of this provision.
- B. Language: Profanity or other unacceptable and/or loud language will not be tolerated, "Cat calls" or other derogatory language toward students, staff, volunteers, parents or public will not be allowed.

- C. Disturbing the Peace (Noise and Lighting):
- (1) Contractor shall observe the noise ordinance of the Site at all times including, without limitation, all applicable local, city, and/or state laws, ordinances, and/or regulations regarding noise and allowable noise levels.
  - (2) The use of radios, etc., shall be controlled to keep all sound at a level that cannot be heard beyond the immediate area of use. District reserves the right to prohibit the use of radios at the Site, except for mobile phones or other handheld communication radios.
  - (3) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.
- D. Traffic:
- (1) If driving or deliveries must be made during the school hours, two (2) or more ground guides shall lead the vehicle across the area of travel. The speed limit on-the Premises shall be five (5) miles per hour (maximum) or less if conditions require.
  - (2) All paths of travel for deliveries, including without limitation, material, equipment, and supply deliveries, shall be reviewed and approved by District in advance. Any damage will be repaired to the pre-damaged condition by the Contractor.
  - (3) District shall designate a construction entry to the Site. District has designated a staging and parking area to minimize disruption of the normal functioning of school facilities. Location of gates and fencing shall be approved in advance with District and at Contractor's expense.
  - (4) No parking is to occur under the drip line of trees or in softscape areas that could otherwise be damaged.
- E. All of the above shall be observed and complied with by the Contractor and all workers on the Site. Failure to follow these directives could result in individual(s) being suspended or removed from the work force at the discretion of the District. The same rules and regulations shall apply equally to delivery personnel, inspectors, consultants, and other visitors to the Site.

**PART 2 - PRODUCTS** Not Used.

**PART 3 - EXECUTION** Not Used.

END OF DOCUMENT

DOCUMENT 01 41 00

**REGULATORY REQUIREMENTS**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Obtaining of Permits, Licenses and Registrations and Work to Comply with All Applicable Laws and Regulations;
- B. Special Conditions; and
- C. Quality Control.

**1.02 DESCRIPTION:**

This section covers the general requirements for regulatory requirements pertaining to the Work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the Contract Documents.

**1.03 REQUIREMENTS OF REGULATORY AGENCIES:**

- A. All statutes, ordinances, laws, rules, codes, regulations, standards, and the lawful orders of all public authorities having jurisdiction over the Work, are hereby incorporated into these Contract Documents as if repeated in full herein and are intended to be included in any reference to Code or Building Code, unless otherwise specified, including, without limitation, the references in the list below. Contractor shall make available at the Site copies of all the listed documents applicable to the Work as the District and/or Architect may request, including, without limitation, applicable portions of the California Code of Regulations ("CCR").
  - (1) California Building Standards Administrative Code, Part 1, Title 24, CCR, 2016.
  - (2) California Building Code (CBC), Part 2, Title 24, CCR; (International Building Code volumes 1-2 and California Amendments), 2016.
  - (3) California Electrical Code (CEC), Part 3, Title 24, CCR; (National Electrical Code and California Amendments), 2016.
  - (4) California Mechanical Code (CMC), Part 4, Title 24, CCR; (Uniform Mechanical Code and California Amendments), 2016.
  - (5) California Plumbing Code (CPC), Part 5, Title 24, CCR; (Uniform Plumbing Code and California Amendments), 2016.

- (6) California Energy Code (CEC) Part 6, Title 24, CCR, 2016.
- (7) California Elevator Safety Construction Code, Part 7, Title 24, 2016.
- (8) California Fire Code (CFC), Part 9, Title 24, CCR; (International Fire Code and California Amendments), 2016.
- (9) California Green Building Standards Code, Part 11, Title 24, CALGreen, 2016.
- (10) California Referenced Standards Code, Part 12, Title 24, CCR.
- (11) State Fire Marshal Regulations, Public Safety, Title 19, CCR.
- (12) Partial List of Applicable National Fire Protection Association (NFPA) Standards, 2012:
  - (a) NFPA 13 - Automatic Sprinkler System.
  - (b) NFPA 14 - Standpipes Systems.
  - (c) NFPA 17A - Wet Chemical System
  - (d) NFPA 24 - Private Fire Mains.
  - (e) (California Amended) NFPA 72 - National Fire Alarm Codes.
  - (f) NFPA 253 - Critical Radiant Flux of Floor Covering System.
  - (g) NFPA 2001 - Clean Agent Fire Extinguishing Systems.
- (13) California Division of the State Architect interpretation of Regulations ("DSA IR"), including, without limitation:
  - (a) DSA IR A-6 — Construction Change Document Submittal and Approval Processes.
  - (b) DSA IR A-7 — Project Inspector Certification and Approval.
  - (c) DSA IR A-8 — Project Inspector and Assistant Inspector Duties and Performance.
  - (d) DSA IR A-12 — Assistant Inspector Approval.
- (14) DSA Procedures ("DSA PR")
  - (a) DSA PR 13-01 - Construction Oversight Process
- (15) DSA PR 13-02 - Project Certification Process

- B. This Project shall be governed by applicable regulations, including, without limitation, the State of California's Administrative Regulations for the Division of the State Architect-Structural Safety (DSA/SS), Chapter 4, Part 1, Title 24, CCR, and the most current version on the date the bids are opened and as it pertains to school construction including, without limitation:
- (1) Test and testing laboratory per Section 4-335. District shall pay for the testing laboratory.
  - (2) Special inspections per Section 4-333(c).
  - (3) Deferred Approvals per section 4-317(g).
  - (4) Verified reports per Sections 4-336 & 4-343(c).
  - (5) Duties of the Architect & Engineers shall be per Section 4-333(a) and 4-341.
  - (6) Duties of the Contractor shall be per Section 4-343.
  - (7) Duties of Project Inspector shall be per Section 4-334.
  - (8) Addenda and Construction Change Documents per Section 4-338.

Contractor shall keep and make available all applicable parts of the most current version of Title 24 referred to in the plans and specifications at the Site during construction.

- C. Items of deferred approval shall be clearly marked on the first sheet of the Architect's and/or Engineer's approved Drawings. All items later submitted for approval shall be per Title 24 requirements to the DSA.
- (1) Contractor shall submit the following to Architect for review and endorsement:
    - (a) Product information on proposed material/system supplier.
    - (b) Drawings, specifications, and calculations prepared, signed, and stamped by an architect or engineer licensed in the State of California for that portion of the Work.
    - (c) All other requirements as may be required by DSA.
  - (2) Cost of preparing and submitting documentation per DSA Deferred Approval requirements including required modifications to Drawings and Specifications, whether or not indicated in the Contract Documents, shall be borne by Contractor.
  - (3) Contractor shall not begin fabrication and installation of deferred approval items without first obtaining DSA approval of Drawings and Specifications.



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- (4) Schedule of Work Subject to DSA Deferred Approval: Window wall systems exceeding 10 feet in span.

**PART 2 – PRODUCTS** Not Used.

**PART 3 – EXECUTION** Not Used.

END OF DOCUMENT

DOCUMENT 01 42 13

**ABBREVIATIONS AND ACRONYMS**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

**1.02 DOCUMENT INCLUDES:**

- A. Abbreviations used throughout the Contract Documents.
- B. Reference to a technical society, organization, or body is by abbreviation, as follows:

1.	AA	Aluminum Association
2.	AAMA	Architectural Aluminum Manufacturers Association
3.	AASHTO	American Association of State Highway and Transportation Officials
4.	ABPA	Acoustical and Board Products Association
5.	ACI	American Concrete Institute
6.	AGA	American Gas Association
7.	AGC	Associated General Contractors
8.	AHC	Architectural Hardware Consultant
9.	AI	Asphalt Institute
10.	AIA	American Institute of Architects
11.	AIEE	American Institute of Electrical Engineers
12.	AISC	American Institute of Steel Construction
13.	AISI	American Iron and Steel Institute
14.	AMCA	Air Moving and Conditioning Association
15.	ANSI	American National Standards Institute
16.	APA	American Plywood Association
17.	ARI	Air Conditioning and Refrigeration Institute
18.	ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
19.	ASME	American Society of Mechanical Engineers
20.	ASSE	American Society of Structural Engineers
21.	ASTM	American Society of Testing and Materials
22.	AWPB	American Wood Preservers Bureau
23.	AWPI	American Wood preservers Institute
24.	AWS	American Welding Society
25.	AWSC	American Welding Society Code
26.	AWI	Architectural Woodwork Institute
27.	AWWA	American Water Works Association

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28.	BIA	Brick Institute of America
29.	CCR	California Code of Regulations
30.	CLFMI	Chain Link Fence Manufacturers Institute
31.	CMG	California Masonry Guild
32.	CRA	California Redwood Association
33.	CRSI	Concrete Reinforcing Steel Institute
34.	CS	Commercial Standards
35.	CSI	Construction Specifications Institute
36.	CTI	Cooling Tower Institute
37.	FGMA	Flat Glass Manufacturer's Association
38.	FIA	Factory Insurance Association
39.	FM	Factory Mutual
40.	FS	Federal Specification
41.	FTI	Facing Title Institute
42.	GA	Gypsum Association
43.	ICC	International Code Council
44.	IEEE	Institute of Electrical and Electronic Engineers
45.	IES	Illumination Engineering Society
46.	LIA	Lead Industries Association
47.	MIA	Marble Institute of America
48.	MLMA	Metal Lath Manufacturers Association
49.	MS	Military Specifications
50.	NAAMM	National Association of Architectural Metal Manufacturers
51.	NBHA	National Builders Hardware Association
52.	NBFU	National Board of Fire Underwriters
53.	NBS	National Bureau of Standards
54.	NCMA	National Concrete Masonry Association
55.	NEC	National Electrical Code
56.	NEMA	National Electrical Manufacturers Association
57.	NFPA	National Fire Protection Association/National Forest Products Association
58.	NMWIA	National Mineral Wool Insulation Association
59.	NTMA	National Terrazzo and Mosaic Association
60.	NWMA	National Woodwork Manufacturer's Association
61.	ORS	Office of Regulatory Services (California)
62.	OSHA	Occupational Safety and Health Act
63.	PCI	Precast Concrete Institute
64.	PCA	Portland Cement Association
65.	PDCA	Painting and Decorating Contractors of America
66.	PDI	Plumbing Drainage Institute
67.	PEI	Porcelain Enamel Institute
68.	PG&E	Pacific Gas & Electric Company
69.	PS	Product Standards
70.	SDI	Steel Door Institute; Steel Deck Institute
71.	SJI	Steel Joist Institute
72.	SSPC	Steel Structures Painting Council
73.	TCA	Tile Council of America
74.	TPI	Truss Plate Institute
75.	UBC	Uniform Building Code
76.	UL	Underwriters Laboratories Code
77.	UMC	Uniform Mechanical Code

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78.	USDA	United States Department of Agriculture
79.	VI	Vermiculite Institute
80.	WCLA	West Coast Lumberman's Association
81.	WCLB	West Coast Lumber Bureau
82.	WEUSER	Western Electric Utilities Service Engineering Requirements
83.	WIC	Woodwork Institute of California
84.	WPOA	Western Plumbing Officials Association

**PART 2 - PRODUCTS** Not Used.

**PART 3 - EXECUTION** Not Used.

END OF DOCUMENT



DOCUMENT 01 42 16

**DEFINITIONS**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

**1.02 QUALITY ASSURANCE**

- A. For products or workmanship specified by association, trade, or Federal Standards, Contractor shall comply with requirements of the standard, except when more rigid requirements are specified in the Contract Documents, or are required by applicable codes.
- B. Contractor shall conform to current reference standard publication date in effect on the date of bid opening.
- C. Contractor shall obtain copies of standards unless specifically required not to by the Contract Documents.
- D. Contractor shall maintain a copy of all standards at jobsite during submittals, planning, and progress of the specific Work, until final completion, unless specifically required not to by the Contract Documents.
- E. Should specified reference standards conflict with Contract Documents, Contractor shall request clarification from the District and./or the Architect before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the contractual relationship as indicated in the Contract Documents by mention or inference otherwise in any referenced document.
- G. Governing Codes shall be as shown in the Contract Documents including, without limitation, the Specifications.

END OF DOCUMENT



DOCUMENT 01 42 19

**REFERENCES**

**PART 1 - GENERAL**

**1.01 1.01 SCHEDULE OF REFERENCES:**

**The following information is intended only for the general assistance of the Contractor, and the District does not represent that all of the information is current. It is the Contractor's responsibility to verify the correct information for each of the entities listed.**

AA	Aluminum Association 1525 Wilson Blvd., Suite 600 Arlington, VA 22209 www.aluminum.org	703/358-2960
AABC	Associated Air Balance Council 1518 K Street, NW, Suite 503 Washington, DC 20005 www.aabchq.com	202/737-0202
AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 550 Schaumburg, IL 60173-4268 www.aamanet.org	847/303-5664
AASHTO	American Association of State Highway and Transportation Officials 444 N Capitol St. NW - Suite 249 Washington, DC 20001 www.transportation.org	202/624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 One Davis Drive Research Triangle Park, NC 27709 2215 www.aatcc.org	919/549-8141
ACA	American Coatings Association 1500 Rhode Island Ave., NW Washington DC, 20005 www.paint.org	202/462-6272
ACI	American Concrete Institute 38800 Country Club Dr. Farmington Hills, MI 48331-3439 www.aci-int.org	248/848-3700



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ACPA	American Concrete Pipe Association 8445 Freeport Parkway, Suite 350 Irving, TX 75063-2595 <a href="http://www.concrete-pipe.org">www.concrete-pipe.org</a>	972/506-7216
ADC	Air Diffusion Council 1901 N. Roselle Road, Suite 800 Schaumburg, Illinois 60195 <a href="http://www.flexibleduct.org">www.flexibleduct.org</a>	847/706-6750
AF&PA	American Forest and Paper Association 1111 Nineteenth Street, NW, Suite 800 Washington, DC 20036 <a href="http://www.afandpa.org">www.afandpa.org</a>	202/463-2700
AGA	American Gas Association 400 North Capitol Street, NW Washington, DC 20001 <a href="http://www.aga.org">www.aga.org</a>	202/824-7000
AGC	Associate General Contractors of America 2300 Wilson Blvd., Suite 400 Arlington, VA 22201 <a href="http://www.agc.org">www.agc.org</a>	703/548-3118
AHA	American Hardboard Association 1210 West Northwest Highway Palatine, IL 60067 <a href="http://domensino.com/AHA/default.htm">domensino.com/AHA/default.htm</a>	847/934-8800
AI	Asphalt Institute 2696 Research Park Drive Lexington, KY 40511-8480 <a href="http://www.asphaltinstitute.org">www.asphaltinstitute.org</a>	859/288-4960
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006-5292 <a href="http://www.aia.org">www.aia.org</a>	202/626-7300
AISC	American Institute of Steel Construction One East Wacker Drive Suite 700 Chicago, IL 60601-1802 <a href="http://www.aisc.org">www.aisc.org</a>	312.670.2400
AIA	American Insurance Association (formerly the National Board of Fire Underwriters) 2101 L Street, NW, Suite 400 Washington, DC 20037 <a href="http://www.aiadc.org">www.aiadc.org</a>	202/828-7100

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AISI	American Iron and Steel Institute 25 Massachusetts Ave., NW, Suite 800 Washington, DC 20001 <a href="http://www.steel.org">www.steel.org</a>	202/452.7100
AITC	American Institute of Timber Construction 7012 S. Revere Parkway Suite 140 Centennial, CO 80112 <a href="http://www.aitc-glulam.org">www.aitc-glulam.org</a>	303/792.9559
ALI	Associated Laboratories, Inc. P.O. Box 152837 Dallas, TX 75315 <a href="http://www.assoc-labs.com">www.assoc-labs.com</a>	214/565-0593
ALSC	American Lumber Standards Committee, Inc. P.O. Box 210 Germantown, MD 20875 <a href="http://www.alsc.org">www.alsc.org</a>	301/972-1700
AMCA	Air Movement and Control Association International, Inc. 30 W. University Drive Arlington Heights, IL 60004 <a href="http://www.amca.org">www.amca.org</a>	847/394-0150
ANLA	American Nursery & Landscape Association 1200 G Street NW, Suite 800 Washington, DC 20005 <a href="http://www.anla.org">www.anla.org</a>	202/789-2900
ANSI	American National Standards Institute 1899 L Street, NW, 11th Floor Washington, DC, 20036 <a href="http://www.ansi.org">www.ansi.org</a>	202/293.8020
APA	APA-The Engineered Wood Association 7011 S. 19th Street Tacoma, WA 98466-5333 <a href="http://www.apawood.org">www.apawood.org</a>	253/565-6600
APA	Architectural Precast Association 6710 Winkler Road, Suite 8 Fort Myers, Florida 33919 <a href="http://www.archprecast.org">www.archprecast.org</a>	239/454-6989
ARI	Air Conditioning and Refrigeration Institute 4100 N. Fairfax Drive, Suite 200 Arlington, VA 22203 <a href="http://www.lightindustries.com/ARI">www.lightindustries.com/ARI</a>	703/524-8800

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ARMA	Asphalt Roofing Manufacturers Association Public Information Department 750 National Press Building 529 14th Street, NW Washington, DC 20045 <a href="http://www.asphaltroofing.org">www.asphaltroofing.org</a>	202/591-2450
ASA	The Acoustical Society of America ASA Office Manager Suite 1NO1 2 Huntington Quadrangle Melville, NY 11747-4502 <a href="http://asa.aip.org">http://asa.aip.org</a>	516/576-2360
ASCE	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 <a href="http://www.asce.org">www.asce.org</a>	800/548-2723 703/295-6300
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329-2305 <a href="http://www.ashrae.org">www.ashrae.org</a>	800/527-4723 404/636-8400
ASLA	American Society of Landscape Architects 636 Eye Street, NW Washington, DC 20001-3736 <a href="http://www.asla.org">www.asla.org</a>	202/898-2444
ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-5990 <a href="http://www.asme.org">www.asme.org</a>	800/434-2763
ASPE	American Society of Plumbing Engineers 2980 S River Rd. Des Plaines, IL 60018 <a href="http://aspe.org">http://aspe.org</a>	847/296-0002
ASQ	American Society for Quality P.O. Box 3005 Milwaukee, WI 53201-3005 or 600 North Plankinton Avenue Milwaukee, WI 53203 <a href="http://asq.org">http://asq.org</a>	800/248-1946 414/272-8575
ASSE	American Society of Sanitary Engineering 901 Canterbury, Suite A Westlake, Ohio 44145	440/835-3040

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	<a href="http://www.asse-plumbing.org">www.asse-plumbing.org</a>	
ASTM	ASTM International 100 Barr Harbor Drive PO Box C700 West Conshohocken, PA, 19428-2959 <a href="http://www.astm.org">www.astm.org</a>	610/832-9500
AWCI	Association of the Wall and Ceiling Industry 513 West Broad Street, Suite 210 Falls Church, VA 22046 <a href="http://www.awci.org">www.awci.org</a>	703/538-1600
AWPA	American Wood Protection Association P.O. Box 361784 Birmingham, AL 35236-1784 <a href="http://www.awpa.com">www.awpa.com</a>	205/733-4077
AWPI	American Wood Preservers Institute 2750 Prosperity Ave. Suite 550 Fairfax, VA 22031-4312 <a href="http://www.arcat.com">www.arcat.com</a>	800/356-AWPI 703/204-0500
AWS	American Welding Society 8669 Doral Boulevard, Suite 130 Doral, Florida 33166 <a href="http://www.aws.org">www.aws.org</a>	800/443-9353 305/443-9353
AWI	Architectural Woodwork Institute 46179 Westlake Drive, Suite 120 Potomac Falls, VA 20165-5874 <a href="http://www.awinet.org">www.awinet.org</a>	571/323-3636
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 <a href="http://www.awwa.org">www.awwa.org</a>	800/926-7337 303/794 7711
BHMA	Builders Hardware Manufacturers Association 355 Lexington Avenue, 15th floor New York, NY 10017 <a href="http://www.buildershardware.com">www.buildershardware.com</a>	212/297-2122
BIA	The Brick Industry Association 1850 Centennial Park Drive, Suite 301 Reston, VA 20191 <a href="http://www.gobrick.com">www.gobrick.com</a>	703/620-0010
CGA	Compressed Gas Association 14501 George Carter Way, Suite 103 Chantilly VA 20151-2923 <a href="http://www.cganet.com">www.cganet.com</a>	703/788-2700

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CISCA	Ceilings & Interior Systems Construction Association 1010 Jorie Blvd, Suite 30 Oak Brook, IL 60523 <a href="http://www.cisca.org">www.cisca.org</a>	630/584-1919
CISPI	Cast Iron Soil Pipe Institute 1064 Delaware Avenue SE Atlanta, GA 30316 <a href="http://www.cispi.org">www.cispi.org</a>	404/622-0073
CLFMI	Chain Link Fence Manufacturers Institute 10015 Old Columbia Road, Suite B-215 Columbia, MD 21046 <a href="http://www.associationsites.com/main-pub.cfm?usr=clfma">www.associationsites.com/main-pub.cfm?usr=clfma</a>	410/290-6267
CPA	Composite Panel Association 19465 Deerfield Avenue, Suite 306 Leesburg, VA 20176 <a href="http://www.compositepanel.org">www.compositepanel.org</a>	703/724-1128
CPSC	Consumer Product Safety Commission 4330 East West Highway Bethesda, MD 20814 <a href="http://www.cpsc.gov">www.cpsc.gov</a>	301/504-7923 800/638-2772
CRA	California Redwood Association 405 Enfrente Drive, Suite 200 Novato, CA 94949 <a href="http://www.calredwood.org">www.calredwood.org</a>	415/382-0662
CRI	Carpet and Rug Institute P.O. Box 2048 Dalton, Georgia 30722-2048 <a href="http://www.carpet-rug.org">www.carpet-rug.org</a>	706/278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Road Schaumburg, IL 60173 4758 <a href="http://www.crsi.org">www.crsi.org</a>	847/517-1200
CSI	The Construction Specifications Institute 110 South Union Street, Suite 100 Alexandria VA 22314 <a href="http://www.csinet.org">www.csinet.org</a>	800/689-2900
CTIOA	Ceramic Tile Institute of America 12061 Jefferson Blvd. Culver City, CA 90230-6219 <a href="http://www.ctioa.org">www.ctioa.org</a>	310/574-7800

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DHI	Door and Hardware Institute (formerly National Builders Hardware Association) 14150 Newbrook Dr. Chantilly, VA 20151 <a href="http://www.dhi.org">www.dhi.org</a>	703/222-2010
DIPRA	Ductile Iron Pipe Research Association 2000 2nd Avenue, South Suite 429 Birmingham, AL 35233 <a href="http://www.dipra.org">www.dipra.org</a>	205/402-8700
DOC	U.S. Department of Commerce 1401 Constitution Ave., NW Washington, D.C. 20230 <a href="http://www.commerce.gov">www.commerce.gov</a>	202/482-2000
DOT	U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590 <a href="http://www.dot.gov">www.dot.gov</a>	855/368-4200
EJMA	Expansion Joint Manufacturers Association, Inc. 25 North Broadway Tarrytown, NY 10591 <a href="http://www.ejma.org">www.ejma.org</a>	914/332-0040
EPA	Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460 <a href="http://www.epa.gov">www.epa.gov</a>	202/272-0167
FCICA	Floor Covering Installation Contractors Association 7439 Millwood Drive West Bloomfield, MI 48322 <a href="http://www.fcica.com">www.fcica.com</a>	248/661-5015 877/TO-FCICA
FM Global	Factory Mutual Insurance Company Amy Daley Global Practice Leader – Education, Public Entities, Health Care FM Global 270 Central Avenue Johnston, RI 02919-4949 <a href="http://www.fmglobal.com">www.fmglobal.com</a>	401/275-3000 401/275-3029
FS	General Services Administration (GSA) Index of Federal Specifications, Standards and Commercial Item Descriptions 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407	202/619-8925

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	<a href="http://www.gsa.gov">www.gsa.gov</a>	
GA	The Gypsum Association 6525 Belcrest Road, Suite 480 Hyattsville, MD 20782 <a href="http://www.gypsum.org">www.gypsum.org</a>	301/277-8686
GANA	Glass Association of North America 800 SW Jackson St., Suite 1500 Topeka, KS 66612-1200 <a href="http://www.glasswebsite.com">www.glasswebsite.com</a>	785/271-0208
HMA	Hardwood Manufacturers Association 665 Rodi Road, Suite 305 Pittsburgh, PA 15235 <a href="http://hmamembers.org">http://hmamembers.org</a>	412/244-0440
HPVA	Hardwood Plywood & Veneer Association 1825 Michael Faraday Drive Reston, Virginia 20190 <a href="http://www.hpva.org">www.hpva.org</a>	703/435-2900
IAPMO	International Association of Plumbing and Mechanical Officials (formerly the Western Plumbing Officials Association) 4755 E. Philadelphia St. Ontario, CA 91761 <a href="http://www.iapmo.org">www.iapmo.org</a>	909/472-4100
ICC	International Code Council 500 New Jersey Avenue, NW, 6th Floor Washington, DC 20001 <a href="http://www.iccsafe.org">www.iccsafe.org</a>	888/422-7233
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue, 17th Floor New York, NY 10016-5997 <a href="http://www.ieee.org">www.ieee.org</a>	212/419-7900
IES	Illuminating Engineering Society 120 Wall Street, Floor 17 New York, NY 10005-4001 <a href="http://www.ies.org">www.ies.org</a>	212/248-5000
ITRK	Intertek Testing Services 3933 US Route 11 Cortland, NY 13045 <a href="http://www.intertek.com">www.intertek.com</a>	607/753-6711
MCAA	Mechanical Contractors Association of America 1385 Piccard Drive Rockville, MD 20850	301/869-5800

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	<a href="http://www.mcaa.org">www.mcaa.org</a>	
MIA	Marble Institute of America 28901 Clemens Rd, Ste 100 Cleveland, OH 44145 <a href="http://www.marble-institute.com">www.marble-institute.com</a>	440/250-9222
MMPA (formerly WMMPA)	Moulding & Millwork Producers Association (formerly Wood Moulding & Millwork Producers Association) 507 First Street Woodland, CA 95695 <a href="http://www.wmmpa.com">www.wmmpa.com</a>	530/661-9591 800/550-7889
MSS	Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry 127 Park Street, NE Vienna, VA 22180-4602 <a href="http://mss-hq.org">http://mss-hq.org</a>	703/281-6613
NAAMM	National Association of Architectural Metal Manufacturers 800 Roosevelt Rd. Bldg. C, Suite 312 Glen Ellyn, IL 60137 <a href="http://www.naamm.org">www.naamm.org</a>	630/942-6591
NAIMA	North American Insulation Manufacturers Association 44 Canal Center Plaza, Suite 310 Alexandria, VA 22314 <a href="http://www.naima.org">www.naima.org</a>	703/684-0084
NAPA	National Asphalt Pavement Association 5100 Forbes Blvd. Lanham, MD USA 20706-4407 <a href="http://www.asphalt pavement.org">www.asphalt pavement.org</a>	888/468-6499 301/731-4748
NCSPA	National Corrugated Steel Pipe Association 14070 Proton Road, Suite 100 LB9 Dallas, TX 75244 <a href="http://www.ncspa.org">www.ncspa.org</a>	972/850-1907
NCMA	National Concrete Masonry Association 13750 Sunrise Valley Drive Herndon, VA 20171-4662 <a href="http://www.ncma.org">www.ncma.org</a>	703/713-1900
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877 <a href="http://www.nebb.org">www.nebb.org</a>	301/977-3698



**Solano Community College**B300 Modifications:  
Mailroom and Graphics Project

NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 <a href="http://www.necanet.org">www.necanet.org</a>	301/657-3110
NEMA	National Electrical Manufacturers Association 1300 North 17th Street, Suite 1752 Rosslyn, Virginia 22209 <a href="http://www.nema.org">www.nema.org</a>	703/841-3200
NEII	National Elevator Industry, Inc. 1677 County Route 64 P.O. Box 838 Salem, New York 12865-0838 <a href="http://www.neii.org">www.neii.org</a>	518/854-3100
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, Massachusetts USA 02169-7471 <a href="http://www.nfpa.org">www.nfpa.org</a>	617/770-3000
NHLA	National Hardwood Lumber Association PO Box 34518 Memphis, TN 38184 <a href="http://www.nhla.com">www.nhla.com</a>	901/377-1818
NIA	National Insulation Association 12100 Sunset Hills Road, Suite 330 Reston, VA 20190 <a href="http://www.insulation.org">www.insulation.org</a>	703/464-6422
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018-5607 <a href="http://www.nrca.net">www.nrca.net</a>	847/299-9070
NSF	NSF International P.O. Box 130140 789 N. Dixboro Road Ann Arbor, MI 48113-0140, USA <a href="http://www.nsf.org">www.nsf.org</a>	800/673-6275 734/769-8010
NTMA	National Terrazzo and Mosaic Association PO Box 2605 Fredericksburg, TX 78624 <a href="http://www.ntma.com">www.ntma.com</a>	800/323-9736
OSHA	Occupational Safety and Health Act U.S. Department of Labor Occupational Safety & Health Administration	800/321-OSHA (6742)

**Solano Community College**B300 Modifications:  
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	200 Constitution Ave., NW Washington, D.C. 20210 www.osha.gov	
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 or 500 New Jersey Ave., N.W. 7 <sup>th</sup> Floor Washington, D.C. 20001 www.cement.org	847/966-6200 202/408-9494
PCI	Precast/Prestressed Concrete Institute 200 W. Adams St. #2100 Chicago, IL 60606 www.pci.org	312/786-0300
PDCA	Painting and Decorating Contractors of America 2316 Millpark Drive, Ste 220 Maryland Heights, MO 63043 www.pdca.com	800/332-PDCA (7322) 314/514-7322
PDI	Plumbing & Drainage Institute 800 Turnpike Street, Suite 300 North Andover, MA 01845 http://pdionline.org	978/557-0720 800/589-8956
PEI	Porcelain Enamel Institute, Inc. P.O. Box 920220 Norcross, GA 30010 www.porcelainenamel.com	770/676-9366
PG&E	Pacific Gas & Electric Company www.pge.com	800/743-5000
PLANET	Professional Landcare Network 950 Herndon Parkway, Suite 450 Herndon, Virginia 20170 www.landcarenetwork.org	703/736-9666 800/395-2522 703/736-9668
RFCI	Resilient Floor Covering Institute 115 Broad Street, Suite 201 La Grange GA 30240 www.rfci.com	706/882-3833
RIS	Redwood Inspection Service 818 Grayson Road, Suite 201 Pleasant Hill, CA 94523 www.redwoodinspection.com	925/935-1499
SDI	Steel Deck Institute P.O. Box 25	847/458-4647

**Solano Community College**B300 Modifications:  
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	Fox River Grove, IL 60021 www.sdi.org	
SDI	Steel Door Institute 30200 Detroit Road Westlake, Ohio 44145 www.steeldoor.org	440/899-0010
SJI	Steel Joist Institute 234 W. Cheves Street Florence, SC 29501 http://steeljoist.org	843/407-4091
SMA	Stucco Manufacturers Association 500 East Yale Loop Irvine, CA 92614 www.stuccomfgassoc.com	949/387.7611
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, Virginia 20151-1219 www.smacna.org	703/803-2980
SPI	SPI: The Plastics Industry Trade Association, Inc. 1667 K St., NW, Suite 1000 Washington, DC 20006 www.plasticsindustry.org	202/974-5200
SSPC	Society for Protective Coatings (formerly the Steel Structures Painting Council) 40 24th St 6th Fl Pittsburgh, PA 15222 www.sspc.org	412/281-2331 877/281-7772
TCA	The Tile Council of North America 100 Clemson Research Blvd. Anderson, SC 29625 www.tcnatile.com	864/646-8453
TPI	Truss Plate Institute 218 North Lee Street, Suite 312 Alexandria, VA 22314 www.tpinst.org	703/683-1010
TPI	Turfgrass Producers International 2 East Main Street East Dundee, IL 60118 www.turfgrassod.org	800/405-8873 847/649-5555
TCIA	Tree Care Industry Association (formerly the National Arborist Association)	800/733-2622

**Solano Community College**B300 Modifications:  
Mailroom and Graphics Project

	136 Harvey Road, Suite 101 Londonderry, NH 03053 www.tcia.org	
TVI	The Vermiculite Institute c/o The Schundler Company 150 Whitman Avenue Edison, NJ. 08817 www.vermiculiteinstitute.org	732/287-2244
UL	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com	847/272-8800 877/854-3577
UNI	Uni-Bell PVC Pipe Association 2711 LBJ Freeway, Suite 1000 Dallas, TX 75234 www.uni-bell.org	972/243-3902
USDA	U.S. Department of Agriculture 1400 Independence Ave., S.W. Washington, DC 20250 www.usda.gov	202/720-2791
WA	Wallcoverings Association 401 North Michigan Avenue Suite 2200 Chicago, IL 60611 www.wallcoverings.org	312/321-5166
WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281 or 6980 S.W. Varns Tigard, OR 97223 www.wclib.org	503/639-0651
WCMA	Window Covering Manufacturers Association 355 Lexington Avenue 15th Floor New York, New York 10017 www.wcmanet.org	212/297-2122
WDMA	Window & Door Manufacturers Association 401 N. Michigan Avenue, Suite 2200 Chicago, IL 60611 or 2025 M Street, NW, Ste. 800 Washington, D.C. 20036-3309 www.wdma.com	312/321-6802 202/367-1157

**Solano Community College**

B300 Modifications:  
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WI	Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798 www.wicnet.org	916/372-9943
WRI	Wire Reinforcement Institute 942 Main Street Hartford, CT 06103 www.wirereinforcementinstitute.org	860/240-9545
WWCA	Western Wall & Ceiling Contractors Association 1910 N. Lime St. Orange, California 92865 www.wwcca.org	714/221-5520
WWPA	Western Wood Products Association 522 SW Fifth Ave., Suite 500 Portland, OR 97204-2122 www2.wwpa.org	503/224-3930

**PART 2 - PRODUCTS** Not Used.

**PART 3 - EXECUTION** Not Used.

END OF DOCUMENT

DOCUMENT 01 43 00

**MATERIALS AND EQUIPMENT**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Purchase of Materials and Equipment;
- B. Special Conditions;
- C. Imported Materials Certification.

**1.02 MATERIAL AND EQUIPMENT**

- A. Only items approved by the District and/or Architect shall be used.
- B. Contractor shall submit lists of products and other product information in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

**1.03 MATERIAL AND EQUIPMENT COLORS**

- A. The District and/or Architect will provide a schedule of colors.
- B. No individual color selections will be made until after approval of all pertinent materials and equipment and after receipt of appropriate samples in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.
- C. Contractor shall request priority in writing for any item requiring advance ordering to maintain the approved Construction Schedule.

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Contractor shall deliver manufactured materials in original packages, containers, or bundles (with seals unbroken), bearing name or identification mark of manufacturer.
- B. Contractor shall deliver fabrications in as large assemblies as practicable; where specified as shop-primed or shop-finished, package or crate as required to preserve such priming or finish intact and free from abrasion.
- C. Contractor shall store materials in such a manner as necessary to properly protect them from damage. Materials or equipment damaged by handling, weather, dirt, or from any other cause will not be accepted.

- D. Materials are not acceptable that have been warehoused for long periods of time, stored or transported in improper environment, improperly packaged, inadequately labeled, poorly protected, excessively shipped, deviated from normal distribution pattern, or reassembled.
- E. Contractor shall store material so as to cause no obstructions of sidewalks, roadways, access to the Site or buildings, and underground services. Contractor shall protect material and equipment furnished under Contract.
- F. Contractor may store materials on Site with prior written approval by the District, all material shall remain under Contractor's control and Contractor shall remain liable for any damage to the materials. Should the Project Site not have storage area available, the Contractor shall provide for off-site storage at a bonded warehouse and with appropriate insurance coverage at no cost to District.
- G. When any room in Project is used as a shop or storeroom, the Contractor shall be responsible for any repairs, patching, or cleaning necessary due to that use. Location of storage space shall be subject to prior written approval by District.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Manufacturers listed in various sections of Contract Documents are names of those manufacturers that are believed to be capable of supplying one or more of items specified therein.
- B. The listing of a manufacturer does not imply that every product of that manufacturer is acceptable as meeting the requirements of the Contract Documents.

### **2.02 FACILITIES AND EQUIPMENT**

Contractor shall provide, install, maintain, and operate a complete and adequate facility for handling, the execution, disposal, and distribution of material and equipment as required for proper and timely performance of Work connected with Contract.

### **2.03 MATERIAL REFERENCE STANDARDS**

Where material is specified solely by reference to "standard specifications" and if requested by District, Contractor shall submit for review data on actual material proposed to be incorporated into Work of Contract listing name and address of vendor, manufacturer, or producer, and trade or brand names of those materials, and data substantiating compliance with standard specifications.

## **PART 3 - EXECUTION**

### **3.01 WORKMANSHIP**

- A. Where not more specifically described in any other Contract Documents, workmanship shall conform to methods and operations of best standards and

accepted practices of trade or trades involved and shall include items of fabrication, construction, or installation regularly furnished or required for completion (including finish and for successful operation, as intended).

- B. Work shall be executed by tradespersons skilled in their respective lines of Work. When completed, parts shall have been durably and substantially built and present a neat appearance.

### **3.02 COORDINATION**

- A. Contractor shall coordinate installation of Work so as to not interfere with installation of others. Adjustment or rework because of Contractor's failure to coordinate will be at no additional cost to District.
- B. Contractor shall examine in-place work for readiness, completeness, fitness to be concealed or to receive other work, and in compliance with Contract Documents. Concealing or covering Work constitutes acceptance of additional cost which will result should in-place Work be found unsuitable for receiving other Work or otherwise deviating from the requirements of the Contract Documents.

### **3.03 COMPLETENESS**

Contractor shall provide all portions of the Work, unless clearly stated otherwise, installed complete and operational with all elements, accessories, anchorages, utility connections, etc., in manner to assure well-balanced performance, in accordance with manufacturer's recommendations and by Contract Documents. For example, electric water coolers require water, electricity, and drain services; roof drains require drain system; sinks fit within countertop, etc. Terms such as "installed complete," "operable condition," "for use intended," "connected to all utilities," "terminate with proper cap," "adequately anchored," "patch and refinish," "to match similar," should be assumed to apply in all cases, except where completeness of functional or operable condition is specifically stated as not required.

### **3.04 APPROVED INSTALLER OR APPLICATOR**

Installation by a manufacturer's approved installer or applicator is an understood part of Specifications and only approved installer or applicator is to provide on-site Work where specified manufacturer has on-going program of approving (i.e. certifying, bonding, re-warranting) installers or applicators. Newly established relationships between a manufacturer and an installer or applicator who does not have other approved applicator work in progress or completed is not approved for this Project.

### **3.05 MANUFACTURER'S RECOMMENDATIONS**

All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative. Should Contract Documents differ from recommendations of manufacturer or directions of his representative, Contractor shall analyze differences, make recommendations to the District and the Architect in writing, and shall not proceed until interpretation or clarification has been issued by the District and/or the Architect.



END OF DOCUMENT

DOCUMENT 01 45 00

**QUALITY CONTROL**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections and Tests, Uncovering of Work and Non-conforming of Work and Correction of Work;
- B. Special Conditions.

**1.02 RELATED CODES:**

- A. The Work is governed by requirements of Title 24, California Code of Regulations ("CCR"), and the Contractor shall keep a copy of these available at the job Site for ready reference during construction.
- B. The Division of the State Architect ("DSA") shall be notified at or before the start of construction.

**1.03 OBSERVATION AND SUPERVISION:**

- A. The District and Architect or their appointed representatives will review the Work and the Contractor shall provide facilities and access to the Work at all times as required to facilitate this review. Administration by the Architect and any consulting Structural Engineer will be in accordance with applicable regulations, including, without limitation, CCR, Part 1, Title 24, Section 4-341.
- B. One or more Project Inspector(s) approved by DSA and employed by or in contract with the District, referred to hereinafter as the "Project Inspector", will observe the work in accordance with CCR, Part 1, Title 24, Sections 4-333(b) and 4-342:
  - (1) The Project Inspector and Special Inspector(s) shall have access to the Work wherever it is in preparation or progress for ascertaining that the Work is in accordance with the Contract Documents and all applicable code sections. The Contractor shall provide facilities and operation of equipment as needed, and access as required and shall provide assistance for sampling or measuring materials.
  - (2) The Project Inspector will notify the District and Architect and call the attention of the Contractor to any observed failure of Work or material to conform to Contract Documents.

- (3) The Project Inspector shall observe and monitor all testing and inspection activities required.

The Contractor shall conform with all applicable laws as indicated in the Contract Documents, including, without limitation, to CCR, Part 1, Title 24, Section 4-343. The Contractor shall supervise and direct the Work and maintain a competent superintendent on the job who is authorized to act in all matters pertaining to the Work. The Contractor's superintendent shall also inspect all materials, as they arrive, for compliance with the Contract Documents. Contractor shall reject defective Work or materials immediately upon delivery or failure of the Work or material to comply with the Contract Documents. The Contractor shall submit verified reports as indicated in the Contract Documents, including, without limitation, the Specifications and as required by Part 1, Title 24, Section 4-336.

#### **1.04 TESTING AGENCIES:**

- A. Testing agencies and tests shall be in conformance with the General Documents and the requirements of Part 1, Title 24, Section 4- 335.
- B. Testing and inspection in connection with earthwork shall be under the direction of the District's consulting soils engineer, if any, referred to hereinafter as the "Soils Engineer."
- C. Testing and inspection of construction materials and workmanship shall be performed by a qualified laboratory, referred to hereinafter as the "Testing Laboratory." The Testing Laboratory shall be under direction of an engineer registered in the State of California, shall conform to requirements of ASTM E329, and shall be employed by or in contract with the District.

#### **1.05 TESTS AND INSPECTIONS:**

- A. The Contractor shall be responsible for notifying the District and Project Inspector of all required tests and inspections. Contractor shall notify the District and Project Inspector at least seventy-two hours (72) hours in advance of performing any Work requiring testing or inspection.
- B. The Contractor shall provide access to Work to be tested and furnish incidental labor, equipment, and facilities to facilitate all inspections and tests.
- C. The District will pay for first inspections and tests required by the "CCR", and other inspections or tests that the District and/or the Architect may direct to have made, including the following principal items:
  - (1) Tests and observations for earthwork and paving.
  - (2) Tests for concrete mix designs, including tests of trial batches.
  - (3) Tests and inspections for structural steel work.
  - (4) Field tests for framing lumber moisture content.

- (5) Additional tests directed by the District that establish that materials and installation comply with the Contract Documents.
- (6) Tests and observations of welding and expansion anchors.
- D. The District may at its discretion, pay and then back charge the Contractor for:
  - (1) Retests or reinspections, if required, and tests or inspections required due to Contractor error or lack of required identifications of material.
  - (2) Uncovering of work in accordance with Contract Documents.
  - (3) Testing done on weekends, holidays, and overtime will be chargeable to the Contractor for the overtime portion.
  - (4) Testing done off Site.
- E. Testing and inspection reports and certifications:
  - (1) If initially received by Contractor, Contractor shall provide to each of the following a copy of the agency or laboratory report of each test or inspection or certification.
    - (a) The District;
    - (b) The Construction Manager;
    - (c) The Architect;
    - (d) The Consulting Engineer, if any;
    - (e) Other engineers on the Project, as appropriate;
    - (f) The Project Inspector; and
    - (g) The Contractor.
  - (2) When the test or inspection is one required by the CCR, a copy of the report shall also be provided to the DSA.

## **PART 2 - PRODUCTS**

### **2.01 TYPE OF TESTS AND INSPECTIONS:**

- A. Testing and inspection shall at a minimum be in accordance with DSA Form 103.

## **PART 3 - EXECUTION** Not Used.

END OF DOCUMENT



DOCUMENT 01 50 00

**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Site Standards; and
- D. Construction Waste Management and Disposal.

**1.02 TEMPORARY UTILITIES:**

- A. Electric Power and Lighting:
  - (1) To the extent power is available in the building(s), on the Site(s), or on Campus, Contractor may use the District's existing utilities. Contractor shall be responsible for providing temporary facilities required to deliver that power service from its existing location on Campus to point of intended use.
  - (2) Contractor shall verify characteristics of power available in building(s) on the Site (s), or on Campus. Contractor shall take all actions required to make modifications where power of higher voltage or different phases of current are required. Contractor shall be fully responsible for providing that service and shall pay all costs required therefor.
  - (3) Contractor shall furnish, wire for, install, and maintain temporary electrical lights wherever it is necessary to provide illumination for the proper performance and/or observation of the Work: a minimum of 20 foot-candles for rough work and 50 foot-candles for finish work.
  - (4) Contractor shall be responsible for maintaining existing lighting levels in the project vicinity should temporary outages or service interruptions occur.
- B. Heat and Ventilation:
  - (1) Contractor shall provide temporary heat to maintain environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation and curing of materials, and to protect materials and finishes from damage due to improper

temperature and humidity conditions. Portable heaters shall be standard units complete with controls.

- (2) Contractor shall provide forced ventilation and dehumidification, as required, of enclosed areas for proper installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, and gases.
- (3) Contractor shall pay the costs of installation, maintenance, operation, and removal of temporary heat and ventilation, including costs for fuel consumed, required for the performance of the Work.

C. Water:

- (1) To the extent water is available in the building(s), on the Site(s), or on Campus, Contractor may use the District's existing utilities. Contractor shall be responsible for providing temporary facilities required to deliver such utility service from its existing location in the building(s), on the Site(s), or other Campus location approved by the District, to point of intended use.
- (2) Contractor shall use backflow preventers on water lines at point of connection to District's water supply. Backflow preventers shall comply with requirements of Uniform Plumbing Code.
- (3) Contractor shall make potable water available for human consumption.

D. Sanitary Facilities:

- (1) Contractor shall provide sanitary temporary facilities in no fewer numbers than required by law and such additional facilities as may be directed by the Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition at all times and shall be left at the Site until removal is directed by the Inspector or Contractor completes all other work at the Site.
- (2) Use of toilet facilities in the Work under construction shall not be permitted except by consent of the Inspector and the District.

E. Telephone Service:

- (1) Contractor shall arrange with local telephone service company for telephone service as required for the performance of the Work. Contractor shall, at a minimum, provide in its field office one line for telephone and one line for fax machine.
- (2) Contractor shall pay the costs for telephone and fax lines installation, maintenance, service, and removal.

- F. Fire Protection:
  - (1) Contractor shall provide and maintain fire extinguishers and other equipment for fire protection. Such equipment shall be designated for use for fire protection only and shall comply with all requirements of the California Fire, State Fire Marshall and/or its designee.
  - (2) Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces.
- G. Trash Removal:
  - (1) Contractor shall provide trash removal on a timely basis, no less than weekly. Under no circumstance shall Contractor use District trash service.
- H. Field Office:
  - (1) Not Applicable.

**1.03 CONSTRUCTION AIDS:**

- A. Plant and Equipment:
  - (1) Contractor shall furnish, operate, and maintain a complete plant for fabricating, handling, conveying, installing, and erecting materials and equipment; and for conveyances for transporting workers. Include elevators, hoists, debris chutes, and other equipment, tools, and appliances necessary for performance of the Work.
  - (2) Contractor shall maintain plant and equipment in safe and efficient operating condition. Damages due to defective plant and equipment, and uses made thereof, shall be repaired by Contractor at no expense to the District.
- B. None of the District's tools and equipment shall be used by Contractor for the performance of the Work.

**1.04 BARRIERS AND ENCLOSURES:**

- A. Contractor shall obtain the District's written permission for locations and types of temporary barriers and enclosures, including fire-rated materials proposed for use, prior to their installation.
- B. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises, the public, and workers. Contractor shall also protect the Work and existing facilities from the elements, and adjacent construction and improvements, persons, and trees and plants from damage and injury from demolition and construction operations.



- C. Contractor shall provide site access to existing facilities for persons using other buildings and portions of the Site, the public, and for deliveries and other services and activities.
- D. Tree and Plant Protection:
- (1) Contractor shall preserve and protect existing trees and plants on the Premises that are not designated or required to be removed, and those adjacent to the Premises.
  - (2) Contractor shall provide barriers to a minimum height of 4'-0" around drip line of each tree and plant, around each group of trees and plants, as applicable, in the proximity of demolition and construction operations, or as denoted on the Plans.
  - (3) Contractor shall not park trucks, store materials, perform Work or cross over landscaped areas. Contractor shall not dispose of paint thinners, water from cleaning, plastering or concrete operations, or other deleterious materials in landscaped areas, storm drain systems, or sewers. Plant materials damaged as a result of the performance of the Work shall, at the option of the District and at Contractor's expense, either be replaced with new plant materials equal in size to those damaged or by payment of an amount representing the value of the damaged materials as determined by the District.
  - (4) Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, lime treatment, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.
  - (5) Excavation around Trees:
    - (a) Excavation within drip lines of trees shall be done only where absolutely necessary and with written permission from the District.
    - (b) Where trenching for utilities is required within drip lines, tunneling under and around roots shall be by hand digging and shall be approved by the District. Main lateral roots and taproots shall not be cut. All roots 2 inches in diameter and larger shall be tunneled under and heavily wrapped with wet burlap so as to prevent scarring or excessive drying. Smaller roots that interfere with installation of new work may be cut with prior approval by the District. Roots must first be cut with a Vermeer, or equivalent, root cutter prior to any trenching.
    - (c) Where excavation for new construction is required within drip line of trees, hand excavation shall be employed to minimize damage to root system. Roots shall be relocated in backfill areas wherever possible. If encountered immediately adjacent to location of new construction, roots shall be cut approximately 6 inches back from new construction.

- (d) Approved excavations shall be carefully backfilled with the excavated materials approved for backfilling. Backfill shall conform to adjacent grades without dips, sunken areas, humps, or other surface irregularities. Do not use mechanical equipment to compact backfill. Tamp carefully using hand tools, refilling and tamping until Final Acceptance as necessary to offset settlement.
- (e) Exposed roots shall not be allowed to dry out before permanent backfill is placed. Temporary earth cover shall be provided, or roots shall be wrapped with four layers of wet, untreated burlap and temporarily supported and protected from damage until permanently relocated and covered with backfill.
- (f) Accidentally broken roots should be sawed cleanly 3 inches behind ragged end.

**1.05 SECURITY:**

The Contractor shall be responsible for project security for materials, tools, equipment, supplies, and completed and partially completed Work.

**1.06 TEMPORARY CONTROLS:**

A. Noise Control:

- (1) Contractor acknowledges that adjacent facilities will remain in operation during all or a portion of the Work period, and it shall take all reasonable precautions to minimize noise as required by applicable laws and the Contract Documents.
- (2) Notice of proposed noisy operations, including without limitation, operation of pneumatic demolition tools, compaction equipment, concrete saws, and other equipment, shall be submitted to the District a minimum of forty-eight (48) hours in advance of their performance.

B. Noise and Vibration:

- (1) Equipment and impact tools shall have intake and exhaust mufflers.
- (2) Contractor shall cooperate with District to minimize and/or cease the use of noisy and vibratory equipment if that equipment becomes objectionable by its longevity.

C. Dust and Dirt:

- (1) Contractor shall conduct demolition and construction operations to minimize the generation of dust and dirt, and prevent dust and dirt from interfering with the progress of the Work and from accumulating in the Work and adjacent areas including, without limitation, occupied facilities.

- (2) Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.
- (3) Contractor shall ensure that all hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins, and as otherwise required by local and state ordinance.
- (4) Contractor shall prevent dust and dirt from accumulating on walks, roadways, parking areas, and planting, and from washing into sewer and storm drain lines.

D. Water:

Contractor shall not permit surface and subsurface water, and other liquids, to accumulate in or about the vicinity of the Premises. Should accumulation develop, Contractor shall control the water or other liquid, and suitably dispose of it by means of temporary pumps, piping, drainage lines, troughs, ditches, dams, or other methods.

E. Pollution:

- (1) No burning of refuse, debris, or other materials shall be permitted on or in the vicinity of the Premises.
- (2) Contractor shall comply with applicable regulatory requirements and anti-pollution ordinances during the conduct of the Work including, without limitation, demolition, construction, and disposal operations.

F. Lighting:

- (1) If portable lights are used after dark, all light must be located so as not to direct light into adjacent building or neighboring property.

**1.07 JOB SIGN(S):**

- A. Not Applicable.

**1.08 PUBLICITY RELEASES:**

- A. Contractor shall not release any information, story, photograph, plan, or drawing relating information about the Project to anyone, including press and other public communications medium, including, without limitation, on website(s) without the written permission of the District.

**PART 2 – PRODUCTS** Not used.

**PART 3 – EXECUTION** Not used.

END OF DOCUMENT

DOCUMENT 01 50 13

**CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Temporary Facilities and Controls.

**1.02 SECTION INCLUDES:**

- A. Administrative and procedural requirements for the following:
  - (1) Salvaging non-hazardous demolition and construction waste.
  - (2) Recycling non-hazardous demolition and construction waste.
  - (3) Disposing of non-hazardous demolition and construction waste.

**1.03 DEFINITIONS:**

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

**1.04 PERFORMANCE REQUIREMENTS:**

- A. General: Develop waste management plan that results in end-of Project rates for diversion from landfill of a minimum of seventy-five percent (75%) by weight (or by volume, but not a combination) of total waste generated by the Work.
- B. Waste categories to be diverted to meet the target must include as many as possible, but no fewer than five, of the following:
  - (1) Clean dimensional wood or pallet wood
  - (2) Plywood, OSB, and particleboard
  - (3) Concrete
  - (4) Cardboard, paper and packaging
  - (5) Metals
  - (6) Gypsum drywall (unpainted)
  - (7) Glass
  - (8) Plastics
  - (9) Paint
  - (10) Carpet and padding

**1.05 SUBMITTALS:**

- A. Waste Management Plan: Submit waste management plan within 30 days of date established for commencement of the Work. The Plan shall contain the following:
  - (1) Designation of the party who will implement the plan
  - (2) Analysis of the estimated job-site waste to be generated, including types and quantities
  - (3) Proposed alternatives to Landfill: a list of each material planned to be salvaged or recycled during the course of the Project and the proposed destination of each material.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit copies of report. Include the following information:
  - (1) Material category.
  - (2) Generation point of waste.

- (3) Total quantity of waste in tons or cubic yards.
  - (4) Quantity of waste salvaged, both estimated and actual in tons or cubic yards.
  - (5) Quantity of waste recycled, both estimated and actual in tons or cubic yards.
  - (6) Total quantity of waste recovered (salvaged plus recycled) in tons or cubic yards.
  - (7) Total quantity of waste diverted from landfill (salvaged plus recycled) as a percentage of total waste.
  - (8) Dates waste was removed from the job site.
  - (9) Receiving party.
  - (10) Include legible copies of on-site logs, manifests, weight tickets and receipts. Manifests shall be from recycling and/or disposal site operators who can legally accept the materials for the purpose of reuse, recycling or disposal.
- C. Waste Reduction Calculations: Before request for final payment, submit copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work, and a letter verifying that the waste management goal has been met.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- H. CHPS Submittal: CHPS letter template for Credit ME2.0 and ME2.1, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.
- I. Qualification Data: For Waste Management Coordinator.

- J. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- K. Submittal procedures and quantities are specified in Document 01 33 00.

**1.06 QUALITY ASSURANCE:**

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements. Review methods and procedures related to waste management including, but not limited to, the following:
  - (1) Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
  - (2) Review requirements for documenting quantities of each type of waste and its disposition.
  - (3) Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  - (4) Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  - (5) Review waste management requirements for each trade.

**1.07 WASTE MANAGEMENT PLAN:**

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measurement throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

- (1) Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
- (2) Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (3) Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (4) Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
- (5) Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
- (6) Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

**PART 2 - PRODUCTS Not Used.**

**PART 3 - EXECUTION**

**3.01 PLAN IMPLEMENTATION:**

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
  - (1) Comply with Document 01 50 00 for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Contractor to engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
  - (1) Distribute waste management plan to everyone concerned within 3 days of submittal return.



- (2) Distribute waste management plan to entities when they first begin work on site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - (1) Designate and label specific areas of Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
  - (2) Comply with Document 01 50 00 for controlling dust and dirt, environmental protection, and noise control.

**3.02 RECYCLING CONSTRUCTION WASTE:**

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
  - (1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
    - (a) Inspect containers and bins for contamination and remove contaminated materials if found.
  - (2) Stockpile processed materials on site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - (3) Stockpile materials away from construction area. Do not store within drip line of remaining trees.
  - (4) Store components off the ground and protect from the weather.
  - (5) Remove recyclable waste off District property and transport to recycling receiver or processor.

- D. Packaging:
  - (1) Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
  - (2) Polystyrene Packaging: Separate and bag material.
  - (3) Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on Site, break down pallets into component wood pieces and comply with requirements for recycling wood.
  - (4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- E. Site-Clearing Wastes: Chip brush, branches, and trees on site.
- F. Wood Materials:
  - (1) Clean Cut-Offs of Lumber: Grind or chip into small pieces.
  - (2) Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- G. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.
  - (1) Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

**3.03 DISPOSAL OF WASTE:**

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  - (1) Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on site.
  - (2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off District property and legally dispose of them.

END OF SECTION



DOCUMENT 01 64 00

**OWNER-FURNISHED PRODUCTS**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Materials and Equipment.

**1.02 SECTION INCLUDES**

- A. Requirements for the following:
  - (1) Installing Owner-furnished materials and equipment.
  - (2) Providing necessary utilities, connections and rough-ins.

**1.03 DEFINITIONS**

- A. Owner: District, who is providing/furnishing materials and equipment.
- B. Installing Contactor: Contractor, who is installing the materials and equipment furnished by the Owner.

**1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Receive, store and handle products in accordance with the manufacturer's instructions.
- B. Protect equipment items as required to prevent damage during storage and construction.

**PART 2 – PRODUCTS**

**2.01 GENERAL PRODUCT REQUIREMENTS**

- A. Installing Contractor's Responsibilities:
  - (1) Verify mounting and utility requirements for Owner-furnished materials and equipment items.
  - (2) Provide mounting and utility rough in for all items where required.

- (a) Rough in locations, sizes, capacities, and similar type items shall be as indicated and required by product manufacturer.
- B. Owner and Installing Contractor(s) Responsibilities:
- (1) Owner-Furnished/Contractor Installed ("OFCI"): Furnished by the Owner; installed by the Installing Contractor.
    - (a) General: Owner and Installing Contractor(s) will coordinate deliveries of materials and equipment to coincide with the construction schedule.
    - (b) Owner will furnish specified materials and equipment delivered to the site, except for certain existing items as noted in the construction documents where Contractor is required to remove and reinstall existing items from the old Library or site in the new building or site. Owner/vendor's representative shall be present on Site at the time of delivery to comply with the contract requirements and Specifications Section 01 43 00, Materials and Equipment, Article 1.04.
    - (c) The Owner furnishing specified materials and equipment is responsible to provide manufacturer guarantees as required by the Contract to the Installing Contractor.
    - (d) The Installing Contractor shall:
      - 1) Review, verify and accept the approved manufacturer's submittal/Shop Drawings for all materials and equipment required to be installed by the Installing Contractor and furnished by the Owner. Any discrepancies, including but not limited to possible space conflicts, should be brought to the attention of the Architect, Construction Manager and/or District Representative, if applicable.
      - 2) Coordinate timely delivery. Installing Contractor shall receive materials and equipment at Site when delivered and give written receipt at time of delivery, noting visible defects or omissions; if such declaration is not given, the Installing Contractor shall assume responsibility for such defects and omissions.
      - 3) Store materials and equipment until ready for installation and protect from loss and damage. Installing Contractor is responsible for providing adequate storage space.
      - 4) Coordinate with other bid package contractors and field measurement to ensure complete installation.
      - 5) Uncrate, assemble, and set in place.

- 6) Provide adequate supports.
  - 7) Install materials and equipment in accordance with manufacturer's recommendations, instructions, and Shop Drawings, supply labor and material required, and make mechanical, plumbing, and electrical connections required to operate equipment.
  - 8) Be certified by equipment manufacturer for installation of the specific equipment supplied by the Owner.
  - 9) Provide anchorage and/or bracing as required for seismic restraint per structural engineer details.
  - 10) Provide the contract-required warranty and guarantee for all work, materials and equipment, and installation upon its completion and acceptance by the District. Guarantee includes all costs associated with the removal, shipping to and from the Site, and re-installation of any equipment found to be defective.
- C. Compatibility with Space and Service Requirements:
- (1) Equipment items shall be compatible with space limitations indicated and as shown on the Contract Documents and specified in other sections of the Specifications.
  - (2) Modifications to equipment items required to conform to space limitations specified for rough in shall not cause additional cost to the District.
- D. Manufacturer's printed descriptions, specifications, and instructions shall govern the Work unless specifically indicated or specified otherwise.

## **2.02 FURNISHED MATERIALS AND EQUIPMENT**

- A. All furnished materials and equipment are indicated or scheduled on the Contract Documents.

## **PART 3 – EXECUTION**

### **3.01 INSTALLATION**

- A. Install equipment items in accordance with the manufacturer's instructions.
- B. Set equipment items securely in place, rigidly or flexibly mounted in accordance with manufacturers' directions.
- C. Make electrical and mechanical connections as indicated and required.
- D. Touch-up and restore damaged or defaced finishes to the Owner's satisfaction.

**3.02 CLEANING AND PROTECTION**

- A. Repair or replace items not acceptable to the Architect or Owner.
- B. Upon completion of installation, clean equipment items in accordance with manufacturer's recommendations, and protect from damage until final acceptance of the Work by the Owner.

END OF DOCUMENT

SECTION 01 66 00

**PRODUCT DELIVERY, STORAGE AND HANDLING**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access, Conditions and Requirements;
- B. Special Conditions.

**1.02 PRODUCTS**

- A. Products are as defined in the General Conditions.
- B. Contractor shall not use and/or reuse materials and/or equipment removed from existing Premises, except as specifically permitted by the Contract Documents.
- C. Contractor shall provide interchangeable components of the same manufacturer, for similar components.

**1.03 TRANSPORTATION AND HANDLING**

- A. Contractor shall transport and handle Products in accordance with manufacturer's instructions.
- B. Contractor shall promptly inspect shipments to confirm that Products comply with requirements, quantities are correct, and products are undamaged.
- C. Contractor shall provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

**1.04 STORAGE AND PROTECTION**

- A. Contractor shall store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Contractor shall store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated Products, Contractor shall place on sloped supports, above ground.
- C. Contractor shall provide off-site storage and protection when Site does not permit on-site storage or protection.



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- D. Contractor shall cover products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.
- E. Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and prevent mixing with foreign matter.
- F. Contractor shall provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- G. Contractor shall arrange storage of Products to permit access for inspection and periodically inspect to assure Products are undamaged and are maintained under specified conditions.

**PART 2 – PRODUCTS** Not Used.

**PART 3 - EXECUTION** Not Used.

END OF DOCUMENT

DOCUMENT 01 71 23

**FIELD ENGINEERING**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Investigation, and Soils Investigation Report;
- B. Special Conditions;
- C. Site-Visit Certification.

**1.02 REQUIREMENTS INCLUDED:**

- A. Contractor shall provide and pay for field engineering services by a California-registered engineer, required for the project, including, without limitations:
  - (1) Survey work required in execution of the Project.
  - (2) Civil or other professional engineering services specified, or required to execute Contractor's construction methods.

**1.03 QUALIFICATIONS OF SURVEYOR OR ENGINEERS:**

Contractor shall only use a qualified licensed engineer or registered land surveyor, to whom District makes no objection.

**1.04 SURVEY REFERENCE POINTS:**

- A. Existing basic horizontal and vertical control points for the Project are those designated on the Drawings.
- B. Contractor shall locate and protect control points prior to starting Site Work and preserve all permanent reference points during construction. In addition Contractor shall:
  - (1) Make no changes or relocation without prior written notice to District and Architect.
  - (2) Report to District and Architect when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
  - (3) Require surveyor to replace Project control points based on original survey control that may be lost or destroyed.

**1.05 RECORDS:**

Contractor shall maintain a complete, accurate log of all control and survey work as it progresses.

**1.06 SUBMITTALS:**

- A. Contractor shall submit name and address of Surveyor and Professional Engineer to District and Architect prior to its/their work on the Project.
- B. On request of District and Architect, Contractor shall submit documentation to verify accuracy of field engineering work, at no additional cost to the District.
- C. Contractor shall submit a certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance or nonconformance with Contract Documents.

**PART 2 – PRODUCTS** Not Used.

**PART 3 - EXECUTION**

**3.01 COMPLIANCE WITH LAWS:**

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

**3.02 NONCONFORMING WORK:**

Contractor is responsible for any re-surveying required by correction of nonconforming work.

END OF DOCUMENT

DOCUMENT 01 73 29

**CUTTING AND PATCHING**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections, and Tests, Integration of Work, Nonconforming Work, and Correction of Work, and Uncovering Work;
- B. Special Conditions;
- C. Hazardous Materials Procedures and Requirements;
- D. Hazardous Materials Certification;
- E. Lead-Based Paint Certification;
- F. Imported Materials Certification.

**1.02 CUTTING AND PATCHING:**

- A. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work or to:
  - (1) Make several parts fit together properly.
  - (2) Uncover portions of Work to provide for installation of ill-timed Work.
  - (3) Remove and replace defective Work.
  - (4) Remove and replace Work not conforming to requirements of Contract Documents.
  - (5) Remove Samples of installed Work as specified for testing.
  - (6) Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
  - (7) Attaching new materials to existing remodeling areas – including painting (or other finishes) to match existing conditions.
- B. In addition to Contract requirements, upon written instructions from the District, Contractor shall uncover Work to provide for observations of covered Work in accordance with the Contract Documents; remove samples of

installed materials for testing as directed by District; and remove Work to provide for alteration of existing Work.

- C. Contractor shall not cut or alter Work, or any part of it, in such a way that endangers or compromises the integrity of the Work, the Project, or work of others.

**1.03 SUBMITTALS:**

- A. Prior to any cutting or alterations that may affect the structural safety of Project, or work of others, and well in advance of executing such cutting or alterations, Contractor shall submit written notice to District pursuant to the applicable notice provisions of the Contract Documents, requesting consent to proceed with the cutting or alteration, including the following:
  - (1) The work of the District or other trades.
  - (2) Structural value or integrity of any element of Project.
  - (3) Integrity or effectiveness of weather-exposed or weather-resistant elements or systems.
  - (4) Efficiency, operational life, maintenance or safety of operational elements.
  - (5) Visual qualities of sight-exposed elements.
- B. Contractor's Request shall also include:
  - (1) Identification of Project.
  - (2) Description of affected Work.
  - (3) Necessity for cutting, alteration, or excavations.
  - (4) Affects of Work on District, other trades, or structural or weatherproof integrity of Project.
  - (5) Description of proposed Work:
    - (a) Scope of cutting, patching, alteration, or excavation.
    - (b) Trades that will execute Work.
    - (c) Products proposed to be used.
    - (d) Extent of refinishing to be done.
  - (6) Alternates to cutting and patching.
  - (7) Cost proposal, when applicable.

- (8) The scheduled date the Contractor intends to perform the Work and the duration of time to complete the Work.
- (9) Written permission of District or other District contractor(s) whose work will be affected.

**1.04 QUALITY ASSURANCE:**

- A. Contractor shall ensure that cutting, fitting, and patching shall achieve security, strength, weather protection, appearance for aesthetic match, efficiency, operational life, maintenance, safety of operational elements, and the continuity of existing fire ratings.
- B. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, colors, and that materials shall match existing construction. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the District's decision shall be final.

**1.05 PAYMENT FOR COSTS:**

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of the District, its consultants, including but not limited to the Construction Manager, the Architect, the Project Inspector(s), Engineers, and Agents, will be paid by Contractor and/or deducted from the Contract by the District.
- B. District shall only pay for cost of Work if it is part of the original Contract Price or if a change has been made to the contract in compliance with the provisions of the General Conditions. Cost of Work performed upon instructions from the District, other than defective or nonconforming Work, will be paid by District on approval of written Change Order. Contractor shall provide written cost proposals prior to proceeding with cutting and patching.

**PART 2 - PRODUCTS**

**2.01 MATERIALS:**

- A. Contractor shall provide for replacement and restoration of Work removed. Contractor shall comply with the Contract Documents and with the Industry Standard(s), for the type of Work, and the Specification requirements for each specific product involved. If not specified, Contractor shall first recommend a product of a manufacturer or appropriate trade association for approval by the District.
- B. Materials to be cut and patched include those damaged by the performance of the Work.

**PART 3 – EXECUTION**

**3.01 INSPECTION:**

- A. Contractor shall inspect existing conditions of the Site and the Work, including elements subject to movement or damage during cutting and patching, excavating and backfilling. After uncovering Work, Contractor shall inspect conditions affecting installation of new products.
- B. Contractor shall report unsatisfactory or questionable conditions in writing to District as indicated in the General Conditions and shall proceed with Work as indicated in the General Conditions by District.

**3.02 PREPARATION:**

- A. Contractor shall provide shoring, bracing and supports as required to maintain structural integrity for all portions of the Project, including all requirements of the Project.
- B. Contractor shall provide devices and methods to protect other portions of Project from damage.
- C. Contractor shall, provide all necessary protection from weather and extremes of temperature and humidity for the Project, including without limitation, any work that may be exposed by cutting and patching Work. Contractor shall keep excavations free from water.

**3.03 ERECTION, INSTALLATION AND APPLICATION:**

- A. With respect to performance, Contractor shall:
  - (1) Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
  - (2) Execute cutting and demolition by methods that will prevent damage to other Work, and provide proper surfaces to receive installation of repairs and new Work.
  - (3) Execute cutting, demolition excavating, and backfilling by methods that will prevent damage to other Work and damage from settlement.
- B. Contractor shall employ original installer or fabricator to perform cutting and patching for:
  - (1) Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other trades.
  - (2) Sight-exposed finished surfaces.
- C. Contractor shall execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances,

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and finishes as shown or specified in the Contract Documents including, without limitation, the Drawings and Specifications.

- D. Contractor shall fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Contractor shall conform to all Code requirements for penetrations or the Drawings and Specifications, whichever calls for a higher quality or more thorough requirement. Contractor shall maintain integrity of both rated and non-rated fire walls, ceilings, floors, etc.
- E. Contractor shall restore Work which has been cut or removed. Contractor shall install new products to provide completed Work in accordance with requirements of the Contract Documents and as required to match surrounding areas and surfaces.
- F. Contractor shall refinish all continuous surfaces to nearest intersection as necessary to match the existing finish to any new finish.

END OF DOCUMENT





DOCUMENT 01 76 00

**ALTERATION PROJECT PROCEDURES**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Integration of Work, Purchase of Materials and Equipment, Uncovering of Work and Non-conforming Work and Correction of Work and Trenches;
- B. Special Conditions.

**PART 2 - PRODUCTS**

**2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK:**

- A. New Materials: As specified in the Contract Documents including, without limitation, in the Specifications, Contractor shall match existing products, conditions, and work for patching and extending work.
- B. Type and Quality of Existing Products: Contractor shall determine by inspection, by testing products where necessary, by referring to existing conditions and to the Work as a standard.

**PART 3 - EXECUTION**

**3.01 EXAMINATION:**

- A. Contractor shall verify that demolition is complete and that areas are ready for installation of new Work.
- B. By beginning restoration Work, Contractor acknowledges and accepts the existing conditions.

**3.02 PREPARATION:**

- A. Contractor shall cut, move, or remove items as necessary for access to alterations and renovation Work. Contractor shall replace and restore these at completion.
- B. Contractor shall remove unsuitable material not as salvage unless otherwise indicated in the Contract Documents. Unsuitable material may include, without limitation, rotted wood, corroded metals, and deteriorated masonry and concrete. Contractor shall replace materials as specified for finished Work.

- C. Contractor shall remove debris and abandoned items from all areas of the Site and from concealed spaces.
- D. Contractor shall prepare surface and remove surface finishes to provide for proper installation of new Work and finishes.
- E. Contractor shall close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity. Contractor shall insulate ductwork and piping to prevent condensation in exposed areas. Contractor shall insulate building cavities for thermal and/or acoustical protection, as detailed.

**3.03 INSTALLATION:**

- A. Contractor shall coordinate Work of all alternations and renovations to expedite completion and to accommodate District occupancy.
- B. Designated Areas and Finishes: Contractor shall complete all installations in all respects, including operational, mechanical work and electrical work.
- C. Contractor shall remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to original or specified condition.
- D. Contractor shall refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat and square or straight transition to adjacent finishes.
- E. Contractor shall install products as specified in the Contract Documents, including without limitation, the Specifications.

**3.04 TRANSITIONS:**

- A. Where new Work abuts or aligns with existing, Contractor shall perform a smooth and even transition. Patched Work must match existing adjacent work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new Work is not possible, Contractor shall terminate existing surface along a straight line at a natural line of division and make a recommendation for resolution to the District and the Architect for review and approval.

**3.05 ADJUSTMENTS:**

- A. Where removal of partitions or walls results in adjacent spaces becoming one, Contractor shall rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4 inch or more occurs, Contractor shall submit a recommendation for providing a smooth transition to the District and the Architect for review and approval.

- C. Contractor shall trim and seal existing wood doors and shall trim and paint metal doors as necessary to clear new floor finish and refinish trim as required.
- D. Contractor shall fit Work at penetrations of surfaces.

**3.06 REPAIR OF DAMAGED SURFACES:**

- A. Contractor shall patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other imperfections, in the area where the Work is performed.
- B. Contractor shall repair substrate prior to patching finish.

**3.07 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS:**

- A. Cultivated or planted areas and other surface improvements which are damaged by actions of the Contractor shall be restored by Contractor to their original condition or better, where indicated.
- B. Contractor shall protect and replace, if damaged, all existing guard posts, barricades, and fences.
- C. Contractor shall give special attention to avoid damaging or killing trees, bushes and/or shrubs on the Premises and/or identified in the Contract Documents, including without limitation, the Drawings.

**3.08 FINISHES:**

- A. Contractor shall finish surfaces as specified in the Contract Documents, including without limitations, the provisions of all Divisions of the Specifications.
- B. Contractor shall finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, Contractor shall refinish entire surface to nearest intersections.

**3.09 CLEANING:**

- A. Contractor shall continually clean the Site and the Premises as indicated in the Contract Documents, including without limitation, the provisions in the General Conditions and the Specifications regarding cleaning.

END OF DOCUMENT



DOCUMENT 01 77 00

**CONTRACT CLOSEOUT AND FINAL CLEANING**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of Work;
- B. Special Conditions;
- C. Temporary Facilities and Controls.

**1.02 CLOSEOUT PROCEDURES**

Contractor shall comply with all closeout provisions as indicated in the General Conditions.

**1.03 FINAL CLEANING**

- A. Contractor shall execute final cleaning prior to final inspection.
- B. Contractor shall clean interior and exterior glass and all surfaces exposed to view; remove temporary labels, tape, stains, and foreign substances, polish transparent and glossy surfaces, wax and polish new vinyl floor surfaces, vacuum carpeted and soft surfaces.
- C. Contractor shall clean equipment and fixtures to a sanitary condition.
- D. Contractor shall replace filters of operating equipment.
- E. Contractor shall clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Contractor shall clean Site, sweep paved areas, and rake clean landscaped surfaces.
- G. Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.

**1.04 ADJUSTING**

Contractor shall adjust operating products and equipment to ensure smooth and unhindered operation.

**1.05 RECORD DOCUMENTS AND SHOP DRAWINGS**

- A. Contractor shall legibly mark each item to record actual construction, including:
  - (1) Measured depths of foundation in relation to finish floor datum.
  - (2) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.
  - (3) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - (4) Field changes of dimension and detail.
  - (5) Details not on original Contract Drawings
  - (6) Changes made by modification(s).
  - (7) References to related Shop Drawings and modifications.
- B. Contractor will provide one digital set of Record Drawings to District.
- C. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

**1.06 INSTRUCTION OF DISTRICT PERSONNEL**

- A. Before final inspection, at agreed upon times, Contractor shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six months or by the change of season.
- C. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Contractor shall prepare and insert additional data in Operation and Maintenance Manual when the need for such data becomes apparent during instruction.
- E. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- F. Contractor will video record all trainings provided to District Staff. Video Recordings will be turned over to District with Closeout Documents.

**1.07 SPARE PARTS AND MAINTENANCE MATERIALS**

- A. Contractor shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.
- B. Contractor shall provide District with all required Operation and Maintenance Data at one time. Partial or piecemeal submissions of Operation and Maintenance Data will not be accepted.

**PART 2 – PRODUCTS** Not used.

**PART 3 – EXECUTION** Not used.

END OF DOCUMENT





DOCUMENT 01 78 23

**OPERATION AND MAINTENANCE DATA**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of the Work;
- B. Special Conditions.

**1.02 QUALITY ASSURANCE:**

Contractor shall prepare instructions and data by personnel experienced in maintenance and operation of described products. All equipment and systems that require training will be provided by the Contractor. All trainings will be video recorded and provided to the District.

**1.03 FORMAT:**

- A. Contractor shall prepare data in the form of an instructional manual entitled "OPERATIONS AND MAINTENANCE MANUAL & INSTRUCTIONS" ("Manual").
- B. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size. When multiple binders are used, Contractor shall correlate data into related consistent groupings, organized by CSI divisions. If multiple binders are used, the full Table of Contents for all binders shall be included in each binder.
- C. Cover: Contractor shall identify each binder with typed or printed title "OPERATION AND MAINTENANCE MANUAL & INSTRUCTIONS"; and shall list title of Project and identify subject matter of contents.
- D. Contractor shall arrange content by CSI divisions.
- E. Contractor shall provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: The content shall include Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Contractor shall provide with reinforced punched binder tab and shall bind in with text; folding larger drawings to size of text pages.

**1.04 CONTENTS, EACH VOLUME:**

- A. Table of Contents: Contractor shall provide title of Project; names, email addresses, mailing addresses, and telephone numbers of the Architect, any engineers, and subconsultants, with name of responsible parties. Table of Contents shall be organized by CSI divisions.
- B. Subcontractor Directory: Contractor shall provide a Subcontractor Directory, with contact person, email address, phone, mailing address, and schedule of products and systems; indexed to Table of Contents which is to be organized by CSI divisions.
- C. For Each Product or System: Contractor shall list names, email addresses, mailing addresses, and telephone numbers of Subcontractor(s) and suppliers, including local source of supplies and replacement parts.
- D. Product Data: Contractor shall mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- E. Drawings: Contractor shall supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Contractor shall not use Project Record Documents as maintenance drawings.
- F. Text: The Contractor shall include any and all information as required to supplement product data. Contractor shall provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- G. Warranties and Bonds: Contractor shall bind in one copy of each.

**1.05 MANUAL FOR MATERIALS AND FINISHES:**

- A. Building Products, Applied Materials, and Finishes: Contractor shall include product data, with catalog number, size, composition, and color and texture designations. Contractor shall provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Contractor shall include Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Contractor shall include product data listing applicable reference standards, chemical composition, and details of installation. Contractor shall provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: Contractor shall include all additional requirements as specified in the Specifications.

- E. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

**1.06 MANUAL FOR EQUIPMENT AND SYSTEMS:**

- A. Each Item of Equipment and Each System: Contractor shall include description of unit or system, and component parts and identify function, normal operating characteristics, and limiting conditions. Contractor shall include performance curves, with engineering data and tests, and complete nomenclature, and commercial number of replaceable parts.
- B. Panelboard Circuit Directories: Contractor shall provide electrical service characteristics, controls, and communications.
- C. Contractor shall include color coded wiring diagrams as installed.
- D. Operating Procedures: Contractor shall include start-up, break-in, and routine normal operating instructions and sequences. Contractor shall include regulation, control, stopping, shut-down, and emergency instructions. Contractor shall include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Contractor shall include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Contractor shall provide servicing and lubrication schedule, and list of lubricants required.
- G. Contractor shall include manufacturer's printed operation and maintenance instructions.
- H. Contractor shall include sequence of operation by controls manufacturer.
- I. Contractor shall provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Contractor shall provide control diagrams by controls manufacturer as installed.
- K. Contractor shall provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Contractor shall provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Contractor shall provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: Contractor shall include all additional requirements as specified in Specification(s).

- O. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

**1.07 SUBMITTAL:**

- A. Contractor shall submit to the District for review two (2) copies of preliminary draft or proposed formats and outlines of the contents of the Manual within thirty (30) days of Contractor's start of Work.
- B. For equipment, or component parts of equipment put into service during construction and to be operated by District, Contractor shall submit draft content for that portion of the Manual within ten (10) days after acceptance of that equipment or component.
- C. Contractor shall submit two (2) copies of a complete Manual in final form prior to final Application for Payment. Copy will be returned with Architect/Engineer and Construction Manager comments. Contractor must revise the content of the Manual, as required by District prior to District's approval of Contractor's final Application for Payment.
- D. Contractor must submit two (2) printed copies and one (1) digital copy (thumb drive, pdf format, bookmarked) of revised Manual in final form within ten (10) days after final inspection.

**PART 2 – PRODUCTS** Not Used.

**PART 3 – EXECUTION** Not Used.

END OF DOCUMENT

DOCUMENT 01 78 36

**WARRANTIES**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Warranty/Guarantee Information;
- B. Special Conditions.

**1.02 FORMAT**

- A. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size. If multiple binders are used, the full Table of Contents for all binders shall be included in each binder.
- B. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list title of Project.
- C. Table of Contents: Contractor shall provide title of Project; name, address, and telephone number of Contractor and equipment supplier; and name of responsible principal. Contractor shall identify each item with the number and title of the specific Specification, document, provision, or section in which the name of the product or work item is specified.
- D. Subcontractor Directory: Contractor shall provide a Subcontractor Directory, with contact person, email address, phone, mailing address, and schedule of products and systems; indexed to Table of Contents which is to be organized by CSI divisions.
- E. List of Warranties: Contractor shall provide a list of warrantees and guarantees, each with start date and duration, organized by CSI divisions, then alphabetically within each division.
- F. Contractor shall separate each warranty with index tab sheets keyed to the Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible Subcontractor(s), supplier(s), and/or manufacturer(s), with name, address, and telephone number of each responsible principal(s).

**1.03 PREPARATION:**

- A. Contractor shall obtain warranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within

ten (10) days after completion of the applicable item or work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty blank until the date of completion is determined.

- B. Contractor shall verify that documents are in proper form, contain full information, and are notarized, when required.
- C. Contractor shall co-execute submittals when required.
- D. Contractor shall retain warranties until time specified for submittal.

**1.04 TIME OF SUBMITTALS:**

- A. For equipment or component parts of equipment put into service during construction with District's permission, Contractor shall submit a draft warranty for that equipment or component within ten (10) days after acceptance of that equipment or component.
- B. Contractor shall submit two (2) copies of a complete Manual in final form prior to final Application for Payment. Copy will be returned with Architect/Engineer and Construction Manager comments. Contractor must revise the content of the Manual, as required by District prior to District's approval of Contractor's final Application for Payment.
- C. Contractor must submit two (2) printed copies and one (1) digital copy (thumb drive, pdf format, bookmarked) of revised Manual in final form within ten (10) days after final inspection.
- D. For items of work delayed beyond date of completion, Contractor shall provide an updated submittal within ten (10) days after acceptance, listing the date of acceptance as start of warranty period.

**PART 2 - PRODUCTS** Not Used.

**PART 3 – EXECUTION** Not Used.

END OF DOCUMENT

DOCUMENT 01 78 39

**RECORD DOCUMENTS**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS AND PROVISIONS:**

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Documents on Work;
- B. Special Conditions.

**PART 2 - RECORD DRAWINGS**

**2.01 GENERAL:**

- A. As indicated in the Contract Documents, the District will provide the Contractor with one set, in PDF format, of the original contract drawings.
- B. Contractor shall maintain at each Project Site one set of marked-up plans and shall transfer all changes and information to those marked-up plans, as often as required in the Contract Documents, but in no case less than once each month. Contractor shall submit to the Project Inspector one set of Project Record Drawings ("As-Builts") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Builts shall be available at the Project Site. The Contractor shall submit a pdf digital set and CADD files if utilized, of As-Built Record Drawings at the conclusion of the Project following review by the Project Inspector and Architect of Record.
- C. Label and date each Record Drawing "RECORD DOCUMENT" in legibly printed letters.
- D. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused by without limitation Change Orders, Construction Claim Directives, RFI's, and Addenda, shall be accurately and legibly recorded by Contractor.
- E. Locations and changes shall be done by Contractor in a neat and legible manner and, where applicable, indicated by drawing a "cloud" around the changed or additional information.

**2.02 RECORD DRAWING INFORMATION:**

- A. Contractor shall record the following information:
  - (1) Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.



- (2) Actual numbering of each electrical circuit to match panel schedule.
- (3) Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Contract Drawings.
- (4) Locations of all items, not necessarily concealed, which vary from the Contract Documents.
- (5) Installed location of all cathodic protection anodes.
- (6) Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.
- (7) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stubouts, invert elevations, etc.
- (8) Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.

In some instances, this information may be recorded by dimension. In other instances, it may be recorded in relation to the spaces in the building near which it was installed.

- B. Contractor shall provide additional drawings as necessary for clarification.
- C. Contractor shall provide digital record drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."
- D. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide electronic copies of the drawings (in PDF format) with one file with all of the sheets and one set of individual sheet files at the conclusion of the Project.

### **PART 3 - RECORD SPECIFICATIONS**

#### **3.01 GENERAL:**

- A. Contractor shall mark each section legibly to record manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.
- B. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide one electronic copy of the specifications (in PDF format) at the conclusion of the Project.

**PART 4 - MAINTENANCE OF RECORD DOCUMENTS**

**4.01 GENERAL**

- A. Contractor shall store Record Documents apart from documents used for construction as follows:
  - (1) Provide files and racks for storage of Record Documents.
  - (2) Maintain Record Documents in a clean, dry, legible condition and in good order.
- B. Contractor shall not use Record Documents for construction purposes.

**PART 5 – PRODUCTS** Not Used.

END OF DOCUMENT



Document 02 07 20

**DEMOLITION**

**PART 1 - GENERAL**

**1.01 DEFINITION OF "NEW WORK":**

- A. It is the specific intent of these construction documents that all work shown, indicated or similarly noted in the construction documents shall be considered new unless specifically noted as "existing", "(E)", "existing to remain", or "NIC" (not in contract). New work is typically not designated within the drawings by the symbol "(N)", although it may appear in some specific locations to clarify the work description.

**1.02 DESCRIPTION**

- A. Furnish all materials, labor, equipment and services necessary and incidental to the completion of building and site demolition work as shown on the drawings and as specified herein.
- B. Demolition requirements are shown or implied throughout the construction documents. Provide all demolition work necessary to complete the Work shown in these construction documents, whether or not specific demolition requirements are indicated. Review all documents for a full and complete understanding of demolition, salvage/reuse, relocation and modification of systems or components.
- C. Demolition shall include careful disassembly and salvage of components in addition to general demolition.
- D. Provide removal and containment of asbestos- and lead-containing materials necessary to execute the Work.

**1.03 RELATED SECTIONS:**

- A. The requirements of Division 1 apply to the Work of this Section.
- B. Section 01010: Summary of Work

**1.04 QUALITY ASSURANCE**

- A. Obtain and pay for any bonds, licenses, state environmental authorization, etc., required for Building Demolition Work.
- B. Building demolition work shall be accomplished in strict accordance with all local and state building codes, requirements and regulations including but not limited to noise abatement, dust control, classification of disposal materials, etc.
- C. Demolition/salvage work shall be performed with minimum damage to existing work to remain.

- D. The utmost care shall be taken to maintain the safety of the public and continued operation of essential campus functions. Provide temporary barricades where required to protect students, faculty and property, while maintaining critical school operations such as intrusion alarms, fire alarms, heating, etc.

#### 1.05 JOB CONDITIONS

- A. Obtain from the District a set of original "as built drawings" for all components of the school and maintain on site at all times.
- B. An attempt has been made to show all existing structures, utilities, etc., in their approximate location on the survey and/or working drawings; however, others that are not shown may exist and may be found upon visiting the site or during the demolition work. Accurately locate and determine extent of existing site elements. Demolition contractor shall totally responsible for reviewing District as-built plans for the entire site and all structures prior to commencing any demolition work.
- C. Report existing elements not shown on the working drawings to the Architect of Record so that the proper dispensation of that element may be determined.

#### PART 2 – PRODUCTS

NOT USED

#### PART 3 - EXECUTION

##### 3.01 GENERAL

- A. Preparation:
  - 1. Provide, erect and maintain temporary barriers, chain link fences, and security devices as required. Protect all existing, structures, utilities and site elements which are not indicated to be demolished.
  - 2. Notify all affected utility companies and local authorities and agencies prior to beginning the work.
- B. Environmental Requirements
  - 1. Comply with all anti-pollution ordinances.
  - 2. Noise producing activities shall be held to a minimum. Internal combustion engines and compressors, etc., shall be equipped with mufflers to reduce noise to a minimum. Comply with all noise abatement ordinances. Work shall be restricted from 7:00 AM to 5:00 PM daily unless special permission is obtained from the district representative.
  - 3. Trucks leaving the site shall do so in such a manner that demolition debris will not be deposited on adjacent street pavements. This contractor shall promptly remove any demolition debris deposited on street pavements.
  - 4. Dust: Operations generating dust shall be controlled by use of wetting truck to prevent the release of dust into the atmosphere. Wetting

operations shall be continuous while all dust generating work is in progress. Keep all areas within the demolition area sufficiently dampened to prevent dust from rising due to demolition.

- C. Protection and Shoring:
1. Any damage done by this contractor to existing structures, utilities, data lines, pipe lines, etc. indicated to remain, shall be repaired by him and at his expense in a manner acceptable to the District of the damaged property. This contractor shall report any existing damage prior to the beginning of work.
  2. All temporary shoring, bracing, etc., and maintenance thereto required for the completion of demolition work shall be provided by the General Contractor.
  3. Ensure provision of adequate bracing, shoring, temporary cross over for pedestrian and vehicular traffic including guard rails, lamps, warning signs and flags as required by agencies having jurisdiction and as directed by the District. Remove same when necessity for protection ceases.
- D. Performance
1. Coordinate demolition work with the District to maintain critical campus functions.
  2. Critical Systems: Maintain existing critical systems within the school such as fire alarm, intrusion alarm, communication system and heating controls until such time as the new system is in place and the change over can be made without interruption to above systems.
  3. Maintain in operating condition active utilities encountered.
  4. Exercise extreme caution in removing any fixtures, ceiling material and utilities above and below grade to prevent damage to existing utilities which are to remain in service. Existing utilities which are in any way damaged shall be repaired at no additional cost to the District.
  5. All materials from building demolition will be considered "waste" and shall be removed from the site. Waste material shall be removed from the site daily and not allowed to accumulate.
    - a. No burning or burying of waste material will be permitted.
    - b. Do not use District dumpsters.
- E. Protect any existing and/or adjacent structures and appurtenances that are not to be demolished. Prevent movement or settlement. Provide bracing and shoring as required.
- F. Cease operations immediately if adjacent structures appear in danger. Notify IOR, District Representative and Architect of Record. Do not resume operations until directed.
- G. Continuously dampen structures and other demolition areas to prevent dust from rising during demolition or waste removal. Provide hoses and/or water trucks as required. Cover all trucks prior to them leaving the site as required by state and county requirements.
- J. Carefully remove and store on site any existing light fixtures removed. The contractor is to store for a minimum of 3 weeks in order for the School District

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

to salvage existing fixtures or parts they deem appropriate. The contractor shall dispose of the remainder of the fixtures.

END OF SECTION

DOCUMENT 02 41 00

**SITE DEMOLITION**

PART 1 – GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 015000, Construction Facilities and Temporary Controls.
- B. Section 015713, Erosion Control

1.03 REGULATORY REQUIREMENTS

- A. Conform to applicable jurisdictional authority regulations and codes for disposal of debris.
- B. Coordinate clearing Work with utility companies.
- C. Maintain emergency access ways at all times.
- D. Contractor shall comply with all applicable laws and ordinances regarding hazardous materials, including contaminated soils, hazardous material transformers, and similar materials or components.

1.04 SUBMITTALS:

- A. Schedule: Submit a detailed sequence of demolition and removal work, including dates for shutoff, capping, and continuance of utility services.
- B. Procedures: Submit written procedures documenting the proposed methods to be used to control dust and noise.

1.05 EXISTING CONDITIONS

- A. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.
- B. Conduct demolition to minimize interference with adjacent structures or items to remain. Maintain protected egress and access at all times.

1.06 PROTECTION

- A. Adequate protection measures shall be provided to protect workmen and



passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

- C. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.
- D. Safety Precautions Prevent damage to existing elements identified to remain or to be salvaged, and prevent injury to the public and workmen engaged on site. Demolish roofs, walls and other building elements in such manner that demolished materials fall within foundation lines of building. Do not allow demolition debris to accumulate on site. Pull down hazardous work at end of each day; do not leave standing or hanging overnight, or over weekends.
- E. Protect existing items which are not indicated to be altered.
  - 1. Protect utilities designated to remain from damage.
  - 2. Protect trees, plant growth, and features designated to remain as final landscaping as shown on drawings.
  - 3. Protect bench marks from damage or displacement.
- F. Trees: Carefully protect existing trees that are to remain. Provide temporary irrigation as necessary to maintain health of trees.
- G. Fire Safety: The contractor shall conform to chapter 33 of the California Fire Code (CFC), "Fire Safety During Construction and Demolition", at all times during the construction process. A copy of this chapter can be provided.
- H. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.
- I. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.
- J. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.
- K. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

## PART 2 - PRODUCTS

Not Used

**PART 3 – EXECUTION**

**3.01 EXAMINATION**

- A. Examine conditions of work in place before beginning work; report defects.
- B. Report existence of hazardous materials or unsafe structural conditions.

**3.02 PREPARATION**

- A. Scheduling:
  - 1. General: Coordinate and schedule demolition work as required by the Owner and as necessary to facilitate construction progress.
- B. Hazardous Materials:
  - 1. General: Identify chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations, and notify such jurisdictional agencies as may be required. Collect and legally dispose of such materials at official disposal locations away from the site.
  - 2. Asbestos: If asbestos or materials containing asbestos are encountered, stop work immediately and contact the Owner. Do not proceed with demolition until directed by Owner.
- C. Utility and Service Termination
  - 1. Locate and identify existing utility, service and irrigation system components affected by work of this contract. Review existing record drawings, conduct site investigations, contact Underground Service Alert and other qualified cable/pipe/line locator services, and implement all other means necessary to define the location of underground systems.
  - 2. Prior to beginning any demolition, properly disconnect all water, gas and electrical power supply at appropriate disconnect locations. Obtain all necessary releases and approvals from serving utility companies.
  - 3. Prior to demolition or disconnect, obtain Owners approval that such system does not impact facilities or systems beyond the extent of this contract.
  - 4. Mark location of disconnected systems. Identify and indicate stub-out locations on Project Record Documents.
- D. Verify that existing plant life and features designated to remain are tagged or identified.
  - 1. The Architect will mark the features, trees, and shrubs to remain within the construction area. Contractor shall not commence clearing and grubbing operations until authorized by the Owner and all protective measures are in place.
- E. Coordinate the time and duration of all system disconnects with Owner.

### 3.03 DEMOLITION

- A. General Requirements
  - 1. Clear areas required for access to site and execution of Work, including pavements, structures, foundations, vegetation, trash and debris.
  - 2. Coordinate with Owner the time of day and route to remove demolished materials from premises.
  - 3. Remove demolished materials from site as work progresses. Upon completion of work, leave areas of work in clean condition.
  - 4. Remove all buried debris, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
  - 5. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with specified fill material.
  
- B. Fixture and Equipment Removal:
  - 1. Remove existing fixtures and equipment as identified and shown on drawings and required by Architect.
  - 2. Verify all service connections to fixtures and equipment designated for removal have been properly disconnected.
  - 3. Remove all conductors from conduit at all abandoned circuits.

### 3.04 UTILITY AND BUILDING SERVICES REMOVAL AND RE-INSTALLATION

- A. Where crossing paths and potential points of interference with existing utility services are shown or can be reasonably inferred from surface conditions or evidence of subsurface systems, such as meter boxes, vaults, relief vents, cleanouts and similar components.
  - 1. Review all contract documents showing crossing paths and potential points of interference.
  - 2. Pot-hole or determine by other means the accurate depth and location of such utilities.
  - 3. Incorporate all costs required to complete work under this contract, including additional trenching, re-routing of existing and new utilities, and all means necessary to construct work under this contract.
  - 4. No additional cost to the Owner will be allowed for work necessary to accommodate utility conflicts where such crossing paths are shown on contract drawings or can be reasonably inferred from surface conditions or components.
  
- B. Remove all conductors from conduit at all abandoned electrical circuits.
  
- C. Seal off ends of all piping, drains and other components as directed by Architect and serving utility.
  
- D. Where necessary to maintain service to existing utility and building systems, relocate or redirect all conduit and conductors, piping, drains, and associated system components.
  - 1. Re-circuit all electrical as required.
  - 2. Re-circuit all landscape irrigation valving and control systems as required.

3. Temporarily terminate landscape system components in approved boxes or with approved caps, suitable for re-connection or extension.
  4. Extend or otherwise modify all site drainage systems, including catch basins, drain inlets and piping. Fine grade to maintain proper drainage flow pattern to drains.
- E. Demolish structure in an orderly and careful manner.
1. Use of explosives prohibited.

### 3.05 SITE PAVEMENT REMOVAL

- A. Remove sidewalk and curb where required for new construction as specified and as indicated on the Drawings.
1. Remove all paving by saw-cutting.
  2. Remove concrete paving and curbing at locations shown on drawings. Locate closest adjacent expansion or weakened plane joint to define start of removal or saw-cutting.
- B. Remove asphalt concrete paving areas where required for new construction as specified and as indicated on the Drawings.
1. Remove all paving by saw-cutting.
  2. Remove paving assembly as required to expose subgrade.

### 3.06 LANDSCAPE AND IRRIGATION SYSTEMS DEMOLITION AND RENOVATION

- A. Clearing, grubbing, and planting demolition.
1. Remove grass and grass roots to a minimum depth of two inches below existing grade.
  2. Remove all shrubs, plants and other vegetation within the area of the work unless designated to remain. Grub and remove all roots of all vegetation to a depth of 24 inches below existing grade.
  3. Remove only those trees which are specifically designated for removal, or as shown on the drawings, within the construction area. Remove all stumps. Remove root ball and root systems larger than 1 inch in diameter to a depth of two feet below existing or finished grades, whichever is lower and a minimum of five feet beyond the edge of paving, structure, wall or walkway.
  4. Hand cut existing tree roots over 1 inch in diameter as necessary for trenching or other new construction, apply multiple coats of emulsified asphalt sealant especially made for horticultural use on cut or damaged plant tissues to cut faces and adjacent surfaces. Cover exposed roots with wet burlap to prevent roots from dying out until backfilling is complete.
  5. Disking and mixing of vegetation, trash, debris, and other deleterious materials with surface soils prior to grading is not permitted.
  6. Remove all buried debris, organic material, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
  7. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with fill material in compliance with Section 310000.

8. Selected equipment of such sizes and capacities that the existing environment is disturbed as little as possible, and to afford ease of mobility within limited and relatively confined work areas. Make every effort to preserve the topography in its natural state.
9. Keep drains, catch basins, surface drainage courses and related drainage system components clear of debris and construction materials.
10. Remove irrigation piping and appurtenances as necessary within area of work, unless noted otherwise to remain. Replace irrigation piping and appurtenances to irrigate new and/or existing landscaping. Contractor shall be responsible for temporary landscape irrigation until such time that irrigation system is restored and operational.

3.07 DISPOSAL

Demolished materials become property of the Contractor and shall be removed from premises, except those items specifically listed to be retained by Owner.

- A. Dispose of all demolished material, trash, debris, and other materials not used in the work in accordance with the regulations of jurisdictional authority.
- B. It is recommended all materials that are of a recyclable nature, be transported to a suitable legal recycling facility instead of a dump or refuse facility (unless they are one-in-the same).
- C. Burning and Burying of Materials: NOT ALLOWED.
- D. Haul Routes:
  1. Obtain permits as required by jurisdictional agencies. Establish haul routes in advance; post flagmen for the safety of the public and workmen.
  2. Keep streets free of mud, rubbish, etc.; assume responsibility for damage resulting from hauling operations; hold Owner free of liability in connection therewith.
- E. Remove demolished materials and debris from site on a daily basis.

3.08 CLEANING

- A. Upon completion of work of this Section promptly remove from the working area all scraps, debris.
- B. Clean excess material from surface of all remaining paved surfaces and utility structures.
- C. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION

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**ROUGH CARPENTRY**

PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Provisions of Division 01 apply to this section.

1.1.2 Section Includes:

1.1.2.1 Rough carpentry Work.

1.1.3 Related Sections:

1.1.3.1 Section 014523: Testing and Inspection.

1.1.3.2 Section 031000: Concrete Demolition.

1.1.3.3 Section 092100: Gypsum Board.

1.2 SYSTEM DESCRIPTION

1.2.1 Regulatory Requirements:

1.2.1.1 Work of this Section shall comply with CBC Chapter 23A.

1.3 QUALITY ASSURANCE

1.3.1 Comply with the following as a minimum requirement:

1.3.1.1 Redwood structural and framing lumber shall be graded in accordance with Standard Specifications for Grades of California Redwood Lumber of the Redwood Inspection Service.

1.3.1.2 Douglas fir, larch or hemlock structural and framing lumber shall be graded in accordance with the Standard Grading Rules of the West Coast Lumber Inspection Bureau (WCLIB) or the Western Lumber Grading Rules of the Western Wood Products Association (WWPA).

1.3.1.3 Plywood shall conform to requirements of Product Standard PS 1-95, and shall be grade marked by a recognized grading agency (APA and PTL).

1.3.2 Lumber shall bear official grade mark of the association under whose rules it was graded or official grade mark of another recognized grading agency.

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- 1.3.3 Structural and framing members 2 inches in thickness and larger shall be air-dried to moisture content not to exceed 19 percent before installation.
- 1.3.4 Each piece of preservative treated lumber shall be identified by the Quality Mark of an approved inspection agency in accordance with CBC Chapter 23A; refer to Section 014523: Testing and Inspection.
- 1.3.5 Lumber showing visible signs of mold growth:
  - 1.3.5.1 Any lumber showing visible signs of mold growth shall be removed from the project site or cleaned as outlined below.
  - 1.3.5.2 The contractor is responsible for all costs associated with cleaning, post-cleaning testing, and reporting for lumber with mold.
    - 1.3.5.2.1 Lumber that shows visible signs of mold growth prior to, or after installation, shall be cleaned pursuant to USEPA's guidance publication "Mold Remediation in Schools and Commercial Buildings dated March 2001 (EPA 402-K-01.001).
    - 1.3.5.2.2 A minimum of 10 percent of the total locations cleaned must be sampled (tape lift method) post cleaning to ensure cleaning effort was successful. Cleaning will be considered acceptable when tape lift sample results evaluated by direct microscopic examination determine that the general abundance of mold is non-detect or rare (normal trapping to 1+).
    - 1.3.5.2.3 A report prepared by a Certified Industrial Hygienist (CIH) that details the sampling and cleaning results shall be prepared and submitted to the SCUSD Project Manager for review and approval of the SCUSD Office of Environmental Health and Safety.
    - 1.3.5.2.4 Cleaned lumber shall not be installed or enclosed by finish materials until approval of test results. Cleaned lumber must meet moisture content requirements as required elsewhere in this specification prior to installation or application of finishes.

1.4 STORAGE, HANDLING AND PROTECTION

- 1.4.1 The materials supplied as part of the Work of this section shall be protected from exposure to inclement weather before being covered by other Work.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Lumber: Structural and framing lumber shall be of following species and grades:

	<b><u>INSTALLATION</u></b>	<b><u>SPECIES</u></b>	<b><u>GRADE</u></b>
1.	Subfloor, wall sheathing, roof sheathing and ceiling furring	Douglas fir and larch	Construction Board, WCLIB; WWPA
2.	Posts, (5" x 5" and larger, width not more than 2" greater than	Douglas fir and larch	No. 1 Structural Posts and Timbers, WCLIB. thickness).  No. 1 Post and Timbers, WWPA.
3.	Beams, girders and truss members (5" and thicker, rectangular, width more than 2" greater than thickness) where exposed as finish members.	Douglas fir and larch	Select Structural Beams and Stringers, WCLIB; WWPA.
4.	Items in subparagraph 3 when concealed. Stringers, WCLIB No. 1 Beams and Stringers,	Douglas fir and larch WWPA.	No. 1 Structural Beams and
5.	Joists, rafters, lintels, posts, mullions and members (2" to 4" thick, 2 to 4 wide)	Douglas fir and larch	Select Structural; Structural Light Framing, WCLIB;
6.	Other lumber (2 to 4 thick, 2" to 4" wide) not specified WWPA in subparagraph 5 above.	Douglas fir and larch	Construction Light Framing WCLIB;
7.	Framing lumber (2" to 4" thick, 5" and wider).	Douglas fir and Larch	No. 1 Structural Joists and Planks, WCLIB; WWPA.



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- |     |   |                                     |                                      |
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| 8.  | Mudsills and plates in contact with earth.  | Douglas fir<br>and Larch<br>treated | Same as<br>subparagraphs<br>6 and 7. |
| 9.  | Sills or plates installed on concrete or masonry surfaces 6" or less above earth or finish grade.   | Douglas fir<br>and Larch<br>treated | Same as<br>subparagraphs<br>6 and 7. |
| 10. | Sills, foundation plates & sleepers installed on concrete, masonry foundations, or installed on concrete slab in direct contact with earth. | Douglas fir<br>and Larch<br>treated | Same as<br>subparagraphs<br>6 and 7. |
| 11. | Miscellaneous nailing strips and blocks embedded in concrete or masonry.  | Douglas fir<br>and Larch<br>treated | Same as<br>subparagraphs<br>6 and 7. |
- 2.1.2 Plywood: Plywood furnished for structural purposes, when exposed outdoors, shall be exterior type plywood. Other plywood furnished for structural purposes shall be exterior type, or Exposure 1.
- 2.1.3 OSB Board or Panels:
- 2.1.3.1 Oriented strand board or panels shall not be furnished as part of the Work of this section.
- 2.1.4 Preservative Treated Wood:
- 2.1.4.1 Wood and plywood specified; as treated wood shall be pressure treated wood in accordance with CBC requirements.
- 2.1.4.2 Seasoning: Treated lumber shall be air seasoned after treatment, for a minimum of two (2) weeks before installation. Moisture content shall be 15 percent maximum.
- 2.1.4.3 Creosote or arsenic is not permitted for treating wood.
- 2.1.4.4 When treated wood member have been notched, dapped, drilled, or cut, such newly cut surfaces shall be painted with a heavy coat of the same preservative material originally provided for treatment of wood member.
- 2.1.5 Fire Retardant Protection: Wood and plywood specified as fire retardant protected wood shall be treated by approved methods and materials and

shall be dried following treatment to a maximum moisture content as follows:

- 2.1.5.1 Solid sawn lumber 2 inches in thickness or less: 19 percent.
- 2.1.5.2 Plywood: 15 percent.
- 2.1.6 Plywood Subflooring: Underlayment, Group 1, Exposure 1; of thickness indicated.
- 2.1.7 Mineral Fiber Panels: Asbestos-free, thickness as indicated.
- 2.1.8 Adhesive: Tec, Inc. Sturdi-Bond TA-175, or Top Industrial Inc., Rainbuster 345, elastomeric adhesive conforming to ASTM D 3498 and APA-AFG-01.

### PART 3 - EXECUTION

#### 3.1 FASTENINGS

##### 3.1.1 Nails and Spikes:

- 3.1.1.1 Furnish only common wire nails or spikes whenever indicated, specified or required.
- 3.1.1.2 Whenever necessary to prevent splitting, holes shall be pre-drilled for nails and spikes.
- 3.1.1.3 Nails in plywood shall not be overdriven.
- 3.1.1.4 Machine Applied Nailing: Use of machine nailing is subject to a satisfactory Project site demonstration for each Project and approval by the Architect or structural engineer retained by the Architect as an Architect Consultant and DSA. Installation is subject to continued satisfactory performance. Machine nailing is not permitted for 5/16 inch plywood. Do not permit nail heads to penetrate outer ply. Maintain minimum allowable edge distances when installing nails.

##### 3.1.2 Lag Screws:

- 3.1.2.1 When installing lag screws in a wood member, pre-drill hole as required by the CBC.
- 3.1.2.2 Lag screws, which bear on wood, shall be fitted with standard steel plate washers under head. Lag screws shall be screwed and not driven into place.

3.1.3 Bolts:

3.1.3.1 Lumber and timber to be fastened together with bolts shall be clamped together with holes for bolts bored true to line.

3.1.3.2 Bolts shall be fitted with steel plates or standard cut washers under heads and nuts. Bolts shall be tightened when installed and again before completion of the Work of this section.

3.1.4 Wood Screws: When installing wood screws, pre-drill holes as required by the CBC.

3.1.5 Metal Framing Devices: Framing anchors, joist hangers, ties, and other mechanical fastenings shall be galvanized or furnished with a rust inhibitive coating. Nails and fastenings shall be of the type recommended by manufacturer.

3.1.6 Powder Driven Fasteners:

3.1.6.1 Loads shall not exceed 75 pounds unless indicated on the Drawings or when reviewed by the Architect.

3.1.6.2 The operator, tool, and fastener shall perform the following as observed by the IOR.

3.1.6.2.1 Observe installation of first 10 fasteners.

3.1.6.2.2 Test the first 10 fasteners by performing a pullout test. Load shall be at least twice the design load, or 150 pounds, whichever is greater.

3.1.6.2.3 Random testing:

3.1.6.2.3.1 Load less than 75 lb. - approximately 1 in 10 pins.

3.1.6.2.3.2 Load 75 lb. or greater - 1/2 of the pins.

3.1.6.3 Failure of any test will result in testing of all installed pins.

3.1.6.4 Nail heads shall not break the outer skin of sheathing.

3.1.6.5 Non-compliant pins shall be replaced.

3.2 INSTALLATION

3.2.1 Stud Walls, Partitions and Furring:

- 3.2.1.1 Wood stud walls, partitions and vertical furring shall be constructed of members of size and spacing indicated. Provide single treated plate at bottom and double plate at top unless otherwise indicated. Interior, nonbearing non-shear partitions may be framed with a single top plate, installed to provide overlapping at corners and at intersections with other wall and partitions or by metal ties as detailed.
- 3.2.1.2 Walls and partitions shall be provided with horizontal staggered blocking at least 2 inch nominal thickness and same width as studs, fitted snugly, and nailed into studs. Blocking shall be installed at mid-height of partition or not more than 7 feet on center vertically. Install wood backing on top of top plate wherever necessary for nailing of lath or gypsum board.
- 3.2.1.3 Walls, partitions and furred spaces shall be provided with 2 inch nominal thickness wood firestops, same width as space to be firestopped, at ceiling line, mid-height of partition and at floor line. Firestops at floor line are not required when floor is concrete. If width of opening is such that more than one piece of lumber is necessary, provide two (2) thicknesses of 1 inch nominal material installed with staggered joints.
- 3.2.1.4 Firestops shall be installed in stud walls and partitions, including furred spaces, so the maximum dimension of any concealed space is not over 10 feet.
- 3.2.1.5 Corners, and where wood stud walls and wood vertical furring meet, shall be constructed of triple studs. Openings in stud walls and partitions shall be provided with headers as indicated and a minimum of two (2) studs at jambs, one (1) stud of which may be cut to support header in bearing.
- 3.2.1.6 Where wood and masonry or concrete walls intersect, end stud shall be fastened at top, bottom and mid-height with one (1) 1/2 inch diameter bolt through stud and embedded in masonry or concrete a minimum of 4 inches. Bolts shall be provided with washers under nuts.
- 3.2.1.7 Sills under bearing, exterior or shear walls shall be bolted to concrete with 5/8 inch diameter by 12 inch long bolts with nuts and washers, spaced not more than 4 feet on center unless noted otherwise. There shall be a bolt within 9 inches of each end of each piece of sill plate. Sills shall be installed and leveled with shims, washers, with nuts tightened to level bearing. Space between sill and concrete shall be dry packed with cement grout.

3.2.2 Floor Joists, Roof and Ceiling Framing:

3.2.2.1 Wood joists shall be of the size and spacing indicated, installed with crown edge up, and shall have at least 4 inch bearing at supports. Provide 2 inch solid blocking, cut in between joists, same depth as joists, at ends and bearings, unless otherwise indicated.

3.2.2.2 Floor joists of more than 4 inches in depth and roof joists of more than 8 inches in depth shall be provided with bridging. Floor joists shall be bridged every 8 feet with solid blocking or metal cross bridging. Roof joists shall be bridged every 10 feet.

3.2.2.3 Joists under and parallel to bearing partitions shall be doubled and nailed or bolted together as detailed. Whenever a partition containing piping runs parallel to floor joists, joists underneath shall be doubled and spaced to permit passage of pipes and blocked with solid blocking spaced at not more than 4 feet intervals.

3.2.2.4 Trimmer and header joists shall be doubled, when span of header exceeds 4 feet. Ends of header joists more than 6 feet long shall be supported by framing anchors or joist hangers unless bearing on a beam, partition, or wall. Tail joists over 12 feet long shall be supported at header by framing anchors or on ledger strips at least 2 by 4.

3.2.2.5 Provide solid blocking between rafters and ceiling joists over partitions and at end supports where indicated.

### 3.2.3 Beams, Girders and Joists:

3.2.3.1 Ends of wood beams, girders and joists which are 2 feet or less above finished outside grade and which abut, but do not enter concrete or masonry walls, as well as wood blocking used in connection with ends of those members shall be treated with wood preservative.

3.2.3.2 Where wood beams, girders and joists enter masonry or concrete walls 2 feet or less above outside wall, metal wall boxes or equivalent moisture barriers shall be provided between wood and masonry or concrete.

### 3.2.4 Subflooring:

3.2.4.1 Floor sheathing: Plywood of thickness and nailing indicated. Install with the face grain across supports, end joints staggered and centered over supports. Provide solid blocking under plywood edges where indicated. In addition to nailing, sheets of plywood flooring shall be secured in place with elastomeric adhesive, installed at beams, joints, perimeter supports and panel edges.

3.2.5 Roof and Wall Sheathing:

3.2.5.1 Plywood roof sheathing shall be Structural I, Grade C-D, Exposure 1, thickness as indicated.

3.2.5.2 Where exposed roof sheathing is indicated, area shall be sheathed solid with dressed and center matched, V-jointed boards of sizes indicated. Boards shall be installed perpendicular to supports.

3.2.5.3 Soffits of overhanging eaves, where indicated, shall be boxed-in using Group I, Exterior Type, Grade A-C, plywood, thickness as indicated.

3.2.5.4 Plywood for shear walls shall be Structural I, Grade C-D Exterior Type, thickness as indicated. Install with the long dimension parallel or perpendicular to the supports. Blocking shall be provided behind edges not located over supports. Shear wall construction, nailing, and top and bottom anchorage shall be as indicated.

3.2.5.5 Provide and install metal H-clips of required size, midway between rafters at unsupported edge joints of plywood roof sheathing where rafters are spaced at 24 inches on center. Clips shall be Plyclips, by Timber Fasteners Inc., or Panel Clips by Simpson Co., or equal.

3.2.6 Attic Space Partitions and Attic Walkways:

3.2.6.1 Attic space partitions shall be constructed of 2 by 4 wood members spaced at 2 feet on center maximum with 5/8-inch gypsum board.

3.2.6.2 Doors in attic space partitions shall be self-closing, of the same sheathing material as partition, constructed with two (2) battens and a diagonal brace across back.

3.2.6.3 Shear walls passing through attic space shall be sheathed with 5/8 inch gypsum board on each side.

3.2.6.4 Attic walkways shall be constructed of 2 by 12 planks installed 1 -inch apart and nailed at each support with three (3) 16d. nails.

3.2.7 Furring:

3.2.7.1 Rafters or ceiling joists indicated to be furred for support of materials other than acoustical tile shall be furred with 2 by 4 wood members installed at right angles to supports, spaced as indicated and nailed in place. Furring shall be aligned, and

bottoms shall be leveled by installing wood shims as required, and nailed as indicated.

3.2.7.2 Furring for protective wall padding in gymnasium shall be 1 by 3 Douglas fir, Construction Boards, S1S1E; applied horizontally to concrete walls at top and bottom of padding panels; and at uniform intermediate spacing not more than 18 inches on center. Stripping shall be shimmed where required, aligned to a true plane, and secured to concrete walls with concrete nails at not more than 18 inches on center.

3.2.8 Furring: Where metal furring is not indicated or specified, provide wood furring at points indicated and required for concealing conduit, piping, structural framing or other unfinished materials. Wood furring shall be 2x studs of required width. Vertical members contacting concrete or masonry shall be attached as specified for anchoring interior wood stud partitions.

3.2.9 Grounds:

3.2.9.1 Provide and set wood grounds at points where wood trim occurs and work is to be plastered. Grounds at 3/4 inch metal lath shall be 5/8 inch thick, net, 1-1/2 inches wide Douglas fir, S1S. Grounds shall be doubled where trim member exceeds 5 inches width, or wherever indicated. Grounds shall be applied after lath has been installed set plumb, level and true to line.

3.2.9.2 Apply grounds over wood framed surfaces and lath and securely nail to wood backing at each stud or bearing. Grounds applied over steel channel studs and lath shall be securely nailed at each stud or bearing to nail-blocks provided and installed in metal studs.

3.2.9.3 Grounds applied to concrete surfaces shall be securely nailed to woodblocks provided and built into concrete.

3.2.10 Nailing Strips and Plates:

3.2.10.1 Provide wood nailing strips, plates and blocking indicated or required. Nailing strips in connection with metal work shall be bolted to metal. Wood nailing blocks for securing grounds shall be built into concrete, or masonry.

3.2.10.2 Nailing schedule shall comply with CBC requirements.

3.2.10.3 Treated wood nailing strips for lightweight insulated concrete roof decks at eaves, ridges, rakes, base of curbs and wherever else indicated, shall be provided and installed. Strips shall be treated Douglas fir, 4 inches (nominal) width by thickness of insulated concrete.

- 3.2.11 Wood Backing: Provide wood backing as indicated and as required to receive plumbing, electrical fixtures and equipment, cabinets, door stop plates and other fixed equipment.
- 3.2.12 Wood Bucks: Furnish and set wood bucks to form openings for doors and other openings in concrete or masonry walls and in steel stud or channel partitions and furring. Bucks shall be Douglas fir, S1S2E, 2 inches (nominal) thickness and of width indicated or required. Bucks in connection with concrete shall be bolted thereto, and bucks in masonry walls shall be attached by means of strap anchors embedded in masonry joints. Bucks in connection with steel studs and metal channels shall be secured with nails or screws spaced not to exceed 24 inches on centers.
- 3.2.13 Bench Tops and Backs: Tops and backs shall be 3/4 inch thick asbestos free board, fabricated to minimize number of joints. Edges shall be neatly cut, smoothly finished and joints accurately fitted and butted. Tops and backs shall be secured with countersunk flathead galvanized wood screws. At bench with steel pan, apply with manufacturer's recommended adhesive. Cut and drill as required for Work to be attached to benches.

### 3.3 CLEAN UP

- 3.3.1 Remove rubbish, debris and waste materials and legally dispose of off the Project site.

### 3.4 PROTECTION

- 3.4.1 Protect the Work of this section until Substantial Completion.

END OF SECTION





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**CASEWORK**

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: All applicable portions of Division 1, including the Drawings and General Provisions of the Contract, the General and Supplementary Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications and installation of casework, and accessory items as shown on Drawings and necessary to complete the Work.
  - 1. Provide and install all special plastic laminated and wood cabinets, casework, and fixtures shown. Cabinets to include countertops over base cabinets.
  - 2. Install plastic laminated countertops and back splashes on casework as shown on drawings.
  - 3. Install flush type "A" WI doors at all casework locations.
  - 4. Provide and install specific layout of casework as shown on the plans and specified elsewhere in these specifications.
  - 5. Preparation for installation of utilities.
  - 6. Casework grade to be Custom WI unless specified otherwise.
  - 7. Provide all required cabinet hardware.
- C. Related Sections:
  - 1. Section 09 90 00: Painting
  - 2. Division 15: Plumbing
  - 3. Division 16: Electrical

1.02 QUALITY ASSURANCE

- A. Certificates - One for the Architect, Contractor and the Owner:

1. Submit three (3) copies of the following:
  - a) Before delivery to the jobsite, the modular cabinetwork supplier shall issue a WI CERTIFIED COMPLIANCE CERTIFICATE indicating the modular cabinetwork products and/or fabrication of products to be furnished for this project shall meet fully all the requirements of the grade or grades specified.
  - b) Upon completion of installation, a WI CERTIFIED COMPLIANCE CERTIFICATE shall be furnished for the installation.
  
- B. Manufacturer/Supplier Qualifications:
  1. Firm(s) experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the work.
  
  2. Participation in Woodwork Institute Quality Assurance Program:
    - a. If supplier is WI Member Licensee in good standing:
      - 1) Comply with WI CERTIFIED COMPLIANCE PROGRAM (CCP).
      - 2) Provide WI Director to inspect installation on-site.
    - b. If supplier is not WI Member Licensee in good standing:
      - 1) Comply with WI MONITORED COMPLIANCE PROGRAM (MCP).
  
- C. References and Standards:
  1. American National Standards Institute (ANSI) / BHMA A156.9 Hardware.
  2. American Society for Testing and Materials (ASTM).
  3. National Electrical Manufacturers' Association (NEMALD3), "High-Pressure Decorative Laminates".
  4. Product Standard PS-20 American Softwood Lumber standard.
  5. U.S. Commercial Standard, "Mat-Formed Wood Particle-board" (CS-216).
  6. Woodwork Institute (WI-MM), "Manual of Millwork", latest Edition, including all published Bulletins and Supplements issued since publishing of the latest Edition.
  
- D. Fabricator and Installer Qualifications: For the fabrication and installation of casework, use only personnel who are trained and experienced in the products involved and in the recommended methods for their fabrication and installation, equal to standards specified.
  
- E. Installation Acceptance: All rejected work shall be removed and replaced by the contractor with no additional cost to the District.

### 1.03 DEFINITIONS

- A. Exposed Portions of cabinets shall include all surfaces visible when drawers are closed. All 6 faces of cabinet doors shall be considered Exposed for this project. The underside of bottoms of cabinets over 2'-0" above the floor shall be considered exposed. All visible edges or surfaces of shelves and divisions in open cabinets or behind glass shall be considered exposed. The visible surfaces of web frames, bottoms, ends, divisions, tops and hanging stiles shall be considered as exposed. Sloping tops of cabinets that are visible shall be considered as exposed. Library book shelving units shall be fully exposed. Entire unit with all faces of case, shelves, edges, etc. shall be considered exposed and will be plastic laminate finishes.
- B. Semi-Exposed Portions of cabinets shall include shelves, divisions, drawer sides, backs and bottoms, and other similar members not directly visible from the front of the casework or hidden behind solid closed doors. Flat tops of cabinets 8'-0" above the floor shall be considered as semi-exposed. The underside of bottoms of cabinets less than 2'-0" from the floor shall be considered as semi-exposed.

1.04 SUBMITTALS (Submit under provision of Section 01 30 00)

- A. Shop Drawings: Drawings shall show each of the items to be provided under this Section including; materials, profiles and elevations, assembly methods, fastening methods, accessory listings, hardware types and locations, schedule of finishes, completely detailing joinery, including approved anchorage.
  - 1. The casework fabricator shall take and be responsible for all field measurements required for the proper fabrication and installation of the Work. Show all field dimensions beyond control of the mill.
    - a. Report any major discrepancy between the Drawings and field dimensions to Architect before fabrication of the work.
  - 2. Indicate conditions for all casework, identified with location, quality grade, type of finish and core materials.
  - 3. Show casework in related and dimensional position with sections either full size or three inches equal one foot (3"=1').
  - 4. Coordinate dimensions and installation requirements of equipment or items indicated to be built into the casework.
  - 5. Indicate casework hardware proposed for use.
  - 6. Shop drawings must have a label on the first page.
- B. Certification:
  - 1. Submit WI certified compliance certification covering all work of this Section prior to delivery of any materials to the job site.
  - 2. Each unit of casework shall bear WI certified compliance grade stamp indicating grade specified, and at completion of the job WI certified compliance certificates shall have been issued by a WI Affiliate - licensee

certifying that all millwork furnished under this Section of the specifications fully meets the requirements for the grade specified. WI certification shall meet compliance with the most rigorous requirements of all current published WI Manuals. (NAAWS)North American Architectural Woodwork Standards.

A. Samples:

1. Plastic Laminated Casework: Submit two 6" x 12" size samples for color selection, joint samples at corners, butt joints, interior corner joints, edge laminated conditions, etc. of cabinets.
2. Other Samples: Submit two 6" x 12" samples of Plastic laminated countertop and back splash. Submit 2 sets of samples of all hardware to be used and color selections possible.
3. Provide plastic laminated samples of all colors selected.

B. Product Information:

1. Casework Hardware: Pulls, full extension drawer guides and slides, standards, brackets, seismic clips, tracks, casters, rods and followers, pulls and knobs, glass, mirror, trim, moldings, easel trays, hinges, silencers, etc.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver casework items to job site only after proper facilities are available for handling, storing, and protecting items; receiving areas are broom cleaned; exterior openings are closed up; wet work and mechanical and electrical rough-ins are completed.

B. Storage and Handling:

1. Provide all work and materials as necessary to store, cover and protect the materials specified to be installed under this Section.
2. Store materials inside, covered and dry.
3. Avoid marring and keep materials clean during all handling and installation operations.
4. Any work damaged through neglect or failure to provide protection shall be made good by the Contractor, without additional cost to the District.

1.06 JOB CONDITIONS

A. Environmental Requirements:

1. Provide proper heat and humidity in area of storage and installation to maintain equilibrium moisture content in work until installation is

completed. Relative humidity shall range from 50 percent to 65 percent at 70 degrees F.

- B. Sequencing and Coordination: Provide information and coordinate details with other work as required for proper placement of backing.
- C. Protection: Protect installation of casework from damage of any type until the District's final acceptance.
  - 1. Any work damaged through neglect or failure to provide protection shall be made good by the Contractor, with no additional cost to the District.

## PART 2 – PRODUCTS

### 2.01 MATERIALS AND CONSTRUCTION GRADE

- A. Materials and Construction Grades:
  - 1. All Casework with plastic laminate finish: WI Custom grade, unless specified, including all supplements, unless specified or indicated otherwise.
  - 2. Lumber and plywood shall be kiln-dried to equilibrium moisture content suitable for fabrication in shop and suitable for use intended. Softwoods to conform to PS-20. Species to be Douglas Fir.
  - 3. Semi-exposed and other components shall be as permitted by WI standards NAAWS for the construction quality specified herein except as otherwise detailed or specified below.
- B. Plastic Laminate Facing and Backing Sheets: Conform to NEMA LD-3-80, Class "A". Plastic laminate facing shall be matte finished laminate of colors as selected, as manufactured by Nevamar and Formica.
  - 1. Countertops and splashes shall be faced with general purpose type laminated decorative sheets, a minimum of .050 inch in thickness or .042 post forming grade if required.
  - 2. Doors: Plastic Laminated doors shall be WI style A, frameless doors. Plastic Laminate to be mounted over veneer core on all 6 faces. Inside of door and all edges to be considered to be exposed. Offset hinge shall be utilized to achieve the flush look. All doors to be provided with wire pulls and locks unless noted otherwise.
  - 3. Exposed casework other than countertops, splashes and shelves shall be faced with decorative high pressure plastic laminate sheets, a minimum .050 in thickness.
  - 4. Backing sheet and cabinet liner where permitted at semi-exposed or concealed locations shall be a minimum of .020 inch in thickness.
  - 5. Edge lamination bands shall be a minimum of .050 inch in thickness.

6. Cabinet liner shall be a minimum of .028 inch in thickness.
7. Type K-51, Smoke Density 95-120, Flame Spread 25.
8. Shelving shall comply with WI, Section 10 –minimum 50 pounds / S.F. for shelving units. Shelves shall be veneer/engineered core with plastic laminate Cabinet liner finishes of minimum 1" thickness and maximum unsupported span not to exceed 36". Spans of 36" shall be provided with one back support at mid span along the back wall of the casework. Any spans over 36" shall be type 1800 Plastic Lam. Veneer/Engineer Core Plywood with Cabinet Liner Grade HPL on two sides and a minimum nominal thickness if 1". All shelves shall be supported at mid span on the back edge to prevent creep type deflection.
9. Adjustable shelves shall be supported by KV 233 recessed steel standards at all locations. KV standards shall be provided two on each end of shelf and one at the back mid span of the shelving units to prevent mid span sag deflection.
10. Colors:
  - a. Staff Break Room:
    1. Countertop: See Finish Schedule sheet F1
    2. Upper/Lower Casework: See Finish Schedule Sheet F1
  - b. Reception Area:
    1. Countertop: See Finish Schedule sheet F1
    2. Upper/Lower Casework: See Finish Schedule Sheet F1
  - c. Reception Staff Room:
    1. Countertop: See Finish Schedule sheet F1
1. Flat Surface Core: veneer core, or other closed-grained hardwood plywood with "sound" grade for veneers, and the cross band under the face veneer shall be "C" grade or better. Minimum thickness shall be 1 inch net dimension at horizontal and 3/4" net at vertical surfaces.
2. Lumber (solid stock): Gum, Birch, or Sugar Pine.
3. Cove (3/4 inch radius): Mold with no voids permitted between the plastic laminate and the sticks. Sticks shall be the same thickness as the core material and no voids permitted at any joint.
  3. Fasteners:
    1. Typical Unfinished Bolts, Lag Bolts (Lag Screws), Nuts, and Washers: Low carbon steel standard fasteners, externally and internally threaded, ASTM A307, malleable washers.

2. Nails: Common wire, typical.
  4. Miscellaneous/Casework Items:
    1. Sealant at Countertop/Wall Joint: Dow-Corning, General Electric, or approved equal; color to match countertops.
      5. Ends of all backsplashes shall be closed, and the spaces between partitions and splashes at junctions shall be sealed with sealant.

## 2.02 FABRICATION – GENERAL

### A. General:

1. All casework shall be style and type as indicated and specified herein.
2. Fabricate miscellaneous items in accordance with WI Custom grade specifications unless otherwise noted.
3. Shop fabricate and assemble work in complete units insofar as dimensions permit for shipment and installation.
4. Provide space at rear of casework where required for mechanical and electrical fittings.
5. Provide cut-outs as indicated and/or as required for sinks, mechanical and electrical item installation. Must seal all cut outs with a water product.
6. Provide for concealed anchorage of tops and splashes.
  - a. Perform corrective measures necessitated by non-conformance with WI standards.
7. Moisture content for all finish casework shall be between 6% and 12%.
8. Scribing allowance shall be provided at wall, ceilings, and floors.
9. Lengths shall be those usually available in the species specified.
10. Dividers, where used as vertical supports, shall be at least 3/4-inch plywood.
11. Shelving unit spans shall not exceed 36" maximum.

### B. Plastic Laminate Covered Casework:



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B300 Modifications:  
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1. Exposed Portions: All exposed portions of casework shall be plastic laminate covered and shall include all faces, tops, sides, ends, tops, bottoms and all visible surfaces, last noted in Article 1.03 herein before.
  - i. The face and four edges of doors and the face and top and A- edges of drawer fronts shall be banded with plastic laminate to match existing.
  - b. Interior face of hinged doors shall be covered with Cabinet Liner, color white. .
- C. Plastic tops or faces requiring more than one sheet of laminate shall have the plastic pre-matched to minimize color variation within the scope of the manufacturer's guarantee and shall be fabricated from 8'-0" minimum lengths or the longest sheet lengths available
- D. Exposed edges shall be eased. Apply self-edge before top or front is glued on.
- C. Shelving: Shelving shall be not less than 3/4", veneer / engineer core Douglas Fir Plywood. Zero deflection shall be allowed in any shelf of any dimension. Shelves shall be designed for 50 lbs. / SF loads.
  1. Veneer / engineer core shelves with unsupported spans less than 3'-0" in length between vertical support members shall be a minimum of 1" inch in thickness, shelves exceeding 3'-0" in length shall be 1" thick. See section above.
  2. Fixed shelves shall be dadoed into vertical side panels
  3. Adjustable shelving in casework shall be supported on adjustable recessed K&V Standards with shelf clips as specified herein under "Hardware".
  4. Shelving shall adhere to these specifications whether or not specifically drawn or shown as such on drawings.
- D. Drawers and Flat Files:
  1. Sides shall be blind dovetail dadoed and securely glued into the fronts, unless a sub-front is used.
  2. Drawers may have a finish front securely attached to a sub-front with No. 8 x 1 inch sheet metal screws, a maximum of 1 1/2 inches from the inside corner of the finished sub-front and at not greater than 12 inches on center. The sides shall be multiple dovetailed or lock-jointed and nailed to the sub-front.
  4. Drawer sides shall be multiple dovetailed or lock-jointed and nailed, or dadoed and nailed to the backs.
  5. Drawer material to be 1/2" melamine with bottoms to match.
  6. All the above types of joints shall be securely glued.

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7. Drawer sides, fronts, or sub-fronts shall be plowed to receive bottoms, and bottoms shall be securely attached to the backs either by plow or by nailing a maximum of 4 inches on center, and shall be securely glued or glue blocked to form a rigid unit.
  8. Face, and exposed edges shall be laminated finishes. Concealed surfaces shall be white Cabinet Liner.
  9. All drawers shall have full extension glides.
- E. Casework Bases shall provide for toe space. Base shall have front and back rails with cross rails not to exceed 24 inches o.c. Toe space in front shall be 3 inches deep and 4 1/8 inches high unless indicated otherwise. Toe space at sinks shall be false toe base attached to back of door panel, *all sinks require C.B.C./ADA Access.*
- F. Sub-frames with cross rails at not less than 24 inches o.c. shall be provided for all tops. Cross rails shall be doweled into and glued to cross members to provide for rigid frame for anchorage of countertops.
- G. Cabinet liner backs on MDF core shall be as permitted by WI, unless indicated otherwise. Joints, where occurring, shall occur at dividers to hide joints.
- H. Scribing Allowance: Provide for tight scribe at all walls, ceilings and floors.

2.04 FABRICATION - GENERAL CASES AND COUNTERTOPS

- A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.
- B. Fit shelves, and exposed edges with hardwood edging where indicated. Use one piece for full length only.
  - 1. All interior drawer surfaces to receive white melamine finish. And ¼" melamine bottoms.
  - 2. All concealed and semi-concealed shelving shall be minimum ¾" thick Cabinet Liner covered veneer core. All exposed shelving shall be pressure laminate covered minimum 1" plastic laminated veneer core.
  - 3. Fixed shelves shall be dadoed or doweled into vertical panels
  - 4. Adjustable shelves in casework shall be supported on Cadmium Plated Steel Recessed K.V. standards with clips with earthquake pin. Where shelves are 30" or more above the finished floor install screws through each shelf support into the shelf.
  - 5. Dividers, where used as vertical supports, shall be 1" veneer / engineer core plastic laminate covered dividers on all edges.
- C. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- D. Door and Drawer Fronts ¾" thick, flush overlay Type II, Style A casework, high pressure laminate (all edges).
- E. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
- F. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline, secure with concealed fasteners. Slightly bevel arises.
- G. Apply laminate melamine backing sheet to reverse side of fixed plastic laminate finished surfaces at concealed spaces.
- H. Mechanically fasten back splash to countertops at 16" on center.
- I. Provide cutouts for inserts, grommets, and fittings. Verify locations of cutouts from on-site dimensions. Seal contact surfaces of cut edges, with water proofing product.
- J. Countertops per plans have splashes and ends shall be faced with high-pressure laminated plastic sheets, a minimum of .050" thick. Underside of countertops shall have a backing sheet applied.

- K. Provide blocking/backing behind casework under provisions of Section 05100 and 06100.
- L. Joints: Watertight with core material joint and plastic laminate joints staggered. Field joints shall be joined with bolt-up type fasteners.
- M. Plastic Tops or Faces: Shall be one piece wherever possible. Where more than one piece is required, plastic shall be pre-matched to minimize color variation within the scope of the manufacturer's warranty, and shall be fabricated from 8 foot minimum lengths or the longest sheet lengths available.
- N. Exposed edges shall be eased. Apply laminated-edge before top or front is glued on.
  - 1. Apply self edge at all openings in countertops, except where grommets are indicated.
- O. Countertops: Flat work shall have self-edges. Provide coved splash at all counter work, unless indicated otherwise. Ends shall be square edged.

## 2.05 HARDWARE

- A. Hardware shall be furnished and installed as required to provide for a complete casework installation.
- B. Hardware shall be US 26 D finish unless specified otherwise.
- C. Locks: N/A
- D. The following hardware is listed to establish a quality of product. The choice of manufacturer and type or use of substitutions (must be approved by Architect) of equal quality may be made at the option of the cabinet manufacturer. All hardware to comply with ANSI/BHMA A156.9.
  - 1. Cabinet Hinges: For Flush overlay door Installation, Grass 1200 or Blum Model '90'-175 degrees.
  - 2. Cabinet Hinges: For Flush Exposed Face Frame door Installation, Blum Model '90'-175 degrees concealed self closing type.
  - 3. Cabinet hinges: Cabinet bases to receive flush doors, full overlay shall utilize an adjustable hafele hinge type 17" side panel mounting for overlay doors".
  - 4. Door and Drawer Pulls: "U- shaped" Wire Pulls, Hafele Cat. # 116.09.644. Pulls shall comply with ADA grasp requirements.
  - 5. Magnetic Catches (as applies): Ives 326, or hafele 246.43.758.
  - 6. Door Locks: National Lock C8123, Corbin 0737, K&V 986, or equal. Install on all cases indicated on plans.

7. Countertop supports: K & V No. 208WH550, U.N.O.
  8. Concealed Brackets for Countertops per plans:
    - b. A&M Hardware concealed steel bracket #C-24, or equal.
    - c. Color: To be selected by the District representative from manufacturer's full range of standard colors.
  9. Adjustable Shelf Standards: KV 255.
  10. Adjustable Shelf Clips: KV-256 with seismic screw hole.
  11. Grommets: Hafele #429.99.128, 3" diameter or as noted on drawings.
  12. File or Drawer Slides: Grant #329 heavy duty ball bearing full extension slides with 100 lb. capacity. At large flat file drawers use accuride #3640, 200 lb., full extension, ball bearing, rail mount slides.
  13. Elbow Latch: Install at inactive leaf of pairs of doors with lock, Ives No. 2.
  14. Fixed Shelf L-Brackets per plans:
    - ii. KV 208 Series, or equal.
    - iii. Color: To be selected by the District representative from manufacturer's full range of standard colors.
- E. General Requirements:
1. Furnish necessary screws, bolts, or other fastening of proper size and type to secure item in position and, where exposed, to match finish of hardware item fastened.
- F. Hardware Installation:
1. Make provisions in accordance with approved hardware manufacturer's templates.
  2. Fit hardware to casework and attach for smooth, trouble-free, non-binding operation using hardware manufacturer's approved fasteners. Do not use staples for fastening hardware.
  3. Adjustable shelf standards may be surface or flush mounted at the option of the Contractor.

## 2.06 MISCELLANEOUS

- A. Provide all other miscellaneous accessories and materials for casework which may be required to complete the Work, but are not specifically specified. All

such work shall be of custom grade quality with finishes as shown. Where no finish is indicated, it shall be same as similar or adjacent work. Provide all screws and adhesives in accordance with the specified standards and as required. **Staples and nails shall not be used in casework joinery.**

- B. Provide miscellaneous metal items as required to fabricate case work, but not to include steel supports for supporting countertops and counters.
- C. After installation of cases, drill all holes as required to provide electrical, data and communications cables to be extended through the case units from all outlets, data, phone jacks, etc., to the countertop locations of equipment. Provide escutcheon plastic trims at all drilled hole locations.

## 2.07 SOURCE QUALITY CONTROL

- A. Inspection: Maintain phases of fabrication open to inspection by the Architect, the District's representative and Woodwork Institute's Director for installation inspection

## PART 3 – EXECUTION

### 3.01 CONDITION OF SURFACES

- A. Examine all framing, grounds, stripping and blocking to secure casework items and verify that all conditions will not adversely affect installation.
- B. Do not install casework until all defects are corrected.
- C. Obtain Architect's approval prior to installation.

### 3.02 INSTALLATION

- A. Installation shall only begin when drywall and other wet work has thoroughly dried out.
- B. Install casework in accordance with WI standards and accepted shop drawings.
- C. Set work square, level, and plumb, with edges scribed accurately and secure in place with fastenings, clips, braces, anchors, shims, and blocks. Install a scribe mould around perimeter of casework. Anchorage shall be in accordance with Title 24, Part 2, California Code of Regulations.
- D. Coordinate casework items with backing specified in Section 06100, for the proper placement and installation of items fastening to them.
- E. Provide neatly tooled cove of silicone rubber sealant at juncture of countertops and walls. Remove excess material.
- F. Wood Casework Trim: All wood finish trim shall be installed level, plumb and true, with members neatly and accurately scribed in place. Verify lengths as long as practicable. Butt joints shall be beveled together, exterior angles

mitered, and interior angles coped, unless shown otherwise. All exposed nails and screws shall be set for putty indicated or specified otherwise.

3.03 FINAL INSPECTION:

- A. General: Prior to final inspection and acceptance by the Architect and the District, completely check each installed item and adjust for proper operation.
- B. Compliance: the District can request an inspection by a representative of the Woodwork Institute for installation to determine that all of the work of this section has been performed in accordance with the reference standards.

3.04 CLEANING AND ADJUSTING

- A. Removed damaged, scratched, or otherwise disfigured portions and replace with new, prior to final acceptance.
- B. Wash plastic laminate finished work in strict accordance with product manufacturer's directions and ensure that washed surfaces do not differ from clean unwashed portions. Any difference will be considered unsatisfactory work.
- C. Keep the premises in a neat, safe, orderly condition at all times during the execution of this portion of the work, free of accumulations of sawdust, cut ends and debris.

END OF SECTION

Document 07 92 00

**SEALANTS AND CAULKING**

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
  
- B. Section Includes: Description of requirements for materials, fabrications and installation of sealants, caulking and associated accessories, except for those specified in other Sections, where indicated on Drawings, and where required to provide for a weather and watertight condition shall be furnished and installed under this section of the specifications.
  - 1. Caulking and sealants for exterior glazing of new aluminum storefront systems, doors, thresholds, casings, louver frames, access panels, or as otherwise noted on the drawings.
  - 2. Joints between dissimilar metals
  - 3. Adhesive product behind trims, FRP panels, plywood backboards, plastic laminates, etc.
  - 4. Sealants and caulking around any wall penetrations in restrooms or the exterior walls of the structure.
  - 5. Sealants and caulking around all drinking fountains and restroom fixtures, mirrors, partitions, etc.
  - 6. Fire Caulking at all fire rated wall penetrations.
  - 10. Sealants and caulks at flashings, joints and gaps etc., as required for a completely watertight structure.
  
- C. Related Sections:
  - 1. Section 05 50 00: Miscellaneous \Metals
  - 2. Section 06 41 00: Casework
  - 3. Section 08 41 13: Aluminum Framed Storefronts
  - 4. Section 08 80 00: Glass & Glazing

1.02 QUALITY ASSURANCE

- A. Referenced and Standards:
  - 1. American Society for Testing and Materials (ASTM).
    - a. ASTM D1056: Flexible Cellular Materials.
    - b. ASTM C804: Use of Solvent Release Type Sealants.
    - c. ASTM C834: Latex Sealant Compounds
    - d. ASTM C920: Elastomeric Joint Sealants.
    - e. ASTM C962: Use of Elastomerics.
  
  - 2. Federal Specifications.
    - a. FS-TT-S0001657 – Sealant Compound, single component.
    - b. SWRI – Sealant, Waterproof and Restoration Institute guide Specification.



- B. Acceptable Manufacturers: Dow Corning; General Electric; Tremco; Vulkem, 3M.
- C. Applicator's Qualifications: Application of sealants shall be by firm regularly engaged in this type of work and approved by the manufacturer, employing skilled mechanics with 10 years continuous practice in the application of the above systems herein specified.
- D. Job Mock-up: Prepare sample application in locations directed by Architect. Mock-up to constitute standard of acceptance for work for the project.
- E. Compatibility: Contractor to verify that all sealants and caulking are compatible with adjacent finishes.

1.03 SUBMITTALS: (Submit per section 01 30 00)

- A. Manufacturer's Data: Submit list of materials proposed for use including complete data including color charts and manufacturer's specifications and installation instructions for each type of sealant, caulking compound and associated miscellaneous material required. Include published data, letter of certification, or certified test laboratory report indicating that each material complies with the requirements and is intended generally for the application shown. Include location of each material.
- B. Samples: Submit standard color ranges of exposed materials for Architect's selection. Colors shall match adjacent painted or prefinished surfaces.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Materials shall be delivered to job in sealed containers with manufacturer's name, labels, project identification, and lot numbers where appropriate.
- B. Store material out of weather in original containers or unopened packages as recommended by manufacturer.

1.05 JOB AND ENVIRONMENTAL CONDITIONS

- A. Job Conditions: The Sealant and Caulking Contractor shall acquaint himself with all conditions relating to the work of this Section.
- B. Environmental Conditions: Do not proceed with installation of sealants under adverse weather conditions or when temperatures are below or above manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of High Early Bond strength.
- C. Scheduling, Sequencing: Schedule application only after concrete has cured and joints are most likely to be normal size.
- D. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

- E. Do not install solvent curing sealants in enclosed building spaces.
- F. Protection: Use all means necessary to protect caulking materials before, during and after installation to protect the installed work and material of all other trades.

#### 1.06 WARRANTY

- A. Warranty period for this work is extended to ten (10) years for materials; and workmanship against leakage.
- B. Coverage to include failure to adhere, seal, cohesion and cure, leading to water leaks or air infiltration.

#### 1.07 SCHEDULING

- A. Coordinate work of this section with all sections referencing Joint Sealers and Sealants.

### PART 2 – PRODUCTS

#### 2.01 MATERIALS

- A. Sealants: Sealants shall be polysulfide, polyurethane or silicone elastomeric type sealants all conforming to the following specifications.

Color of sealant shall match adjacent surface to which it is applied or shall be as selected by the Architect. Use non-sag type sealant on vertical surfaces.

1. Urethane Single-component sealants shall conform to FS TT-S-00230C, Class A, Type II, and/or ASTM C920-79, Type S, Grade NS, Class 25. Use at concrete and flatwork.
2. Polyurethane Multi-component sealants shall conform to FS TT-S-00227E, Class A, Type I (self-leveling) or Type II, and/or ASTM C920-79, Type M, Grade P or NS, Class 25. Use at exterior applications, interior applications, concrete and masonry applications.
3. One-part silicone sealant that meets FS TT-S-001543, Class A, and/or ASTM C920-75, Type S, Grade NS, Class 50. Use at glazing applications.
  - a. Do not use silicone sealant in seismic joints or horizontal joints in sidewalks, terraces, decks, concrete and tile floors, and driveways.
4. Latex-Emulsion Sealant: One part, non-sag, mildew resistant, complying with ASTM C834, formulated to be paintable, Percora Corp. "AC-20," Sonneborn "Sonolac," Tremco "Tremco Acrylic Latex 834," for building interiors only.
5. All exposed sealant material shall be of a color acceptable to Architect or shall be a paintable type where directed.

- B. Primer: As recommended by the sealant manufacturer. Primer will be required for all surfaces to receive sealants. Primer to be non-staining.

- C. Backup Materials: Non-staining, compatible with sealant and primer, and of a resilient nature such as closed cell resilient foam, sponge rubber, polyvinyl chloride tubing or glass mat. Materials impregnated with oil, bitumen or similar materials shall not be used. Sealants shall be adhere to backup material.
- D. Bond Breaker: Polyethylene tape or masking tape as recommended by the sealant manufacturer.
- E. Solvents, Cleaning Agents: and other accessory materials shall be as recommended by the sealant manufacturer. They should not be used in enclosed non-ventilated spaces.
- F. Caulking: Where specifically called for on the Drawings, shall be "Plastoid" Type C, Pabco "White Hydroseal", or approved equal conforming to Fed.Spec. TT-C-00598C
- G. Joint Cleaner: Non-corrosive, non-staining type and compatible with joint forming materials.
- H. Caulking Tape: Extruded Butyl Sealing tape, Inco #7516 or pre-approved equal.
- I. Fire Caulking: Fire caulking shall be pre-approved sealant such as "3M Fire Caulking", manufactured by 3M Products.

### PART 3 – EXECUTION

#### 3.01 INSPECTION

- A. Surface Acceptance: Examine all surfaces to be sealed or caulked for acceptance.
  - 1. Joint dimensions shall be inspected and reviewed to verify that they are in conformance with specifications and manufacturer's requirements and are acceptable to receive sealant and backup materials.
  - 2. Joints shall be of sufficient width and depth to accommodate specified backup material or preformed joint filler and sealants, but in no case shall sealant application be less than 1/4" wide and 1/4" deep, except as recommended by the manufacturer or otherwise approved by the Architect.
- B. Do Not Seal or Caulk Joints until they are in compliance with requirements of the approved manufacturer of materials, the details as shown on the drawings and the specified requirements of other sections of the specifications.
- C. Inspect all existing window and door frames to be reglazed and recaulked to determine any damage which prevents sealants effectiveness. Clean all existing frames as required prior to caulking installation. Commencement of work means acceptance of the existing conditions.
- D. Use only that caulking material which is best suited to the installation and is so recommended by the caulking material manufacturer for that application.

### 3.02 PREPARATION

- A. General: Thoroughly clean all joints, removing all foreign matter such as dust, oil, grease, water, old sealants, paint, surface dirt, etc. Sealant must be applied to the base surface.
- B. Porous Material such as concrete or masonry shall be cleaned where necessary 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. Laitance shall be removed by acid washing, grinding or mechanical abrading.
  - 2. Form oils, release agents or chemical retardants shall be removed by sand or water blast cleaning.
  - 3. Loose particle present or resulting from grinding, abrading or blast cleaning shall be removed by blowing out joints with compressed air (oil-free) prior to application of primer or sealant.
  - 4. Sealants shall not be applied to masonry joints where water repellent or masonry preservative has been applied. Waterproofing treatments shall be applied after sealants and caulking when called for.
- C. Nonporous Surfaces such as metal and glass shall be cleaned either mechanically or chemically. Protective coatings on metallic surfaces shall be removed by a solvent that leaves no residue. Solvent shall be used with clean white cloths or lint free paper towels and wiped dry with clean, dry white cloths or lint free paper towels. Do not allow solvent to air dry without wiping. Joint areas protected with masking tape or strippable films shall be cleaned as above after removal of tape or film.
- D. Sealant Preparation: Do not modify the sealant by addition of liquids, solvents or powders. Mix multi-component elastomeric sealants in accordance with manufacturer's printed instructions.
- E. Perform preparation in accordance with sealant manufacturer's recommendations.
- F. Protect surrounding areas from damage or disfiguration.
- G. Do not caulk under weather conditions or sun conditions potentially harmful to the set and curing of the caulking material.

### 3.03 APPLICATION:

- A. Back Up: Install backup material or joint filler of type and size specified at proper depth in joint to provide sealant dimensions as detailed or as recommended by the manufacturer. Backup material shall be of suitable size and shape so that when compressed (25 to 50 percent) , it will fit in joints as required. Sealant shall not be applied without backup material and, if necessity, bond breaker strip. When using backup of hose or rod stock, roll the material into the joint to avoid lengthwise stretching. Hose or rod stock shall not be twisted or braided.

- B. Bond Breaker: Use specified bond breaker strip between sealant and supporting type backup material. Bond breaker strip shall be used in all joints where sufficient room for backup does not exist or where required to prevent sealant bonding to undesirable surfaces.
- C. Apply Masking Tape: Where required, in continuous strips in alignment with joint edge. Remove tape immediately after joints have been sealed and tooled as directed.
- D. Prime surfaces to receive joint sealant with primer as recommended by sealant manufacturer. Do not apply primer to exposed finish surfaces.
- E. Sealant: Do not use a sealant compound that has exceeded its shelf life or has become too jelled to be discharged in a continuous flow from the gun.
  - 1. Apply sealant with a caulking gun, using proper nozzles. Use sufficient pressure to properly fill the joints with sealant to the back-up material.
  - 2. After joints have been completely filled, they shall be neatly tooled to eliminate air pockets or voids and to provide a smooth, neat appearing finish in intimate contact with interfaces. After tooling, surface at sealant shall be free of ridges, wrinkles, sags, air pockets and embedded impurities. When tooling white or light colored sealants, use clean water, wet or dry tool or tooling solution recommended by sealant manufacturer.
  - 3. Apply at recommended application temperatures.
  - 4. Install sealant free of air pockets, bubbles, foreign matter, ridges or sags.
  - 5. Tool joints concave.
- F. Caulk all exterior joints and openings in the building envelope that are obscurable sources of air infiltration.
- G. Measure joint dimensions and size materials to achieve required width / depth ratios.

### 3.04 SEALANT SCHEDULES

- A. Exterior
  - 1. PM frames, metal doors, steel windows, dissimilar materials, sheet metal flashings and constructions, cap flashings, gutters, downspouts, vents, louvers, etc.
  - 2. Thresholds.
  - 3. At all other conditions indicated on the drawings.
- B. Interior
  - 1. Glass Glazing, Steel Frames, PM Frames and Metal Doors.
  - 2. At all restroom wall penetrations such as toilet partitions for moisture protection of structural elements.
  - 4. At all other conditions indicated on the drawings.
  - 5. At all countertops, back -splashes, and work tops against walls.
  - 6. Dissimilar metals.
  - 7. Adhesive on paneling systems, FRP, VTB, plywood backing and TTB locations, acoustical tile, etc.

3.04 CLEAN-UP

- A. Immediately clean adjacent surfaces free of sealant or soiling resulting from this work as work progresses. Use a solvent or cleaning agent as recommended by the sealant manufacturer. All finished work shall be left in a neat, clean condition.
- B. Remove masking tape immediately after tooling joints, leaving finished work in a neat and clean condition.
- C. Upon completion of the work of this section, remove all resulting surplus materials, rubbish and debris from the premises.
- D. Repair or replace defaced or disfigured work caused by this section.

3.05 PROTECTION

- A. Protect all sealants until cured.
- B. Do not paint until cured. Do not paint silicone sealants at any time.

END OF SECTION



Document 08 11 00

**HOLLOW METAL DOORS AND FRAMES**

PART 1 - GENERAL

1.1 WORK INCLUDED

1.1.1 Non-rated and fire rated rolled steel doors, panels, and frames.

1.1.2 Interior and exterior light frames.

1.2 REFERENCES

1.2.1 ANSI A250 .8 – Recommended Specification for Standard Steel Doors and Frames.

1.2.2 ANSI A250.3 - Test Procedure and Acceptance Criteria for Factory-Applied Finish Painted Steel Surfaces for Steel Doors and Frames.

1.2.3 ANSI A250 .10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.

1.2.4 ASTM A653 - Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot- Dip Process.

1.2.5 ASTM A924 - General Requirements for Steel Sheet, Zinc-Coated (Galvanized} by the Hot-Dip Process.

1.2.6 CEC - California Energy Commission.

1.2.7 NFPA 80 - Fire Doors and Windows.

1.2.8 SDI-105 - Recommended Erection Instructions for Steel Frames.

1.2.9 DHI - Door and Hardware Institute.

1.2.10 CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2 and California Energy Code.

1.2.11 UL 9 - Fire Tests of Window Assemblies.

1.2.12 UL 10C - Fire Tests of Door Assemblies.

1.3 QUALITY ASSURANCE

1.3.1 Conform to requirements of ANSI A250.8.

1.3.2 Fire rated door, panel and frame construction to conform to UL 9 and UL 10C.

1.3.3 Installed frame and door assembly to conform to NFPA 80 for fire rated class



indicated on Drawings.

- 1.3.4 Installed exterior frame and door assembly to be weather tight.
- 1.3.5 Manufacturer shall have both fabrication and assembly plant located within the continental United States or Canada. Products that are either fabricated or assembled outside the continental United States or Canada are not acceptable.

#### 1.4 PERFORMANCE REQUIREMENTS

- 1.4.1 Thermal Performance: Glazed exterior borrowed lite, sidelite and transom lite frames shall have an overall minimum u-value of 1.19 as rated in accordance with the default table method approved by the California Energy Commission (CEC). Provide Label Certificate FC-1, Figure 3-3, from the Nonresidential Compliance Manual documenting compliance with the CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 6, Section 116, Table 116-A.
- 1.4.2 Solar Heat Gain Coefficient: Glazed exterior borrowed lite, sidelite and transom lite frames shall have an overall maximum solar heat gain coefficient of 0.68 as rated in accordance with default table method approved by the California Energy Commission (CEC). Provide Label Certificate FC-1, Figure 3-3, from the Nonresidential Compliance Manual documenting compliance with the CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 6, Section 116, Table 116-B.

#### 1.5 REGULATORY REQUIREMENTS

- 1.5.1 Conform to CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 2 for fire rated frames and doors.
- 1.5.2 Conform to CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 6, for u- value and solar heat gain coefficient.

#### 1.6 SUBMITTALS

- 1.6.1 Submit shop drawings and product data under provisions of Section 013300.
- 1.6.2 Indicate frame configuration, anchor types and spacings, location of cutouts for hardware, reinforcement, and finish.
- 1.6.3 Indicate door elevations, internal reinforcement, closure method, and cut outs for glazing and louvers.
- 1.6.4 Submit two (2) samples of exterior frame profile at mullion intersection.
- 1.6.5 Submit Label Certificate FC-1, Figure 3-3, from the Nonresidential Compliance Manual documenting compliance with the CBC, California Building Code, (CCR) California Code of Regulations, Title 24, Part 6, Section 116, Table 116-A and 116-8.

1.7 DELIVERY, STORAGE AND PROTECTION

- 1.7.1 Deliver, store, protect, and handle products under provisions of Section 016200.
- 1.7.2 Store products on site under cover.
- 1.7.3 Place products on at least 4 inch wood sills to prevent rust and damage.
- 1.7.4 Protect doors and frames with resilient packaging.

1.8 SEQUENCING AND SCHEDULING

- 1.8.1 Sequence work under the provisions of Section 01110.
- 1.8.2 Schedule work under the provisions of Section 013213.
- 1.8.3 Schedule delivery of all doors and frames so as not to delay progress of other trades.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- 2.1.1 Amweld Building Products, Inc., [www.amweld.com](http://www.amweld.com) .
- 2.1.2 Curries Mfg. Inc., [www .curries .com](http://www.curries.com).
- 2.1.3 Door Components, Inc., [www .door components .com](http://www.doorcomponents.com).
- 2.1.4 Fleming, [www.flemingdoor.com](http://www.flemingdoor.com).
- 2.1.5 Krieger Steel Products Company, [www .kriegersteel.com](http://www.kriegersteel.com).
- 2.1.6 Republic Builders Products Corporation, [www.republicdoor .com](http://www.republicdoor.com).
- 2.1.7 Curries, [www.curr ies.com](http://www.curries.com).
- 2.1.8 Ceco, [www.cecodoor .com](http://www.cecodoor.com).
- 2.1.9 Substitutions: Under provisions of Section 016200.

2.2 DOORS, PANELS AND FRAMES

- 2.2.1 Steel: Commercial quality cold rolled steel conforming to ASTM A653 galvanized to A60 or G60 coating class or Type 8, A40 (ZF120) according to ASTM A924 with minimized spangle , mill phosphatized.
- 2.2.2 Exterior Doors: ANSI A250.8, Level 3, extra heavy-duty, Model 2, continuous welded seam, minimum 0.053 inch thick faces.

- 2.2.3 Interior Doors: ANSI A250.8, Level 2 heavy duty, Model 1, minimum 0.042 inch thick faces.
- 2.2.4 Exterior Frames: ANSI A250 .8, Level 3, 0.067 inch thick material, core thickness.
- 2.2.5 Interior Frames: ANSI A250 .8, Level 2, 0.053 inch thick material, core thickness.
- 2.2.6 Panels: Same materials and construction as specified for doors.
- 2.3 DOOR CORE
  - 2.3.1 Exterior Core: Polystyrene insulation.
  - 2.3.2 Interior Door Core: Impregnated cardboard honeycomb.
- 2.4 ACCESSORIES
  - 2.4.1 Louvers: Roll formed steel, prime coated, inverted 'V' blade, sight proof, with countersink, tamperproof fasteners.
  - 2.4.2 Rubber Silencers: Resilient rubber as supplied by Section 087100.
  - 2.4.3 Glazing Stops: Rolled steel channel shape, mitered corners; prepared for countersink style tamperproof screws at door installations, square butt at light frames.
- 2.5 FRAME ANCHORS
  - 2.5.1 Masonry Anchors: Adjustable T-strap, 0.053 inch thick steel, corrugated, 2 inch x 10 inch size. Fire rated frames to have UL listed perforated strap anchor permanently anchored to frame.
  - 2.5.2 Metal Stud Anchor: Z type anchor, welded to frame, 0.053 inch thick steel, UL listed as required for fire rating.
  - 2.5.3 Wood Stud Anchor: U shaped anchor, welded to frame, 1 inch wide, 0.053 inch thick steel, with 2 pre-punched holes in nailing flange. UL listed as required for fire rating.
  - 2.5.4 Existing Wall Anchor: 0.053 inch thick pipe spacer with 2 inch x 0.053 inch thick steel plate sized to accommodate a 3/8 diameter countersunk flathead expansion anchor. UL listed as required for fire rating.
  - 2.5.5 Floor Clip: Angle anchor, full width of frame, 0.067 inch thick steel.
- 2.6 PROTECTIVE COATINGS
  - 2.6.1 Bituminous Coating: Fibered asphalt-based corrosion proofing and sound

deadener compound. Equivalent to Transcoat 101-F, [www.oilservice.com](http://www.oilservice.com).

2.6.2 Primer: Clean and treat with three stage iron phosphate process. Provide baked-on shop coat of EPA compliant gray synthetic rust - inhibitive enamel primer meeting acceptance criteria of ANSI 250.10.

## 2.7 HARDWARE REINFORCEMENT

2.7.1 Fabricate frames and doors with hardware reinforcement plates welded in place.

2.7.2 Hinge reinforcing shall be full width of frame profile.

2.7.3 Provide spacers for all thru-bolted hardware.

2.7.4 Reinforcement components shall be the following minimum thickness:

2.7.4.1	Hinge (door and frame)	3/16 inch
2.7.4.2	Mortise Lock or Deadbolt	0.093 inch
2.7.4.3	Bored Lock or Deadbolt	0.093 inch
2.7.4.4	Flush Bolt Front	0.093 inch
2.7.4.5	Surface Bolt	0.093 inch
2.7.4.6	Surface Applied Closer	0.093 inch
2.7.4.7	Hold Open Arm	0.093 inch
2.7.4.8	Pull Plates and Bars	0.067 inch
2.7.4.9	Surface Exit Device	0.093 inch
2.7.4.10	Floor Checking Hinge	0.167 inch
2.7.4.11	Pivot Hinge	0.167 inch

## 2.8 FABRICATION

2.8.1 When shipping limitations so dictate, frames for large openings shall be fabricated in sections designed for splicing.

2.8.2 All spliced joints shall occur on the interior side of exterior frames.

2.8.3 Fabricate frames as full profile welded units.

2.8.4 All face, rabbet and soffit joints between abutting members shall be continuously welded and finished smooth when exposed to exterior.

2.8.5 Corner joints shall have all contact edges closed tight, with faces mitered and

continuously welded.

- 2.8.6 Frames with multiple openings shall have mullion members fabricated with no visible seams or joints. All face, rabbet and soffit joints between abutted members shall be continuously welded and finished smooth when exposed to exterior.
- 2.8.7 Provide 3/8 inch back bend return on frames where gypsum board wall material occurs whether on one or both sides.
- 2.8.8 Mullions for Double Doors: Removable type supplied by Section 087100.
- 2.8.9 Dust cover boxes or mortar guards of 0.016 inch thick steel shall be provided at all hardware mortises on frames .
- 2.8.10 Reinforce frames wider than 48 inches with roll formed, 0.093 inch thick steel channels fitted tightly and welded into frame head, inverted U-shape profile.
- 2.8.11 Prepare frame for silencers except for frames which receive weatherstripping. Provide three (3) single rubber silencers for single doors on strike side, and two (2) single silencers on frame head at double doors without mullions.
- 2.8.12 Provide steel spreader temporarily attached to feet of both jambs as a brace during shipping and handling. Spreader is not to be used for installation purposes.
- 2.8.13 Attach fire rated label to each frame and door unit.
- 2.8.14 Close top edge of exterior door flush with inverted steel channel closure. Weld all joints watertight.

## 2.9 MANUFACTURING TOLERANCE

- 2.9.1 Manufacturing tolerance shall be maintained within the following limits:
  - 2.9.1.1 Frame width +1/16 inch -1/32 inch
  - 2.9.1.2 Frame height +-3/64 inch
  - 2.9.1.3 Frame face +-1/32 inch
  - 2.9.1.4 Frame stop +-1/32 inch
  - 2.9.1.5 Frame rabbet +-1/64 inch
  - 2.9.1.6 Frame depth +-1/32 inch
  - 2.9.1.7 Frame throat +-1/16 inch
  - 2.9.1.8 Door width and height +-3/64 inch

2.9.1.9	Door thickness	+ -1/16 inch
2.9.1.10	Hardware location	+ -1/32 inch
2.9.1.11	Door flatness	+ -1/16 inch

## 2.10 FINISH

2.10.1 Primer: Baked on rust-inhibitive enamel.

2.10.2 Finish: Site paint under provisions of Section 099100.

2.10.3 Coat inside of frame profile for frames installed in masonry construction with bituminous coating to a thickness of 1/16 inch. Coating may be factory or site applied. Do not apply coating to fire rated frames.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

3.1.1 Install frames in accordance with SDI-105.

3.1.2 Install doors in accordance with DHI.

3.1.3 Install fire doors and frames in accordance with NFPA 80.

3.1.4 Installation of exterior doors and frames to be weathertight and waterproof.

3.1.5 Seal penetration of all surface applied screws on exterior face of frames at glass stops and hardware attachments.

3.1.6 Coordinate with wall construction and details for anchor placement. Provide anchors as follows:

3.1.6.1 Frames up to 7 feet 6 inches height - 4 anchors each jamb.

3.1.6.2 Frames 7 feet 6 inches to 8 feet 0 inch height - 5 anchors each jamb. Plus an additional anchor for each 2 feet or fraction thereof over 8 feet 0 inch.

3.1.6.3 Frames for double doors; minimum of two (2) anchors in head approximately 12 inches from each jamb.

3.1.6.4 Borrowed lite frames; two (2) anchors each jamb plus 1 for each 18 inches or fraction thereof over 3 feet 0 inch. Minimum two (2) anchors in head and sill approximately 12 inches from each jamb plus 1 for each 30 inches of length or fraction thereof.

3.1.6.5 Floor anchors - one (1) anchor each jamb for interior doors. Where wall construction will not allow placement of floor anchor, provide one (1) additional jamb anchor as close to floor as possible.

3.1.6.6 Existing wall anchors shall be welded to provide non-removable condition. Welded bolt head to be ground, dressed and finished smooth.

3.1.7 Frames installed in masonry walls to be fully grouted with masonry grout.

3.1.8 Exposed field welds to be finished smooth and touched up.

3.1.9 Primed or painted surfaces which are scratched or marred shall be touched up.

3.1.10 Hardware to be applied in accordance with hardware manufacturer's templates and instructions.

3.1.11 Coordinate installation of glass and glazing.

3.1.12 Install door louvers.

3.1.13 Install roll formed steel reinforcement channels between two abutting frames. Anchor to structure and floor.

## 3.2 INSTALLATION TOLERANCES

3.2.1 Edge clearance for swinging doors shall not exceed the following:

- |   |          |
|---|----------|
| 1. Between door and frame at head and jamb                                | 1/8 inch |
| 2. Between edge of pair of doors  | 1/8 inch |
| 3. At door sill with threshold. (From bottom of door to top of threshold) | 3/8 inch |
| 4. At door sill with no threshold   | 1/2 inch |
| 5. At door bottom and rigid floor covering per NFPA 80                    | 1/2 inch |
| 6. At door bottom and nominal floor covering per NFPA 80                  | 5/8 inch |

3.2.2 Frame installation tolerance shall not exceed the following:

- |               |             |
|---------------|-------------|
| 1. Squareness | +-1/16 inch |
| 2. Alignment  | +-1/16 inch |
| 3. Plumbness  | +-1/16 inch |

4. Diagonal Distortion +-1/32 inch

END OF SECTION





Document 08 14 16

**WOOD DOORS**

**PART 1 – GENERAL**

**1.01 DESCRIPTION**

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 01 specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrication, and installation of wood doors, pre-fit and pre-machined for finish hardware. Solid-core flush wood doors with wood-veneer and paint-grade faces.
- C. Related Work:
  - 1. Section 08 11 00 – Hollow Metal Doors and Frames
  - 2. Section 08 71 00 – Finish Hardware
  - 3. Section 09 90 00 – Painting, or staining, except as included herein

**1.02 QUALITY ASSURANCE**

- A. References and Standards (latest Edition unless noted otherwise):
  - 1. California State Fire Marshall Standard 12-43.4 for fire rated doors.
  - 2. Commercial Standards – Solid wood construction, premium grade, solid block core – five ply , Type A with Type I adhesive.
  - 3. NFPA 80 – Fire Doors and Windows
  - 4. National Woodwork Manufacturers Association (NWMA):
    - a. "Industry Standard for Hardwood Veneered.
    - b. "Machining Flush Doors for Hardware".
  - 5. AWS - Quality Standards of the Architectural Woodwork Institute (AWI)
  - 6. Underwriters' Laboratories - UL 10B (neutral pressure) and UL 10C (positive pressure) – Fire Tests of Door Assemblies
  - 7. ASTM E90-90 - Measurement of Airborne Sound Transmission Loss of Building Partitions
  - 8. All cutouts sealed – factory of field.
- B. All doors shall, as much as is practicable, be the products of one manufacturer.

**1.03 SUBMITTALS (Submit under the provisions of Section 01 33 00)**

- A. Manufacturer's literature describing products.
- B. Shop Drawings: Drawings shall show actual finished door dimensions, frame dimensions when required, and clearances, floor covering conditions, construction, and location of all finish hardware. Doors shall be identified with the corresponding opening number shown on Door Schedule of the Drawings.

- C. Certificates: Manufacturer's certification that materials and construction comply will applicable requirements of herein listed references and standards, and as specified herein.
- D. Finishes: All doors to be unfinished for paint finishing on site.

#### **1.04 QUALITY ASSURANCE**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with a minimum of five years documented experience. All doors must be supplied through one Company.
- B. Quality Standard: Doors to comply with WDMA IS 1A (Window and Door Manufacturers Association), AWS Section 9 (Architectural Woodwork Institute), or AWI with quality certification program (QCP).
- C. Label Certification: All doors requiring fire-rating will carry either UL label. Manufacturer's certification labels may be used for door size variations if approved by AHJ (Authority Having Jurisdiction).
- E. Delivery/Storage/Handling: Store and protect doors in accordance with manufacturer's recommendations and WDMA or AWI Standards. Following are general guidelines.
  - 1. Store doors flat and off the floor on a level surface in a dry, well-ventilated building. Do not store on edge. Protect/cover doors from dirt, water, and abuse.
  - 2. Certain wood species are light sensitive. Protect doors from exposure to light (artificial or natural) after delivery.
  - 3. Do not subject interior doors to extremes in either heat or humidity. HVAC systems must be operational and balanced, providing a temperature range of 50 to 80 degrees Fahrenheit and 25% to 55% relative humidity.
  - 4. When handling doors, always lift and carry. Do not drag across other doors or surfaces. Handle with clean hands or gloves.
  - 5. Each door will be marked on top rail with opening number.

#### **1.05 WARRANTY**

- A. Manufacturer's signed warranty covering manufacturing or material defects for life of original installation, including repair or replacement.

### **PART 2 – PRODUCTS**

#### **2.01 DOORS**

- A. Doors shall conform with the drawings and door schedule and shall be of size, thickness, and type as required to fit frames. Doors shall be manufactured in accordance with applicable requirements of WIC Section 9, Wood-Veneer Face with Staved Lumber Core.

- B. Solid Special Function Core: Labeled fire performance type, at all fire door locations. All fire doors are to include a metal "Label Plate" on butt edge of door. Plate must be installed at the factory and protected during shipping and installation.
- C. Pre-fit doors to frames and pre-machine for hardware.
- D. Wood doors shall be equal to WIC, solid core, Type A, 5-ply construction, minimum. Door thickness to be 1-3/4" standard.
- E. Reinforce doors for hardware scheduled under Section 08 71 00.
- F. Solid Core Flush Veneered Interior Doors Face Veneers: Birch for painted finish. NWMA "Good" grade.

## **2.02 PREPARATIONS**

- A. Replacement doors are to be prepared, and fitted specifically for the opening that they are to go in. Coordinate preparation for finish hardware to provide proper, finished installation and permit operation without binding of any portion of the door and hardware.
- B. Bevel vertical edges of doors 1/8" in 2".
- C. Hardware Preparation:
  - 1. Hardware Mounting Heights and Door Clearances: Refer to Section 08 71 00 for door clearances and hardware mounting heights.
  - 2. Templates: Cutouts for mortise hardware shall be made at the factory from hardware manufacturer's templates and approved shop drawings.
  - 3. Locate hinge mortise from top of door to top of hinge, 1/32" clearance in height and width, with depth sufficient to provide a flush surface when installed.
  - 4. Locate lock mortise from top of door to center line of lever.
  - 5. Mortise for Face Plates: 1/64" or larger in width and height, with depth to provide a flush surface when installed.
  - 6. Lock Clearances:
    - a. Bored Lock: 1/16" clearance for bore diameter for latch bolt and 1/8" clearance for bore diameter for lock case.
- D. Undercut doors where indicated.

## **2.03 SOURCE QUALITY CONTROL AND PRODUCT**

- A. Wood doors shall bear NWMA quality certified stamp.
  - 1. Paint grade doors, interior, shall be birch solid core.

### **PART 3 – EXECUTION**

#### **3.01 INSPECTION**

- A. Assure that frame openings correspond to the dimensions furnished. Check that surfaces to contact frames are free of debris. Do not proceed with installation until unsatisfactory conditions are corrected.

#### **3.02 INSTALLATION**

- A. Doors shall be installed in accordance with the applicable requirements of WIC, Section I, and in accordance with manufacturer's recommendations. Doors shall be accurately hung in their respective frames, shall fit snug against stops and shall hang free from hinge bind.
- B. Reseal edges of doors before installation, fitting or machining is required at the job site. If undercutting is required, work shall comply with manufacturer's instructions. Maintain rated assembly where occurs.

#### **3.03 ADJUST AND CLEAN**

- A. Cleaning/Finishing: Upon completion, clean all exposed surfaces, removing any discoloration or foreign matter. Touch up or repair abraded or cut areas and exposed edges with finishing material recommended by the manufacturer. Touch-up and repair shall not be obvious.
- B. Final Adjustments: Check and readjust operating finish hardware just prior to final inspection. Leave work in complete and proper operating condition.
- C. Defective Work: Remove and replace defective work, including doors which surfaces cannot be satisfactorily "touched-up", are hinge bound, warped, bowed or otherwise damaged, as directed by Architect, with no additional cost to the Owner.
- D. Protect installed work against damage from other construction.

**END OF SECTION**

Document 08 71 00

**FINISH HARDWARE**

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications and installation of finish hardware except that which is specifically included under other sections, as indicated on drawings and necessary to complete the work. Work shall include but not be limited to demolition and modification of framing at existing openings to accept specified doors and framing, installation of doors, frames and hardware.
- C. Summary: This section includes but is not limited to the following;
  - 1. Interior door hardware
  - 2. Thresholds, gasketing, and weather striping
  - 3. Cabinet door locks
- D. Related Sections:
  - 1. Section 06 41 00 – Casework
  - 2. Section 07 92 00 – Sealants and Caulking
  - 3. Section 08 11 00 – Metal Doors and Frames
  - 4. Section 08 14 16 – Wood Doors

1.02 QUALITY ASSURANCE

- A. Manufacture: Obtain each kind of hardware (latch, locksets, hinges, closers, etc.) from only one manufacturer, even though several may be indicated as acceptable manufacturers.
- B. Scheduled Designation: Except as otherwise indicated, hardware is designated in accordance with the ANSI classifications.
- C. Supplier Qualification: A recognized architectural door hardware supplier, with a record of successful service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this project and that employs an experienced architectural hardware consultant who is registered in the continuing education program as administered by the Door and Hardware Institute. This individual shall be available to the District and be:

1. Responsible for detailing, scheduling, and ordering of finish hardware.
  2. Meet with the District to finalize keying requirements and to obtain final instructions in writing.
  3. Stock parts for products supplied and be capable of repairing and replacing hardware items found defective within warranty periods.
- D. Hardware Installer: Shall be experienced in the installation of hardware installation with a minimum of 5 years continuous experience. References to be made available on request.

1.03 SUBMITTALS (Submit under provision of Section 01300)

- A. Finish Hardware Schedule: The schedule shall have the same group numbers for doors and locations as used on the specified list. Hardware is scheduled in groups by group letter. Note that multiple doors may have the same letter designation and the contractor shall be responsible for verifying all door quantities required and to install them complete and operational.
1. Submit completely detailed finish hardware schedule in vertical format. Reference headings to hardware types specified and clearly indicate door type, or mark, describe its location, hand, size, door and frame material, and fire rating. Group doors with the exact same hardware type in one heading, either per building, or per project. If per project, group doors per building in numerical order. The use of coded, or keyed hardware scheduling, creating a separate heading for every door and required reference to master lists of products is not acceptable, and will be rejected without review.
- B. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory prepared for installation of hardware.
- C. Upon completion of installation and adjustment, turn over to the District all closer valve keys, lock spanner wrenches and all other factory furnished installation aids, instructions and maintenance guides.
- D. If specified brand and model number not used, both equal alternate cut sheet and specified cut sheet for item shall be submitted simultaneously for review.
- E. Keying Schedule: GC shall provide the District with a door schedule based on the building and the site specific series. Contractor shall work with the District representative to develop the keying system. No keys will be cut by the contractor. Contractor shall supply only blank keys.

1.04 QUALITY ASSURANCE

- A. Qualifications: Manufacturers specializing in the production of institutional and commercial door hardware.

- B. Supplier: Firm specializing in the supply and servicing of institutional and commercial door hardware, approved by manufacturers whose products they offer, and sufficient documented experience.
  - 1. Hardware Supplier's Staff: At least one member of the supplier's staff shall be an accredited current member and in good standing of the Door and Hardware Institute, and earned the title of A.H.C. or D.A.H.C.
- C. The A.H.C. or D.A.H.C. shall supervise the detailing and supply of material for this project and, upon request by Architect, inspect the final installation and write a report to the Architect and the District regarding the installation, problems noted, and suggested corrective measures. Supplier shall engage the services of an A.H.C. or D.A.H.C., if the firm employs none.

#### 1.05 COORDINATION

- A. Coordinate work of this Section with other directly affected Sections involving manufacturer of any internal reinforcement for door hardware.
  - 1. Make hardware applied to metal doors and frames to template. Furnish two copies of each template to those manufacturers who are not listed as current registered template book holders. Furnish two copies of each template for items whose manufacturers do not provide registered template book. Furnish two copies of approved finish hardware schedule for use by the door and frame suppliers.
- B. The contractor shall be responsible for verifying that the door hardware accepted for installation on this project is compatible for use with the doors, frames and aluminum storefront system accepted for installation on this project and is compliant with Solano Community College Standards.

#### 1.06 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Section 01700.
- B. Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site under provisions of Section 01600.
- B. Store and protect products under provisions of Section 01600.
- C. Package hardware items individually; label and identify package with door opening code to match hardware schedule.
- D. Deliver keys to the District by security shipment direct from hardware supplier.
- E. Protect hardware from theft by cataloging and storing in secure areas.

#### 1.08 MAINTENANCE MATERIALS



- A. Provide special wrenches and tools applicable to each different or special hardware component.
- B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

1.09 WARRANTY

- A. Provide guarantee from hardware supplier as follows:
  - 1. Closers: Ten (10) years, except electronic closers, two years
  - 2. Exit devices: Three (3) years
  - 3. All other hardware: Two (2) years

PART 2 – PRODUCTS

2.01 ACCEPTABLE HARDWARE MANUFACTURERS

- A. Numbers indicating hardware items are ANSI/BMHA standard number designations.
- B. Manufacturer abbreviations shall be as follows:
  - 1. Hager (H)
  - 2. Ives (I)
  - 3. Best (BE)
  - 4. Stanley (ST)
  - 5. Ingersoll Rand – LCN (L)
  - 6. Ingersoll Rand – Von Duprin (V)
  - 7. Pemko (P)
  - 8. Trimco / Builders Brass (TR)
  - 9. National Guard Products (NGP)

- C. Manufacturers listed first and underlined for each item have been used to establish District quality standards. Some of the item groups listed below may not be used in the Project hardware schedule.

- 1. Butts: (ST) Stanley; Hager; Ives
- 2. Continuous Geared Hinges: (ST) Stanley; Hager
- 3. Overhead Closers: (ST) Stanley; LCN; Norton; Rixon
- 4. Automatic flush bolts: (I) Ives; Glynn-Johnson
- 5. Coordinators: (I) Ives; Trimco; Glynn-Johnson.
- 6. Panic/Exit Devices: (PR) Precision; Von Duprin; Sargent.
- 7. Removable Mullions: (V) Von Duprin; Special-Lite.
- 8. Latch/Locksets, Deadlocks: (BE, ST) Best, Stanley Hardware.  
***Best Dormakaba is District preferred hardware standard. No substitutes will be considered.***
- 9. Cylinders: (BE) Best Dormakaba IC Cores
- 10. Thresholds: (NGP) National Guard Products; Pemko

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- 11. Door Shoes / Bottoms: (NGP) National Guard Products; Pemko
- 12. Kickplates: (TR) Trimco; Ives; Pemko; Sargent.
- 13. Weatherstripping: (NGP) National Guard Products; Pemko
- 14. Sound Seals: (P) Pemko, Zero, Reese.
- 15. Smoke Gaskets: (NGP) National Guard Products; Pemko
- 16. Stops/Bumpers: (TR) Trimco; Ives; Elmes; Sargent.
- 17. Door Silencers: (TR) Trimco; Ives
- 18. Door Louver: Door Specs

2.02 KEYING REQUIREMENTS (All Keying to be stamped and GC to provide key chart).

- A. Do not cut keys. Supply blank keys to District Representative. Provide the following keying requirements. Coordinate all work listed hereunder with the District. GC shall meet with the District representative to develop site keying schedule to Master District Keying Standards.
  - 1. Supply blank keys to District Representative.
  - 2. All new keys to work with existing School Grand Master key system and key all locks to this system.
  - 3. Mechanical Room and Janitor Room keys shall be keyed to the District's existing mechanical or janitors group key system. Supply no master keys to the janitorial group.
  - 4. Key alike (KA) or key different (KD) in groups as directed by the District and supply four (4) keys per lock.
  - 5. Supply Five (5) blank keys each individual room keys upon completion and turnover of the project.
  - 6. Provide construction master key system and furnish twenty (20) construction master keys.
  - 7. All building and room keying to be identified to indicate room access.
- B. The keys shall be furnished to the District properly tagged and designated as to door location and arranged in a container in sets or subsets as scheduled. Permanent keys shall be sent by the lock manufacturer directly to the District by registered mail or other approved means. Provide a key chart for each building and lockable key cabinet to the maintenance director capable of holding all keys for the facility.

2.03 DETAIL REQUIREMENTS

- A. Butts: All butts shall have flat button tips unless noted otherwise. Exterior butts shall have non-removable stainless steel pins. Butts shall have extended legs as required at masonry veneer wall locations to allow doors to swing 180 degrees, flat along wall. All doors are to swing 180 degrees. Hinges shall be sized as follows:

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1. Doors to 41": 4-1/2" inch hinge
  2. Doors 42" to 48": 5" inch hinge
  3. Install 3 hinges to 7'-0" high doors. Add an additional hinge for each additional 2'-0" height in doors.
  4. Interior doors shall have NRP at all interior key lock doors with reverse bevels.
- B. Locksets/ Levers: Locksets to be Best (Dormakaba) and Stanley WI-Q/Omni Wireless Access Control System, no substitutions, as a District standard. All exterior door locksets to be equipped with "Vandlgard" function at all doors. All locksets to be as follows:
1. Exterior and Fire Label doors shall be provided with 3/4" throw on latch bolts.
  2. All lock cylinders shall be equipped with "construction keying" provisions which permits each lock to be operable only by a special "project key" during the construction period.
  3. Furnish standard strikes with extended lips where required to protect trim from marred latch bolt.
  4. Cylindrical Locksets shall have a standard 2-3/4" backset. Basis for lever type and style shall be a extra heavy duty "Rhodes Style" angle return, lever style 15D, with an interchangeable cylinder core and lever handles in compliance with *C.B.C./ADA standards*. Locking spindle shall be one piece stainless steel, interlocking design.
  5. All cylinders shall be Cormax as manufactured by Best Dormakaba Hardware Stanley Systems.
  6. Latching and locking doors that are hand-activated and which are in a path of travel, shall be operable with a single effort by lever hardware, panic bars, push-pull activating bars, or other hardware designed to provide passage without requiring the ability to grasp the opening hardware, Title 24 CCR Section 1004.3 & Section 11B-404.2.7.
  7. Style of cylindrical locksets and latches shall be as scheduled, those not scheduled shall be as noted above.
  8. Levers: The levers on all locksets and passage hardware shall be Best Dormakaba 15D Lever hardware, with 5 year warrantee. Vandlgard outside lever to be disengaged when in the locked mode. All hardware to comply with CCR Section 11B-404.2.7.
- C. Latching and Locking Doors: Hardware to comply with CCR Section 11B-404.2.7. Latching hardware shall be installed between 34" and 44" AFF. All hardware shall be lever type. Doors that are hand activated and which are in a path of travel shall be operable with a single *hand* by lever hardware or other

hardware designed to provide passage without requiring the ability to grasp the opening hardware.

- D. Closers: Closer shall be Best Dormakaba 4550 x 3550. Closer shall be provided with key valves. Locate all closers at inside face of door (inside defined as the private side of the door, wherever possible). All closers shall be parallel arm function at interior out swinging doors. Use regular closer where parallel closer won't work. All finishes shall be "Aluminum".
1. Spring power shall be *a maximum of 5.0 lbs./on interior doors and a maximum of 5 lbs.* on exterior doors, and *a maximum of 15 lbs* for fire doors as required by 2016 CBC and shall be adjustable. Delay time shall be per C.B.C. 1008.1.9.7.
  2. Supply drop plates at narrow top rail doors and parallel arm closers at reverse level doors and where doors swing 180 degrees.
  3. Fasteners: Attach with four sex bolts per closer. Bolts shall be thru bolted through the metal exterior doors at all locations.
  4. Provide metal cover for all closures.
  5. Provide Hold Open capability where designated "H.O.".
- E. Door Stops: Where floor stops are affixed to concrete floor, they shall be provided with flat head machine screws with expansion shields or equal. Floor stops shall be located *a maximum of 4" from the wall* so not to obstruct the path of travel or create a trip hazard. Where affixed to masonry walls, wall stops shall be provided with flat head machine screws into lag shields drilled into masonry.
- F. Door Silencers: Provide three (3) Glynn Johnson GJ-64 silencers for each metal door frame, four (4) at pairs of doors. Omit silencers where unitized weather stripping is specified. Provide templates to door frame supplier for proper location of silencers per manufacturer recommendations.
- G. Screws: Supply Phillips head type screws for all finish hardware. Screws shall be of bronze, brass or stainless steel metal. Aluminum screws will not be accepted. Screws for butt hinges and door closers shall be plated to match hardware finish.
- H. Strikes: Strike lips for all locks shall not extend more than 1/4-inch beyond the finish jam trim.
- I. Hardware Finish: 626 US 26D (dull chrome).
- J. Push/ Pull: Push / Pull hardware to be installed on functions such as toilet room doors in conjunction with deadbolt unless specified otherwise. Hardware shall be provided complete with both pull bar and push plate.

#### 2.04 DOOR CLEARANCES AND MOUNTING HEIGHTS

- A. For the purpose of establishing a uniform installation throughout, the following door clearances and hardware mounting heights are given as information for all trades. Door clearances shall be measured between frame rabbets and from head rabbet to finish floor or to top of saddle or threshold. All clearances shall conform to ADA standards.
1. Hinge Side: 1/6-inch clearance.
  2. Top and Lock Side and Above Saddle or Threshold: 1/8-inch clearance.
  3. Above Finish Floor Without Saddle or Threshold: 3/8-inch clearance.
  4. Lock Side of Door: Beveled 1/8-inch in 2 inches.
  5. Hardware Mounting Heights: 34" to 44" A.F.F. per CCR Section 1133B2.5.1. Submit an ANSI Industry Standard chart for the use of all trades for locating hardware. Industry Standards and requirements of the Americans with Disabilities Act shall be used throughout unless otherwise directed by Architect. Submit the heights of all Items for the Architects approval prior to fabrication.

#### 2.05 FINISH AND BASE MATERIAL DESIGNATIONS

- A. Finish and base material designations are indicated in accordance with ANSI / BHMA A156.18 or the nearest traditional U.S. commercial finish.
1. Provide 626 US 26D Satin Chrome Finish on readily visible hardware, unless noted otherwise in hardware schedule.

### PART 3 – EXECUTION

#### 3.01 RESPONSIBILITY

The Contractor shall be responsible for proper hand and fit of all hardware, screws, nuts, bolts, washers, grommets and other fastening devices, in appropriate metal and finish necessary for proper application of finish hardware.

#### 3.02 INSTALLATION

- A. All locks and trim are to be fitted to doors, removed for painting, and replaced permanently after painting has been completed.
- B. All hardware items shall be set in a precise manner. Hinge leaves shall be set snug and flat in mortises, screws shall be turned (not driven) to a flat seat and all moving parts shall operate freely without excessive play. All hardware shall be installed with Phillips head type screw, with screw alloy to match hardware. Mount door closers for maximum swing of door before setting stops.
1. Weather stripping and fire seals shall be installed after doors are hung and all other hardware placed. Locate weather stripping and smoke

seals to provide even pressure against the doors, ensuring an airtight seal yet permitting door closers to close doors. Miter all corners.

2. Upon completion of installation and adjustment, turn over to the District all closer valve keys, lock spanner wrenches and other factory furnished installation aids, instructions and maintenance guides.

### 3.03 ADJUST AND CLEAN

Check each operating item of hardware and each door to ensure proper operation or function of every unit. Lubricate moving parts with lubrication type recommended by the manufacturer (graphite type if no other is recommended). Replace units which cannot be adjusted and lubricated to operate freely and smoothly as intended for the application made.

### 3.04 HARDWARE SCHEDULE

The following sets cover types of hardware required. Hardware supplier shall make his own take-off and be responsible for correctly identifying all doors bearing identical door type marks. Hardware for a complete installation is required, whether specifically mentioned or not. Hardware items listed below refer to manufacturers listed in Article 2.01. Schedule is by Building Reference.

3.06 SCHEDULE OF FINISH HARDWARE

District Standard: No substitutions for Best/Stanley Series Locks. (All hardware to be ADA / CCR Lever type).

**GROUP 1** – Exterior Double Door with Panic Hardware and Electronic Access Control System – 1 active and 1 inactive leaf (Door #01)

1 set Cont. Threshold 425 1/4-20 SSMS/EA AL NGP

ACTIVE LEAF

1 each Continuous Hinge 661HD AL ST  
 1 each Exit Device MLR TDS 2803 LD 630 PR  
 1 set Power Supply RPSMLR2BB PR  
 1 set HID Proximity Reader P300-H BE  
 1 set Wireless Access Controller WQX-WAC-C-B BE  
 1 set Wi-Q Door Lever 9KQ3-7-DV-15-PH 626 BE  
 1 set Cormax Core ICX-7 626 BE  
 1 each Door Closer CLD-4551 EDA SN 689 ST  
 1 each Kick Plate KM050 10" x 2" LDW B4E Ctsk 630 TR  
 1 set Gasketing 5050 B at head & jambs NGP  
 1each Door Sweep 200 NA NGP  
 3 each Door Silencers 1229A Grey TR

INACTIVE LEAF

1 each Continuous Hinge 661HD AL ST  
 1 set Manual Flush Bolt 262 626 I  
 1 each Kick Plate KM050 10" x 2" LDW B4E Ctsk 630 TR  
 1 set Gasketing 5050 B at head & jambs NGP  
 1each Door Sweep 200 NA NGP  
 3 each Door Silencers 1229A Grey TR

**GROUP 2** – Interior Double Door with Electronic Access Control System – 1 active and 1 inactive leaf (Door #02)

ACTIVE LEAF

4 each Hinges FBB179 4 ½ X 4 ½ US26D ST  
 1 set HID Proximity Reader P300-H BE  
 1 set Wireless Access Controller WQX-WAC-C-B BE  
 1 set Power Supply RPSMLR2BB PR  
 1 set Wi-Q Door Lever 9KQ3-7-DV-15-PH 626 BE  
 1 set Cormax Core ICX-7 626 BE  
 1 each Door Closer CLD-4551 EDA SN 689 ST  
 1 each Kick Plate KM050 10" x 2" LDW B4E Ctsk 630 TR  
 1 set Gasketing 5050 B at head & jambs NGP  
 3 each Door Silencers 1229A Grey TR  
 1 each Hinge Pin Stop 1240 619 TR

INACTIVE LEAF

4 each Hinges FBB179 4 ½ X 4 ½ US26D ST  
 1 set Manual Flush Bolt 262 626 I  
 1 each Kick Plate KM050 10" x 2" LDW B4E Ctsk 630 TR  
 1 set Gasketing 5050 B at head & jambs NGP  
 3 each Door Silencers 1229A Grey TR  
 1 each Hinge Pin Stop 1240 619 TR

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**GROUP 3 – Interior Double Door – 1 active and 1 inactive leaf (Door #03)**

ACTIVE LEAF

4 each	Hinges FBB179 4 ½ X 4 ½	US26D	ST
1 set	Lever Entrance/Office UA #15D	626	BE
1 set	Cormax Core ICX-7	626	BE
1 each	Door Closer CLD-4551 T SN	689	ST
1 each	Kick Plate KM050 10" x 2" LDW B4E Ctsk	630	TR
3 each	Door Silencers 1229A	Grey	TR
1 each	Hinge Pin Stop 1240	619	TR

INACTIVE LEAF

4 each	Hinges FBB179 4 ½ X 4 ½	US26D	ST
1 set	Manual Flush Bolt 262	626	I
1 each	Kick Plate KM050 10" x 2" LDW B4E Ctsk	630	TR
1 set	Gasketing 5050 B at head & jambs		NGP
3 each	Door Silencers 1229A	Grey	TR
1 each	Hinge Pin Stop 1240	619	TR

**GROUP 4 – Interior Single Door (Offices) (Door #04 and #05)**

4 each	Hinges FBB179 4 ½ X 4 ½	US26D	ST
1 set	Lever Entrance/Office UA #15D	626	BE
1 set	Cormax Core ICX-7	626	BE
3 each	Door Silencers 1229A	Grey	TR
1 each	Hinge Pin Stop 1240	619	TR

**GROUP 5 – Interior Single Door with Electronic Access Control System (Door #06)**

4 each	Hinges FBB179 4 ½ X 4 ½	US26D	ST
1 set	HID Proximity Reader P300-H		BE
1 set	Wireless Access Controller WQX-WAC-C-B		BE
1 set	Power Supply RPSMLR2BB		PR
1 set	Wi-Q Door Lever 9KQ3-7-DV-15-PH	626	BE
1 set	Cormax Core ICX-7	626	BE
1 each	Door Closer CLD-4551 T SN	689	ST
1 each	Kick Plate KM050 10" x 2" LDW B4E Ctsk	630	TR
3 each	Door Silencers 1229A	Grey	TR
1 each	Hinge Pin Stop 1240	619	TR

**GROUP 6 – Interior (E) Single Door with Electronic Access Control System (Door 07)**

1 set	HID Proximity Reader P300-H		BE
1 set	Wireless Access Controller WQX-WAC-C-B		BE
1 set	Power Supply RPSMLR2BB		PR
1 set	Wi-Q Door Lever 9KQ3-7-DV-15-PH	626	BE
1 set	Cormax Core ICX-7	626	BE
1 each	Hinge Pin Stop 1240	619	TR

**PORTAL GATEWAY – Wireless Portal Gateway**

2 sets	Portal Gateway Best Wi-Q – WQX-PG		BE
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END OF SECTION







# Saddle Threshold 425



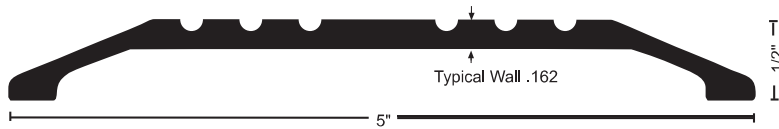
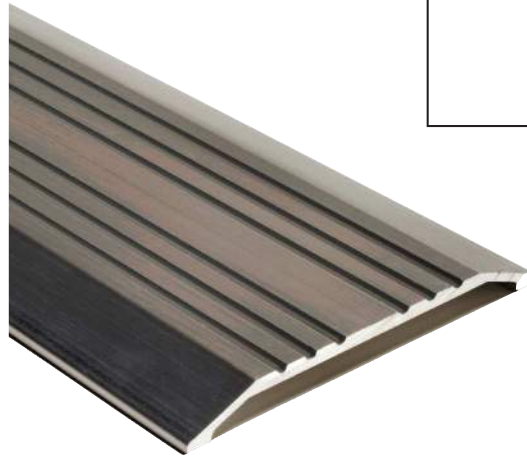
### Materials & Finishes

Aluminum alloy 6063, T5 temper  
Mill finish  
DKB - dark bronze finish

- 5" wide x 1/2" tall
- Fluted top
- Typical wall thickness .162"
- Weight: .88 lbs./ft.
- #10 x 1-1/2" FH zinc plated wood screws included

Optional Slip Resistant SIA Finish

<b>Project:</b>
<b>Submitted by:</b>
<b>Date:</b>
<b>Notes:</b>



**STANLEY®**



CONTINUOUS HINGES: ALUMINUM CONTINUOUS GEARED HINGES

# Continuous Hinges

**Aluminum Continuous Geared Hinges**

**dormakaba** 

Trusted experts. Proven reliability. Simply STANLEY.

# Aluminum Continuous Geared Hinges

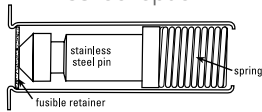
## Full Mortise

**661 HD** – Heavy Duty for flush door and frame applications

**662 HD** – Heavy Duty for 3/32" inset doors



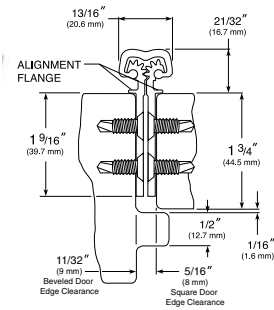
- Distributes door weight and stress along the full length of door and frame
- No misaligned pivot points of individual hinges
- Typically no additional reinforcement required
- Clear aluminum and dark bronze anodized finishes
- Standard duty and heavy duty conform to ANSI/BHMA Standard A156.26-1996, Grade 1
- Supports doors up to 450 lbs
- Hinge covered by a limited lifetime warranty for the life of the building
- Engineered with polymer PTFE bearing for maximum durability
- 90-minute rating standard on all hinges. 3-hour rating available with fire pins (FP)
- For 1-3/4" doors only
- Hinges can be furnished as follows:
  - with hospital tips (HT)
  - with electric wires (CE)
  - with electric switches (CS)
  - with electric power transfer (EPT) prep – Specify manufacturer and model number of transfer
  - with dutch door prep
  - custom length
  - school option



**Fire Pin**



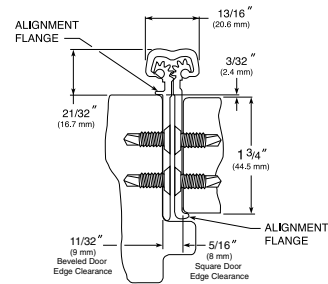
**661 HD**



**661/661HD Full Mortise  
Flush Door & Frame**



**662 HD**



**662/662HD Full Mortise  
3/32" Inset**

Length		Finish	Number of #12-24 x 5/8" TEK Screws Per Hinge	Quantity Per Carton	Carton Weight	
Inches	(mm)				Lbs.	(Kg)
79	(2006)	AL & DB	36	1	7	(15.4)
83	(2108)	AL & DB	36	1	7	(15.4)
95	(2413)	AL & DB	40	1	8	(17.6)
120	(3022)	AL & DB	44	1	10	(22)

Wood and Machine screws available separately



# Apex 2000 Series

Touchbar Exit Devices



Strength by design. Simply PRECISION

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## General Information

### Introduction

The Apex 2000 Series Touchbar Style Exit Device is highly regarded by architects and end-users alike. Many of the nation's largest healthcare and educational facilities prefer the Apex for its aesthetic design and efficient engineering. All Apex 2000 Series Exit Devices are UL listed for panic and fire hardware and are certified to ANSI A156.3 Grade 1. Several models are also certified for hurricane resistant applications.

A complete offering of mechanical and electrical options provide a wide range of exit device security solutions. However, the traditional core strengths of the product can't be overstated. Simple operation with few moving parts, manufactured with true ANSI/BHMA architectural finishes. The chassis is constructed from investment cast steel and the universal mounting holes provide an easier retrofit installation.

### Quiet Operation

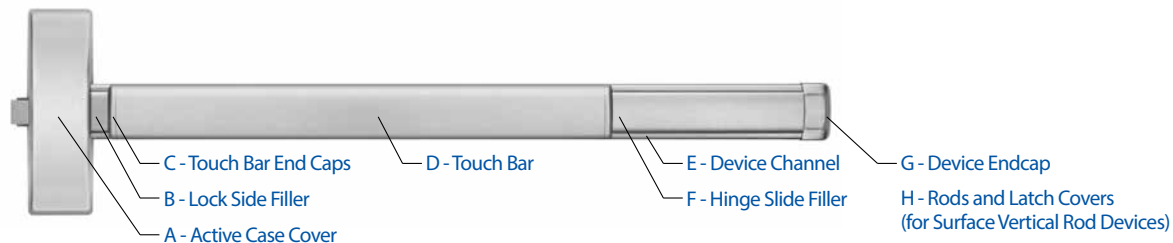
Sound Dampeners reduce the noise associated with Exit Device operation on the depression and return stroke of the Touchpad.

### Touchbar Clearance

The Apex Wide Stile Series Exit Devices accommodate doors with vision lites or glass windows where the vision lite frames or moldings project up to 1/4" beyond the face of the door. The Active Case and End Cap Mounting Bracket are mounted on the face of the door without shims or without cutting the glass molding. These devices have a 1/4" gap between the face of the door and the Touchbar Assembly. This gap allows proper functioning of the devices even on doors which are not perfectly flat. Since the Active Case is mounted directly on the face of the door, it accommodates standard lengths of through bolting screws, thumbpieces, knob & lever Trim fingers, and cylinder tail pieces.



# General Information



## Base Materials

Finishes	ANSI/BHMA	US	Aluminum	Brass	Bronze	Stainless Steel
Polished Brass, Clear Coated	605	US3	—	A,B,C,D,E,F,G,H	—	—
Satin Brass, Clear Coated	606	US4	—	A,B,C,D,E,F,G,H	—	—
Satin Bronze, Clear Coated	612	US10	—	—	A,B,C,D,E,F,G,H	—
Dark Oxidized Satin Bronze	613	US10B	—	—	A,B,C,D,E,F,G,H	—
Black, Powder Coated	622	US19	—	—	—	A,B,C,D,E,F,G,H
Satin Chrome, Weatherized	626W	US26D	—	A,B,C,D,E,F,G,H	—	—
Satin Aluminum, Clear Anodized	628	US28	A,E,F	—	—	B,C,D,G,H
Satin Stainless Steel	630	US32D	—	—	—	A,B,C,D,E,F,G,H
Dark Bronze, Powder Coated	690	US20	—	—	—	A,B,C,D,E,F,G,H

## Finishes

ANSI/BHMA	US	Description
605	US3	Polished Brass, Clear Coated
606	US4	Satin Brass, Clear Coated
612	US10	Satin Bronze, Clear Coated
613	US10B	Dark Oxidized Satin Bronze
622	US19	Black, Powder Coated
625	US26	Polished Chromium Plated
626W	US26D	Satin Chrome, Weatherized
628	US28	Satin Aluminum, Clear Anodized
630	US32D	Satin Stainless Steel
630AM	US32D	Satin Stainless Steel, Antimicrobial
690	US20	Dark Bronze, Powder Coated
Mullion finishes		
600	USP	Primed for Paint
689		Aluminum Paint
695		Dark Bronze Paint

## Door Sizes

Stock sizes for door widths and heights are listed below. If required, cut to size in the field.

Door Widths	Stock Sizes
2'-0" to 2'-6"	2'-6"
2'-7" to 3'-0"	3'-0"
3'-1" to 4'-0"	4'-0"

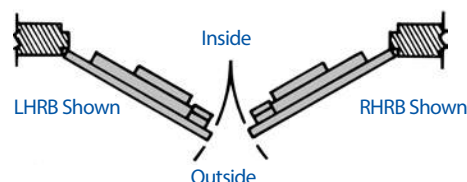
\*Not available for Narrow Stile Devices.

## Vertical Rod Devices

Device	Door Heights	Stock Sizes
Surface Vertical Rod Device*	up to 7'-0"	7'-0"
	7'-1" to 8'-0"	8'-0"
	8'-1" to 10'-0"	10'-0"
Concealed Vertical Rod Device	6'-8" to 8'-0"	8'-0"
	8'-1" to 10'-0"	10'-0"

\*Surface Vertical Rods are furnished of the same material as the device. Stainless steel rods are furnished for 625, 628 and 630 devices.

## Hand of Doors



## Fasteners

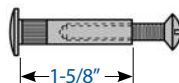
Furnished standard with machine screws and full thread wood/sheet metal screws. Specify Sex Nuts and Bolts (SNB) where recommended or required by the door manufacturer.

### Sex Nuts & Bolts (not furnished std.)

Sex Nuts & Bolts are furnished with No. 10-24 x 1" OHMS (1-1/2" long screws required for guides).

### Security Screws

All exposed screws will be a Torx pin in tamper resistant type, machine screws only. Specify (SEC) Security Screws. Cover Screws use a T20 driver, End Cap Screws use a T25 driver.



# Concealed Vertical Rod Exit Devices

S519



Apex 2800 Series - Reversible  
Apex FL2800 Fire Exit Series - Reversible

Doors – For all types of metal single and double door applications. Available for 1-3/4" thick, up to 4'-0" wide by 10'-0" high openings. For thicker doors, consult factory. Furnished standard for 1-3/4" thick, 3'-0" wide by 6'-8" to 8'-0" high openings.

Functions – Functions are field selectable. The device is furnished for a desired function if specified. If not specified the "03" function is furnished standard.

Base Material – The Cover, Touchbar, Device Channel, Lock/Hinge Side Filler and End Cap are furnished of heavy wrought Brass, Bronze or Stainless Steel. US28 Devices are furnished with Aluminum, Brass, Bronze and Stainless Steel components. See "Base Material and Finish Chart" on page 3.

Chassis – Lock Stile Assembly - Investment Cast Steel, Zinc Dichromated.

Vertical Rods – Steel, plated. Top Rod is adjustable from 6'-8" to 8'-0" or from 8'-1" to 10'-0".

Top Latchbolt – Stainless Steel, Deadlocking, 3/4" throw.

Top Strike – No. S519 Surface applied, Investment Cast Stainless Steel, Black Powder Coated.

Bottom Bolt – Steel plated, independent action 5/8" throw, with adjustment range to suit 3/4" door undercut.

Center Chassis – Steel plated, heavy wrought Steel Assembly with lock in place Top and Bottom Latch Adjustors. Adjustment accessible through the door after installation.

Bottom Strike – No. S460 Flush mounted, Steel, Black Powder Coated.

Dogging – 1/4" turn hex key dogging standard. NOT available on Fire Exit Hardware.

Touchbar Height – 39-15/16" from floor standard. Specify required height if other than standard.

Reversible – Reversible for all functions and trims. Standard packaging RHRB.

UL Listed – Panic and Fire Exit Hardware. For FIRE EXIT HARDWARE Ratings see page 33. Conforms to UL10C and UBC 7-2.

ANSI/BHMA – Devices are BHMA certified for ANSI 156.3, Grade 1.

Finishes –

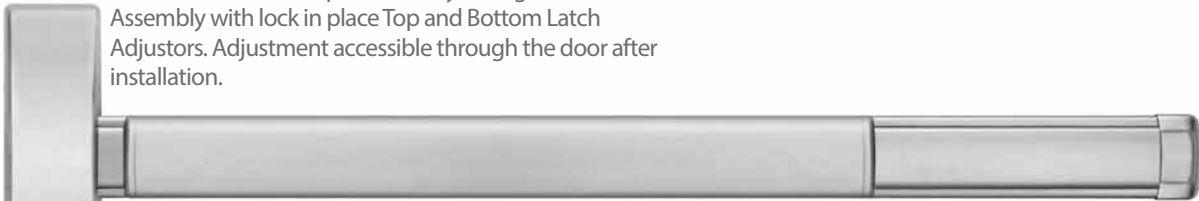
- 605 • 612 • 622 • 626W • 630
- 606 • 613 • 625 • 628 • 690

For Finish description see page 3.

Cylinders – Rim Type, not furnished standard. Specify when required. For cylinder details see page 19.

Stile Width – See Stile Information on page 36.

Less Bottom Rod (LBR) Option – Specify suffix "LBR" (e.g. 2808LBR). See UL FIRE LABEL RATING chart on page 33. Fire Rated Devices include FB277 Fire Bolt Assembly. For Fire Bolt Assembly image see page 35.



## DEVICE OPTIONS

Prefix	Description	Page	Suffix	Description	Page
C	Quick Connect Plugs	39	ALK	Exit Alarm: battery operated	27
DE	Delayed Egress	24	ALW	Exit Alarm: remote power	27
E	Electric Device	28	BRL	Braille Touchbar	35
ELR	Electric Latch Retraction	21	CD	Cylinder Dogging	9
FL	Fire Exit Hardware	16	DS	Door Position Monitoring Switch	29
HC	Windstorm and Hurricane Code Device	20	LBR	Less Bottom Rod	16
LS	Latchbolt Monitoring Switch	29	LD	Less Dogging	19
MLR	Motorized Latch Retraction	40-41	SEC	Security Screws	3
TDS	Touchbar Monitoring Double Switch	29	SNB	Sex Nut and Bolt	3
TS	Touchbar Monitoring Switch	29	WALW	Weatherized Exit Alarm: remote power	27
WTDS	Weatherized Touchbar Mon. Dbl. Switch	29	To specify add Prefix to Device No. (e.g. TS2803)		
WTS	Weatherized Touchbar Mon. Switch	29			

S460



## Trims

1700A  
"A" Grip



1700B  
"B" Grip



1700C  
"C" Grip



C03  
Cast Plate "Pull by others"



The CVR2803 with "Pull by Other" must be specified with No. C03 Cylinder Attachment Trim to secure the Rim Cylinder. Specify finish.

1. All Trims are furnished with wrought plates and extruded or cast solid grips.
2. Specify Grip Design (A,B,C) ("A" Grip furnished standard for C1700 Series Trim)
3. 630 Trim is furnished for 628 Devices.
4. 626 Trim is furnished for 626W Devices.

4900A  
"A" Lever



4900B  
"B" Lever



4900C  
"C" Lever



4900D  
"D" Lever



4900K  
"K" Knob



V4908A  
Vandal Resistant Trim

A heavy duty lever trim designed to withstand abuse and vandalism. Composed of extra strength shock-absorbing "overload" springs and heavy duty investment cast stainless steel internal components. Lever returns to the "home" position eliminating the need to reset the lever.

### Retrofit Applications

The R4900 Series Trim is designed to retrofit into other manufacturers' installations when used with the wide stile Apex Series Devices. Consult factory for details.

1. All the escutcheons and levers are castings or forgings.
2. Specify Lever or Knob Design (A,B,C,D,K) and Handing ("A" Lever x RHRB furnished standard)
3. 626 Trim furnished for 626W, 628 and 630 Devices.

- For Trim dimensions see page 38.
- Trims are BHMA certified for ANSI 156.3, Grade 1.
- Trims are through bolted and will cover 161 and 86 cutouts (except for 2000C Trim).
- Cylinder, Rim Type, not furnished standard. For cylinder details see page 19.

ANSI Function	01 Exit Only (cover plate)	02 Dummy Trim	03 Key Retracts Latchbolt	05 Key Locks/Unlocks Thumbpiece	08 Key Locks/Unlocks Lever/Knob	14 No Cylinder Lever/Knob Always Active	15 No Cylinder Thumbpiece Always Active
Device Nos.	2801 FL2701	2802	2803* FL2803*	2805 FL2805	2808 FL2808	2814 FL2814	2815 FL2815
Trim Nos.	C1701, 4901	C1702A, 4902A	C03, C1703A, 4903A	1705A	4908A, V4908A	4914A	C1715A

Device with Trim:

Device No.

Add Prefix for  
options, see page 16.

Add Suffix: for options, see page 16.

Add Prefix: "V" Vandal Resistant Lever Trim  
"C" Concealed Vertical Rod – Pull Trim  
"R" Retrofit Trim

Add Suffix: Lever or Knob Design (A,B,C,D,K)  
Grip Design (A,B,C)

Add Suffix: "KNR" Knurled Lever or Grip

TS2808CD x V4908AKNR x RHRB x 630 x 3'-0" x 7'-0" x 1-3/4"

Device w/options    Trim No.    Hand    Finish    Door Size

Device Only: Device no., hand, finish, strike, and door size including thickness: (e.g. TS2808CD x RHRB x 630 x 3'-0" x 7'-0" x 1-3/4")

Trim Only: Trim no., hand, finish, strike, and door size including thickness: (e.g. V4908A x RHRB x 626 x 1-3/4")

\* 2803 & FL2803 x Cylinder Only Application requires C03 trim.

## Motorized Latch Retraction

### Power Supplies

The PRECISION RPSMLR2 Series is the recommended power source for PRECISION Motorized Latch Retraction (MLR) exit devices. The RPSMLR2 Series provides a code compliant source of filtered and regulated 24 Volt DC power. The RPSMLR2 Series is available in two enclosure sizes and they can each power up to (2) MLR exit devices.

#### PRECISION RPSMLR2 Series Power Supplies Standard Specifications

Certifications	UL 294 ULCS-319
Input Power	120 VAC
Input	Fire alarm termination
Output Power	2 filtered & regulated 24 Volts DC outputs @ 2 Amps Holding current 200mA 1 filtered & regulated 24 Volts DC auxiliary output @ 0.8 Amps
Output	2 normal open relay outputs Outputs can be wired for 2 different modes: - 1 second delay prior to relay output - Positive confirmation of latch retraction prior to signaling the operator when used in conjunction with MLR exit device sensor wires
Battery Backup (RPSMLR2BB only)	Built in charger for sealed lead acid or gel batteries Automatically switches to stand-by if AC fails Charging current 650mA max Batteries are not included
Visual Indicators	AC power, green LED – Indicates presence of AC power Triggered input, 2 red LEDs – Indicates input activation Fire alarm interface, green LED – Indicates fire alarm activation Battery status, red LED – Indicates low battery during AC power failure
Enclosure Dimensions	RPSMLR2: 12.5"x7.5"x3.25" RPSMLR2BB: 13.5"x13"x3.25"
Security	Keyed enclosure



RPSMLR2



RPSMLR2BB





# Wi-Q™

## Wireless Access Management



BEST: Setting the Standard for Security

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## Introduction

The BEST Wi-Q™ Wireless Technology is a smart, fast, efficient wireless access control solution that will change the way you look at wireless access control. The system's 128 bit AES security encryption and ultra-smart power consumption provide unsurpassed access control benefits with lower installation costs. Multiple redundancy of the access control data at the reader, gateway and host computer means the system makes the access control decision at the door when the card is presented. BEST also built this advanced technology into its existing line of access control solutions so one application can now control the BEST® offline, wireless and online access control doors, CCTV and ID Badging.

The BEST Wi-Q Wireless Technology utilizes the proven heavy duty BEST electronic locksets which include our 9KQ, 45HQ and EXQ products. We didn't want to stop there, so we included online features such as a door position switch, request-to-exit sensor, a latch switch sensor and even a key override sensor as standard in our mortise lineup. In addition to these on the door applications, we also offer our Wireless Access Controller (WAC) module that provides wireless control for parking gates, turnstiles, electromagnetic locks, electric strikes and many other electronic devices.

The BEST Wi-Q Technology Wireless Access Solution brings intelligent power to your access control needs. Its overall design gives you upgrade ability and scalability to go from very small secure solutions to extremely large solutions. If you have been waiting for uncompromising wireless intelligence to show up at your door, BEST Wi-Q Wireless Technology has arrived.

**Products protected by one or more of the following patents** – 5,590,555 5,794,472 5,083,122 6,720,861  
Other products patent pending.

## Wi-Q – Software

Description	Part Number
BEST Wi-Q Access Management Software	WQS-SWAT

Note:

- Wi-Q systems offer capacity for up to 64 readers per portal gateway and up to 14,000 credentials per reader. Total number of readers and users that can be supported in a system depends on several factors - please contact your BEST representative for more detail.

## BEST Wi-Q Technology Wireless Access Management System – The Intelligent Option

### Standard Hardwired System

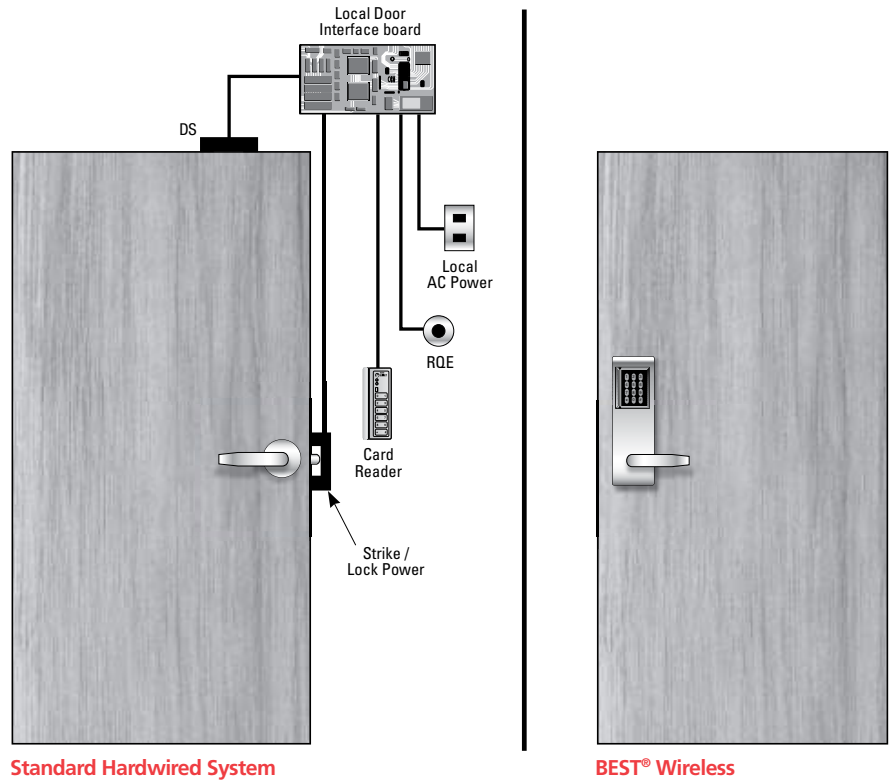
- Install electrified locking device
- Install external card reader
- Install external door position switch
- Install request to exit device(s)
- Install door control module
- Terminate all door connections
- Run wire from door control module to head-end controller

Installation approximately 6-8 hours

### BEST® Wireless

- Includes electronic locking device
- Includes card reader
- Includes door position switch
- Includes request to exit device
- Includes door control module
- No wiring or terminations needed
- Connects wirelessly to remote
- Portal Gateway

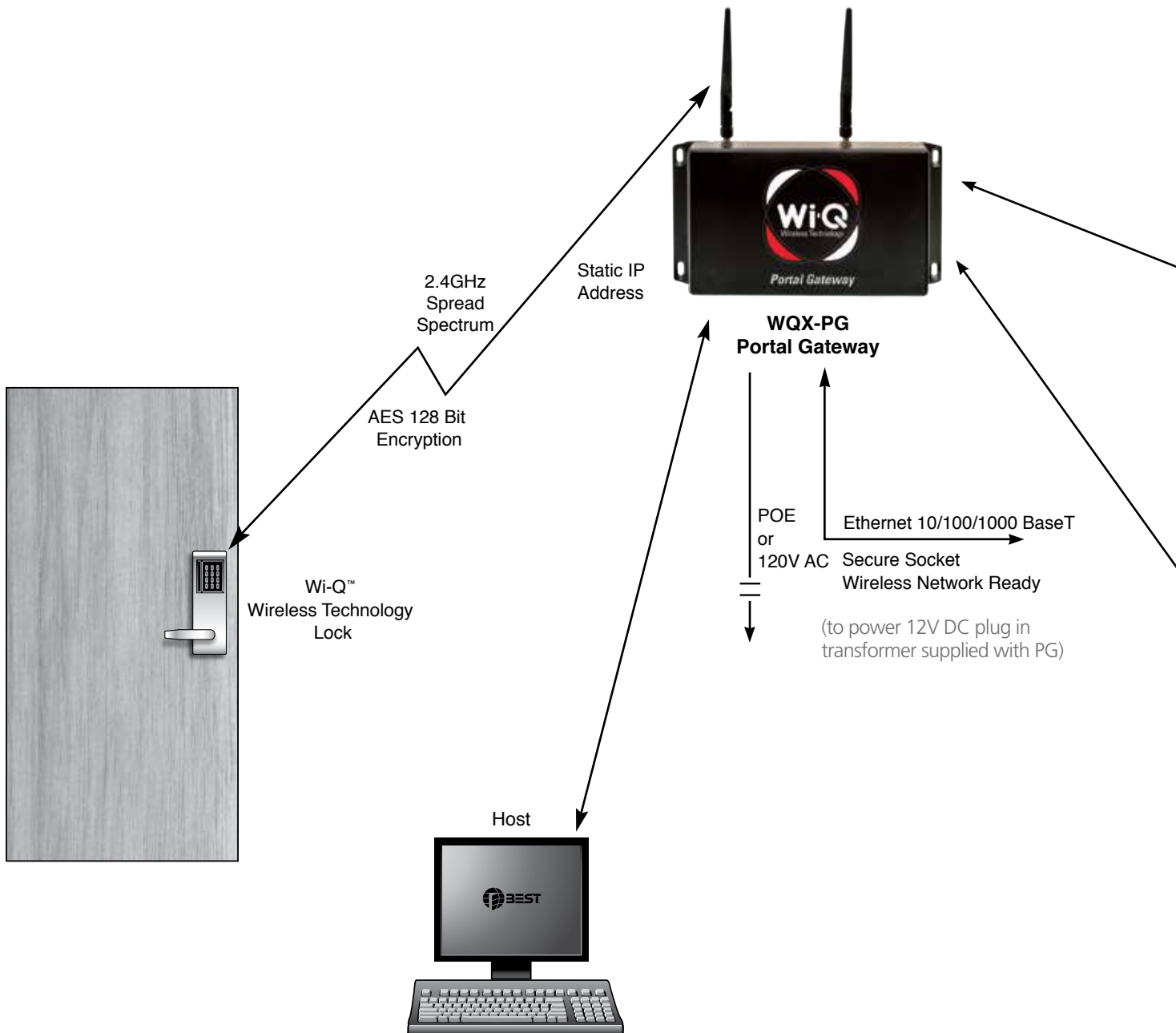
Installation approximately 1-2 hours



## Locking Hardware – Features

- Dynamic memory up to 14,000 credentials per reader
- Each reader has its own unique MAC address
- Battery-powered by 'AA' battery case (battery pack optional)
- All intelligence is at the door, NOT at a controller
- Standard Integrated Door Switch (DS), Latch Switch (LS), Request-to-Exit (RQE), Deadbolt Override (DB) and Key Override Sensor (KOS) on BEST® mortise chassis
- Standard Integrated DS, and RQE on BEST® cylindrical chassis.
- Standard Integrated DS, LS, RQE on EX chassis with the Precision™ exit device line.
- Approximately 8.7K-Event audit trail stored dynamically at reader
- 512 time zone user groups per reader with 6 intervals each
- 256 holidays
- ADA compliant locksets
- Available in cylindrical, mortise, exit device, and wireless access controller configurations
- Magnetic stripe/PIN Dual-validation, HID, iClass and Indala proximity reader technology
- Two processors for efficient and reliable transfers of data and firmware updates
- Remote reader diagnostics from PC (battery level and signal strength of each lock)

## Wireless Portal Gateway – Standard Door



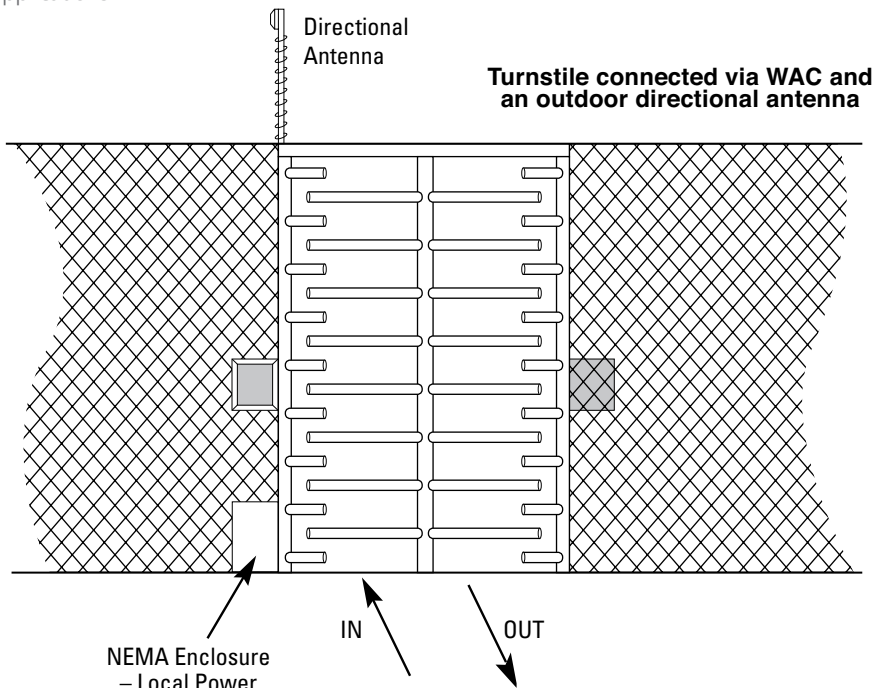
## Wireless Portal Gateway – Features

- Communicates at 2.4GHz spread spectrum to wireless readers or wireless access controllers
- Uses 802.15.4 protocol with clear channels above 802.11 to allow Wi-Fi interoperability
- 10/100/1000 Base-T bit Ethernet
- Provides redundant communication (locks attached to the strongest signal)\*
- Non-dedicated portal can communicate with 1 to 64 readers (Does not imply that 64 readers/locks will be within distance of RF range to connect. Total number of portal gateways required is based on individual system survey and requirements.)
- Does not require typical controller hardwiring, simply plug the Portal Gateway into an existing TCP/IP network and provide local power.
- POE available on certain models

\*Wi-Q™ AMS only feature and not available in B.A.S.I.S.®

## Wireless Access Controller

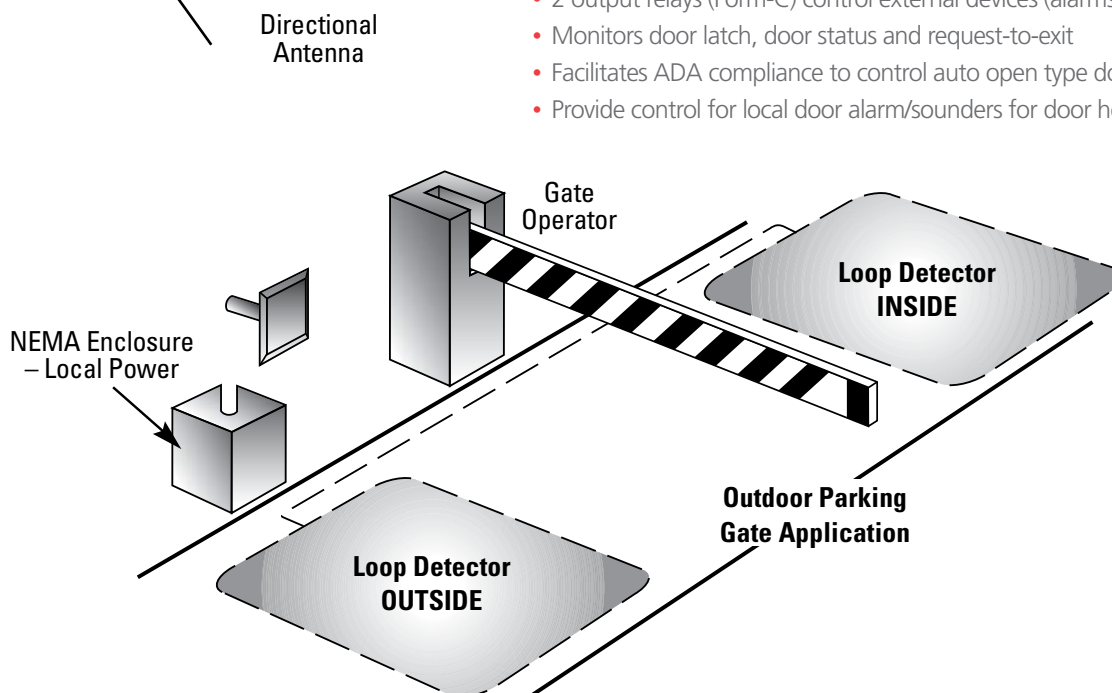
Wireless Access Controller (WAC) for turnstiles, parking gate arms, store front entry doors and existing hard-wired card access doors in retrofit applications.



WQX-WAC  
Wireless Access Controller

## Wireless Access Controller – Features

- Provides wireless control of electric locks on glass/aluminum doors
- Provides relay control for various locking devices
- Recommended for exterior door applications
- Existing wired system can be converted to wireless technology
- 2 output relays (Form-C) control external devices (alarms, electrified hardware, etc.)
- Monitors door latch, door status and request-to-exit
- Facilitates ADA compliance to control auto open type doors
- Provide control for local door alarm/sounders for door held open events





# Mortise Lock

**Case** – 0.095" cold rolled steel, 5 7/8" (149mm) H x 7/8" (22mm) D x 4 1/16" (149mm) W. Steel is zinc dichromate plated for corrosion protection.

**Faceplate** – Brass or bronze material, 8" (203mm) H x 1 1/4" (31mm) W x 1/16" (1mm) T. Lock face automatically adjusts to proper level during installation.

**Strike** – Brass, bronze, or stainless steel base material, 4 7/8" (124mm) H x 1 1/4" (31mm) W x 3/32" (2mm) T. Fits standard door frame cut-out as specified in ANSI A115.1. Universal (non-handed) strike supplied standard with lock.

**Backset** – 2 3/4" (69mm)

**Door thickness** – Standard lock configuration designed for doors 1 3/4" thick. Thick door configuration available for door to 3" thick (specify thickness when ordering).

**Latchbolt** – Solid stainless steel, 3/4" (19mm) throw. Latch is oil-impregnated for anti-friction operation. Reversible without opening case.

**Deadbolt** – Stainless steel, 1" (25mm) throw.

**Auxiliary bolt** – Stainless steel, non-handed.

**Lever handle** – Brass, bronze, or stainless steel base material. Lever styles 3, 14, and 15 return to a minimum of 1/2" (12mm) of door surface. Levers 12, 16, and 17 do not return.

**Escutcheons** – 10 1/2" (267mm) H x 3 5/16" (84mm) W x 1" (25mm) D (1" (25mm) at the top, sloping down to 3/4" (19mm) at the bottom)

**Finishes** –

- 605 – bright brass, clear coated
- 606 – satin brass, clear coated
- 611 – bright bronze, clear coated
- 612 – satin bronze, clear coated
- 613\* – oxidized satin bronze, oil rubbed
- 625 – bright chromium plated
- 626 – satin chromium plated
- 629 – bright stainless steel
- 630 – satin stainless steel
- 690\*\* – dark bronze powder coated

**Antimicrobial Finishes** –

- 626AM – Satin Chrome Plated with UltraShield Antimicrobial coating
- 630AM – Satin Stainless Steel with UltraShield Antimicrobial coating

\* 613 finish is designed to wear over time, providing an "antique" appearance.

\*\* 690 finish will continue as a dark brown appearance over time.

**ADA-Americans With Disabilities Act** – The design and operation of the mortise lock meets the intent of the standard for ANSI A117.1 section 404.2.6.

**Builders Hardware Manufacturers Association** – ANSI A156.13, Series 1000, Grade 1 Operational, Strength, and Security. To meet Grade 1 Security, drill resistant cores

**Underwriters Laboratories®** – The 40H series is listed by Underwriters Laboratories for use on a 3 hour A label doors. These locks also carry the C-UL mark which is officially accepted in all of Canada, indicating compliance with appropriate Canadian standards and codes.

**UltraShield™** – The UltraShield protection is limited to the product's surface and is not meant to be a substitute for good hygiene. BEST recommends instituting and maintaining a thorough cleaning regimen of all your door hardware.



45HQ Proximity Reader



## Mortise Lock – Functions

<b>TV Deadbolt with key override</b>	<p><b>Latchbolt operated by:</b></p> <ul style="list-style-type: none"> <li>• Outside key</li> <li>• Outside lever - unless locked by internal motor drive mechanism</li> <li>• Inside lever</li> </ul> <p><b>Latchbolt deadlocked by:</b></p> <ul style="list-style-type: none"> <li>• Auxiliary latch</li> </ul> <p><b>Deadbolt operated by:</b></p> <ul style="list-style-type: none"> <li>• Outside key</li> <li>• Inside turn knob</li> <li>• Outside lever when lever is unlocked by internal motor drive mechanism (retracts only)</li> <li>• Inside lever (retracts only)</li> </ul> <p><b>Outside lever locked and unlocked by:</b></p> <ul style="list-style-type: none"> <li>• Internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN</li> </ul> <p><b>Inside lever is always unlocked</b></p>	<b>DV Latchbolt with key override</b>	<p><b>Latchbolt operated by:</b></p> <ul style="list-style-type: none"> <li>• Outside key</li> <li>• Outside lever - unless locked by internal motor drive mechanism</li> <li>• Inside lever</li> </ul> <p><b>Latchbolt deadlocked by:</b></p> <ul style="list-style-type: none"> <li>• Auxiliary latch</li> </ul> <p><b>Outside lever locked and unlocked by:</b></p> <ul style="list-style-type: none"> <li>• Internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN</li> </ul> <p><b>Inside lever is always unlocked</b></p>
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## Cylindrical Lock

**Materials** – Internal parts are brass, zinc, or corrosion-treated steel.

**Chassis:** 2 1/16" (52mm) diameter to fit 2 1/8" (53mm) diameter hole in door.

**Strike** – Brass, bronze, or stainless steel base material; STK 2 3/4" (69mm) H standard, STK3 4 7/8" (123mm) H. Fits standard door frame cut out as specified in ANSI A115.1. Strike box supplied as standard.

**Backset** – 2 3/4" (69mm) standard, 3 3/4" (95mm) and 5" (127mm) available.

**Door thickness** – Standard lock configuration designed for doors 1 3/4" (44mm) – 2 1/4" (57mm) thick.

**Core housing** – 7-pin core.

**Latchbolt** – 9/16" (24mm)

**Lever handle** – Manufactured from high quality zinc alloy, coated to match specified finish. Body is approximately 1 5/8" (41mm) in diameter; handle is approximately 4 3/4" (120mm) in length (from center of chassis). Lever styles 14 and 15 return to a minimum of 1/2" (12mm) of door surface. Lever 16 does not return.

**Escutcheons** – 10 1/2" (267mm) H x 3 5/16" (84mm) W x 1" (25mm) D (1" (25mm) at the top, sloping down to 3/4" (19mm) at the bottom).

**Finishes** –

- 605 – bright brass, clear coated
- 606 – satin brass, clear coated
- 612 – satin bronze, clear coated
- 625 – bright chromium plated (brass base material)
- 626 – satin chromium plated (brass base material)
- 690\*\* – dark bronze coated (brass base material)

**Antimicrobial finishes** –

- 626AM – Satin Chrome Plated with UltraShield™ Antimicrobial coating
- 630AM – Satin Stainless Steel with UltraShield™ Antimicrobial coating

\*\* 690 finish will continue as a dark brown appearance over time.

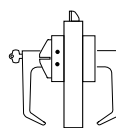
See page 6 for certification descriptions.



9KQ Dual Validation Reader



## Cylindrical Lock – Function

<p><b>DV Latchbolt with key override</b></p> 	<p><b>Latchbolt operated by:</b></p> <ul style="list-style-type: none"> <li>• Outside key</li> <li>• Outside lever - unless locked by internal motor drive mechanism</li> <li>• Inside lever</li> </ul> <p><b>Outside lever locked by:</b></p> <ul style="list-style-type: none"> <li>• Internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN</li> </ul> <p><b>Latchbolt is deadlocked</b></p>	<p><b>Outside lever unlocked by:</b></p> <ul style="list-style-type: none"> <li>• Internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN</li> </ul> <p><b>Inside lever is always unlocked</b></p>
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## Accessories



NTD360120WBK  
Magnetic Card  
Access Reader



NTD310120WBK  
Dual Validation  
Reader



HD-5365EGP00  
HID Proximity  
Reader



WQD-12928-001  
POE Splitter  
with Ferrite



WQD-12929-001  
POE Injector

## Exit Trim

**Materials** – Internal parts are brass, zinc, or corrosion-treated steel.

**Escutcheons** – 10 5/8" (295mm) H x 3 5/16" (84mm) W x 1" (25mm) D. (1" (25mm) at the top, sloping down to 3/4" (19mm) at the bottom)

**Door thickness** – Standard lock configuration designed for doors 1 3/4" (44mm) – 2 1/4" (57mm), thick.

**Lever handle** – Brass, bronze, or stainless steel base material. Lever styles 14 and 15 return to a minimum of 1/2" (12mm) of door surface.

**Finishes** –

- 606 – satin brass, clear coated
- 613\* – oxidized satin bronze, oil rubbed
- 626 – satin chromium plated (brass base material)
- 690\*\* – dark bronze coated (brass base material)

**Antimicrobial finishes** –

- 626AM – Satin Chrome Plated with UltraShield™ Antimicrobial coating
- 630AM – Satin Stainless Steel with UltraShield™ Antimicrobial coating

\* 613 finish is designed to wear over time, providing an "antique" appearance.

\*\* 690 finish will continue as a dark brown appearance over time.

Exterior trim assembly compatible to exit hardware from Precision™, Von Duprin™, or Sargent™ 8000 rim device.

- Provides online lock capabilities for applications where building code requires exit hardware
- Exit trim comes standard with Door Position Switch (DS). It also comes with lead wires to connect to an optional Request-to-Exit (RQE) switch and an optional latch position switch available with the Precision line of exit devices.
- Request-to-Exit (RQE) & Latch Position Switch (LS) not available on Precision mortise
- The actual Request-to-Exit (RQE) & Latch Position Switch (LS) are never included with the EXQ trim. Those switches must be purchased separately.
- All EXQ trim must be installed by a Best Certified Technician or warranty will be voided
- Exit hardware sold separately

See page 6 for certification descriptions.



EXQ Magnetic Stripe Reader



## Exit Trim – Functions

<b>EV with key override</b>	<p><b>Latchbolt operated by:</b></p> <ul style="list-style-type: none"> <li>• Outside key</li> <li>• Outside lever-unless locked by internal motor drive mechanism</li> <li>• Touchbar</li> </ul> <p><b>Outside lever locked by:</b></p> <ul style="list-style-type: none"> <li>• Internal motor drive mechanism operated by time-activated electronic signal</li> </ul> <p><b>Outside lever unlocked by:</b></p> <ul style="list-style-type: none"> <li>• Internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN</li> </ul> <p><b>Inside hardware is always unlocked</b></p>
-----------------------------	---

## Exit Trim – Compatibility Chart

Device Type	Precision 2000	Von Duprin 98/99	Sargent 8800
Rim – w/o key override	2103	98TP, 99TP, 98L, 99L	8828, 8863, 8866
Surface Vertical Rod – w/o key override	2203	9827TP, 9947TP, 9827L, 9927L	N/A
Concealed Vertical Rod – w/o key override	2703	9847TP, 9847L, 9947L	N/A
Rim – with key override	2103	98TP, 99TP, 98L, 99L	N/A
Surface Vertical Rod – with key override	2203	9827TP, 9947TP, 9827L, 9927L	N/A
Concealed Vertical Rod – with key override	2703	9847TP, 9947TP, 9847L, 9947L	N/A

## Locking Hardware Types And Technologies

### The BEST Wi-Q™ Access Control Solutions supports:

- BEST® Mortise locks
- Precision™ Exit devices
- BEST Cylindrical locks
- BEST Wireless Access Controller platforms

### Lock reader types supports:

- Magnetic stripe
- Indala® proximity
- HID® proximity 125KHz
- Dual validation (magnetic stripe plus keypad)
- HID® iClass

## Door Hardware Integrated

**Sealing** – Weatherproof lens and gasket provides protection for outdoor use (usable in most environmental/ exterior applications).

**FCC Compliance** – Compliant with US, Canadian, and European EMC requirements, and for FCC Class A digital apparatus interference.

## Magnetic Stripe – Reader

### Magnetic Stripe Reader:

**Bezel Size** –

2 5/8" (66mm) x 3 1/4" (82mm)

**Bezel Material** – High impact ABS.

**ESD Protection** – 15 kilovolts

**Read Rate** – 5 inches per second to 50 inches per second.

**Card Thickness** – ISO standard .030" ± .003 thick.

**Operating Temperature** –

-40°F to 167°F (-40°C to 75°C.)

**Relative Humidity** – 100%.

**Primary Power** – Battery pack.

**User Feedback Indicators** – Visual and audible.



9KQ, 45HQ, EXQ  
Magnetic Stripe Reader

## Proximity – Reader

### Proximity Reader:

**Bezel Size** –

2 5/8" (66mm) x 3 1/4" (82mm)

**Bezel Material** – High impact ABS.

**ESD Protection** – 15 kilovolts.

**Operating Temperature** – -31°F to 149°F (-30°C to 65°C.)

**Relative Humidity** – 0-95%.

**Primary Power** – Battery pack.

**User Feedback Indicators** – Visual and audible.

Note: Can be used in direct sunlight.



9KQ, 45HQ, EXQ  
HID 125 kHz or iClass  
Proximity Reader or  
Indala Proximity Reader

## Dual Validation – Reader

### Dual Validation Reader:

**Bezel Size** –

2 13/16" (71mm) x 3 1/2" (89mm)

**Bezel Material** – High impact ABS.

**Keypad Material** – Encapsulated elastomer.

**ESD Protection** – 15 kilovolts.

**Keypad Button Operating Life** – 1 million cycles.

**Operating Temperature** –

-31°F to +151°F (-35°C to +66°C).

**Primary Power** – Battery pack.

**User Feedback Indicators** – Visual and audible.



9KQ, 45HQ, EXQ  
Dual Validation

# BEST Wi-Q™ Components

Portal Gateways (PG):	Part #
Portal Gateway for up to 64 Readers/Locks* with half wave dipole omnidirectional antenna (should only be used where PG is mounted in an open area (not in a ceiling or restricted signal area)	WQX-PG
Portal Gateway for up to 64 Readers/Locks* with ceiling mount omnidirectional antenna	WQX-PGC
Portal Gateway with enclosure, power supply and ceiling mount omnidirectional antenna	WQX-PG-C-B
Portal Gateway for up to 64 Readers/Locks* with wall mount directional antenna	WQX-PG-W-B
Portal Gateway with enclosure, power supply, and outdoor mast mount directional antenna	WQX-PG-D-B
Portal Gateway with enclosure, power supply, and outdoor mast mount omnidirectional antenna	WQX-PG-O-B
* Does not imply that 64 readers/locks will be within distance/RF range to connect. Total number of portal gates is based on individual system survey and requirements	
Wireless Access Controllers (WAC):	Part #
Wireless Access Controller (WAC) with half wave dipole omnidirectional antenna (should only be used where WAC is mounted in an open area (not in a ceiling or restricted signal area)	WQX-WAC
Wireless Access Controller with ceiling mount omnidirectional antenna	WQX-WAC-C
Wireless Access Controller in enclosure with power supply and ceiling mount Omni-directional antenna	WQX-WAC-C-B
Wireless Access Controller with wall mount directional antenna	WQX-WAC-W
Wireless Access Controller in enclosure with power supply and wall mount directional antenna	WQX-WAC-W-B
Wireless Access Controller in Nema enclosure with power supply and exterior directional antenna	WQX-WAC-D-BW
Wireless Access Controller in Nema enclosure with power supply and exterior amnia directional antenna	WQX-WAC-O-BW
Power and adapters:	Part #
Plug in Transformer (wall-mount) with 6' of cable	WQD-12827
Power over Ethernet Power Supply/Insertor	WQD-12927-001
Power over Ethernet Active Splitter with Isolation	WQD-12928-001
Wi-Q™ Antennas	Part #
2.4 GHz Interior Ceiling Mount Omnidirectional Antenna Kit*	WQD-ACMO
2.4 GHz Interior Wall mount directional antenna Kit*	WQD-AWMD
2.4GHZ Exterior directional antenna***	WQD-AEMD
2.4GHZ Exterior omnidirectional mast mount	WQD-AEMO
Exterior Antenna Grounding Kit***	WQD-AGT
Surge Protection Kit	WQD-SURG

\* Antenna Kit includes: antenna, standard mount and 20' cable to connect to PG or WAC

\*\* Antenna Kit includes: antenna, wall and post mounts and 20' cable to connect to WAC or PG

\*\*\* Grounding Kit includes: coax grounding kit and lightning arrestor




## How to Order Mortise Locks

45HQ	7	TV	15	MS	626	RH	Options
Series	Core Housing	Function Code	Lever/Knob Style	Trim Style	Finish	Door Hand	Options
45HQ – mortise	0 – keyless 7 – 7 pin IC housing accepts all BEST cores	DV – Latch w/ key TV – Deadbolt w/key LV – Deadbolt w/o key NV – Latch w/o key	3** – solid tube with return & 4 – round knob 12 – solid tube/ no return & 14 – curved return & 15 – contour angle return & 16 – contour angle/ no return & 17 – gull wing/ no return &	MS – magstripe DV – dual validation (magstripe & keypad) PH – HID® proximity SC – HID® iClass® PM – Indala® proximity DVA – other cyl. MSA – other cyl. PHA – other cyl. PMA – other cyl.	626 630 690 Satin* 606 612 613 Bright* 605 611 625 629	RH RHRB LH LHRB	8CE* – extended life battery pack KOS* – key override sensor SH* – security head screws Thick door* – specify thickness TAC* – Tactile lever 7/8" LTC – Flat lip strike 4SW - Shrink wrap battery

DV Function: Wireless locks come with Integrated Door Hardware (IDH) as standard -Request-to-Exit (RQE), Door Position Switch (DS), Latch bolt monitor switch (LS) and Key Override Switch (KOS).

TV Function: Wireless locks come with Integrated Door Hardware (IDH) as standard -Request-to-Exit (RQE), Door Position Switch (DS), Deadbolt monitor switch (DBS) and Key Override Switch (KOS). \* Indicates extra cost option. \*\* Indicates cost deduction.

## How to Order Cylindrical Locks

9KQ3	7	DV	15	MS	STK	626	
Series Backset	Core Housing	Function Code	Lever Style	Trim Style	Strike Package	Finish	Options
9KQ3 – 2-3/4" (69mm) 9KQ4* – 3-3/4" (95mm) 9KQ5* – 5" (127mm) wireless	0 – keyless 6 – 6 pin non-IC cylinder 7 – 7 pin IC housing accepts all BEST cores	DV – with key override	14 – curved return  15 – contour angle return  16 – curved without return 	MS – mag stripe DV – dual validation (magstripe + keypad) PH – HID® proximity SC – HID iClass PM – Indala® proximity	STK – standard S3 – ANSI	626 690 Satin* 606 612 Bright* 605 625	8CE* – extended life battery pack LM – lost motion SH* – security head screws TAC* – tactile lever 3/4* – 3/4" (19mm) throw latch OB** – non-IC zero-bitted COR*** – non IC Corbin/Russwin MED*** – non IC Medeco SAR*** – non IC Sargent SCH*** – non IC Schlage YAL*** – non IC Yale SCHRC*** – non IC Schlage removable core (14 & 15 lever only) 4SW – Shrink Wrap Battery



Wireless locks come with Integrated Door Hardware (IDH) as standard – Request-to-Exit (RQE), door position switch (DS) and latch bolt monitor switch (LS)

\* Indicates extra cost option.

\*\*Six-pin cylinder in Schlage® "C" keyway included with OB, KA, KD options. Must specify "6" for core housing.

\*\*\*Cylinder not included with COR, MED, SAR, SCH, YAL, or SCHRC options. Must specify "0" for core housing.

## How to Order Exit Trim

EXQ	7	DV	15	MS	626	RHRB	PH2	RM	
Series	Core Housing	Function Code	Lever Style	Trim Style	Finish	Door Hand	Manufacturer	Locking Type	Options
EXQ – wireless	0** – keyless 7 – 7 pin IC housing accepts all BEST cores	EV – with key**	14 – curved return  15 – contour angle return 	MS – magstripe DV – dual validation (magstripe + keypad) PH – HID proximity SC – HID iClass PM – Indala proximity	626 690 Satin* 606 613	RHRB LHRB	VD9 – Von Duprin 98/99 series PH2 – Precision Hardware 2000 series SA8 – Sargent 8000 series***	RM – rim*** MO – mortise RD – surface and concealed vertical rods	SH* – security head screws Thick Door* – specify thickness

Wireless locks come with door position switch (DS) and connector/input to connect to Request-to-Exit (RQE) switch inside exit device. Latch switch monitoring capability is available for Precision™ Exit devices that include the latch monitor option.

\* Indicates extra cost option. \*\*The EV function (key override) is not available on the Von Duprin™ mortise type or Sargent™ rim type device.

\*\*\*SA8 Only available with rim type device.

## How to Order Wireless Conversion Kits

Series	
WQCNKT-1 – Cylindrical wireless upgrade kit	Kit to convert a B.A.S.I.S.® 9K V/G stand-alone lockset to a BEST® Wi-Q™ Wireless Lockset. Note: Kit includes a new 9K chassis with new motor, RQE hub and door position switch.
WQCNKT-2 – Mortise DV function (without deadbolt) wireless upgrade kit with alarm functionality	Kit to convert a B.A.S.I.S. 35H V/G or B.A.S.I.S. 45H V/G stand-alone lockset to a BEST Wi-Q Wireless Lockset. Note: Kit also contains a new 45H DV mortise case which includes RQE, Door Position Switch, Latch Position Switch, and Key Override Sensor to provide full alarm functionality.
WQCNKT-3 – Mortise TV function (with deadbolt) wireless upgrade kit with alarm functionality	Kit to convert a B.A.S.I.S. 35H V/G or B.A.S.I.S. 45H V/G stand-alone lockset to a BEST Wi-Q Wireless Lockset. Note: Kit also contains a new 45H TV mortise case which includes RQE, Door Position Switch, Deadbolt Position Switch, and Key Override Sensor to provide full alarm functionality.

Upgrade kits must be installed by a BEST technician for warranty purposes.

## BEST Wi-Q™ AT A GLANCE

HARDWARE FEATURES	Wi-Q SOFTWARE FEATURES		Wi-Q 3.1 FEATURES
Battery Operated	Door Controllers Per System	5,000*	Controller passage mode with authority
Programmed with Computer at Central Location	Sign On/Configuration Tool (ie - PDA) Required	NO	Controller deadbolt override with authority
14,000 Users per Lock	Door Controllers Per Access Point	64	Controller 1st card unlock with authority
Audit Trail Function	Intelligence At The Door	YES	Support for offline Omnilock (OM2000)
Number of Time Zones - 512 * 6 Intervals (3,072)	B.A.S.I.S.® Software Compatible	YES	Portal Gateway IPv6
Key Override Capability	C.Cure9000 Software Compatible	YES	Credential size - from 20 to 32 digits
Dual Validation Keypad/Mag Reader	Lenel OnGuard® Compatible	YES	
Pin #'s vary in length from 4-9 characters	FIPS140 Compliant	YES	
Mag Stripe Reader	iCLASS	YES	
Prox Reader	Dual Mag Stripe Keypad	YES	
Exit Trim Available	*These numbers have the ability to be much higher or lower depending on the user's system configuration.		
Decision made at reader			



6161 East 75th Street  
Indianapolis, IN 46250 USA

Phone 855-365-2407

[bestaccess.com](http://bestaccess.com)





# Heavy Duty Arm (Push) Application

## D-4550 / D-4551 Series Door Closer Specifications

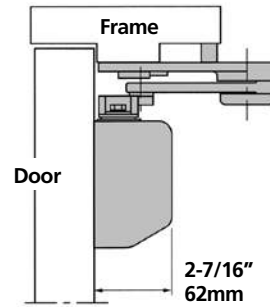
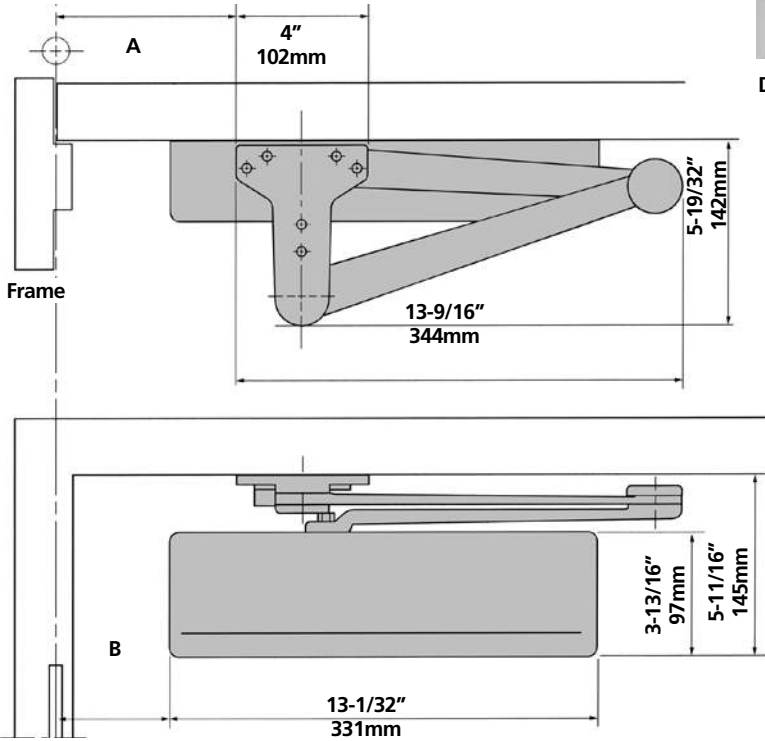
- EDA, PEDA, S, CS, H3 and HCS
- Can be templated for either 120° or 180° (when butt, frame and wall conditions permit.)
- Custom installation template may be available for unusual installation conditions. Contact dormakaba for assistance.

Hold-open is approximately 3° less than maximum door opening.



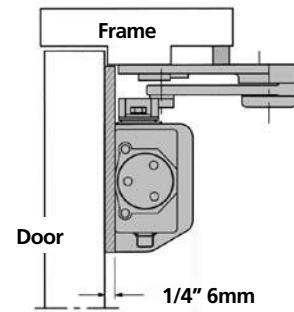
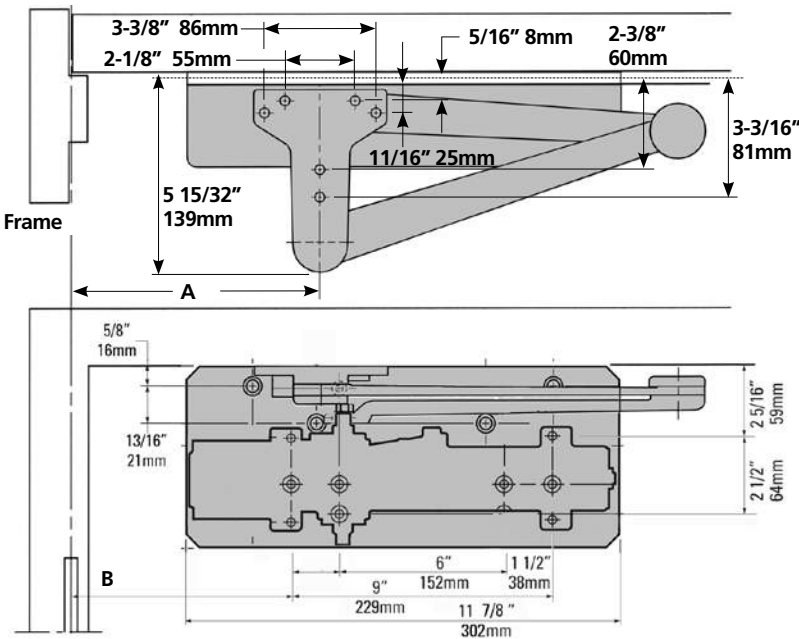
D-4550/D-4551 Heavy Duty Arm Application

### Heavy Duty Push Installation



Standard Maximum Door Opening		
120° Opening	160° Opening	180° Opening
A = 7-3/8" (187mm)	A = 6-3/32" (155mm)	A = 4-5/8" (117mm)
B = 6-1/2" (165mm)	B = 5-11/32" (136mm)	B = 3-3/4" (95mm)

### Drop Plate Installation P45-180-D (For drop plate dimensions see page 13.)



Drop Plate Maximum Door Opening		
120° Opening	160° Opening	180° Opening
A = 9-3/8" (238mm)	A = 8-1/4" (210mm)	A = 6-5/8" (168mm)
B = 8-1/2" (216mm)	B = 7-3/8" (187mm)	B = 5-3/4" (146mm)

# General Information

Arm Options Suffix Description		Page
L	Long Rod Forearm (Top Jams only)	10
H	Standard Hold Open	5
PH	Parallel Hold Open	6
EH	Electronic Hold Open	13, 14
H-EDA	Heavy Duty Arm w/Hold Open	8
S	Heavy Duty Arm w/Stop	8
CS	Heavy Duty Arm w/Compression Stop	8
HS	Heavy Duty Arm w/Hold Open and Stop	8
HCS	Heavy Duty Arm w/Hold Open & Comp. Stop	8
T	Track Mount	10
HT	Track Mount w/Hold Open	10
TCS	Track Compression Stop	10

**Packaging Information** – All D-4550 / D-4551 Series Door Closers with standard arm sets are packed for mounting on standard, parallel arm or top jamb applications. All closer assemblies are packed 4 per carton. Tracks for track mounted closers are packed separately.

**Through Bolts and Sex Nuts** – When through bolting is ordered, factory will furnish sex nuts for use with the machine screws furnished with the closer. Nuts are sized to accommodate 1-3/8" or 1-3/4" thick doors. Mounting screw thread size 12/24.

**Finishes –**

- 689– Aluminum painted
- 690– Dark bronze painted
- 691– Light bronze painted
- 693– Black painted
- 695– Dark bronze painted
- 696– Satin brass painted

**ANSI and U.L. Specifications:**



The D-4550/D-4551 Series Door Closers have been Certified to the requirements of the ANSI/BHMA Standard A156.4 - 2000 Grade 1. Available in a variety of ANSI/BHMA finishes. The Stanley Door Closer electro-static finishes surpassed over 100 hours of salt spray exposure.

UL listed with Underwriters' Laboratories, Inc. and Underwriters' Laboratories of Canada for "Self Closing Doors Without Hold-Open Feature". (File number 7525R).

**UL10C – UBC 7.2**

D-4550/D-4550 closers have been tested and certified to meet the positive pressure criterion of UL10C & UBC 7.2 (1997)

## How To Order: D-4550/D-4551

D-455	0	DA	EDA	689	SN
Model. No.	Size	Options	Arm Type	Finishes	Fasteners
D-455	0– See Closing Power Adjustment page 2 1– See Closing Power Adjustment page 2	AVB – advanced variable backcheck (optional) DA – Delayed Action (optional) MC – Metal Cover (optional)	L– Long Rod Forearm (TJ only) H – Standard Hold Open PH – Parallel Hold Open EDA – Heavy Duty Arm EH – Electronic Hold Open H-EDA – Heavy Duty Arm w/Hold Open S – Heavy Duty Arm w/ Stop CS – Heavy Duty Arm w/Compression Stop HS – Heavy Duty Arm w/ Hold Open & Stop HCS – Heavy Duty Arm w/ Hold Open & Compression Stop Std. Packaging – See packaging above T – Track Mount HT – Track Mount w/ Hold Open TCS – Track Compression Stop	689 690 691 693 695 696	SN – Sex Nuts & Bolts Wood & Machine Screws furnished standard See Security Screws



# Protection Plates



Trimco's **Protection Plates** are offered with many value-added standard features as well as custom options to meet job specifications. Trimco's Protection Plates are manufactured in the U.S.A. from stainless steel, bronze or brass and include pencil bevel on all four edges standard. Other options include heavy bevel, countersinking and custom cutouts. Multiple material options create an offering that is flexible for most any application.

## APPLICATIONS

- Office Buildings
- K-12 Schools
- Hospitality
- Retail & Strip Malls
- Commercial & Industrial Buildings

## DOOR, WALL & FRAME PROTECTION

### PRODUCT FEATURES

- Manufactured in the United States.
- Heavy duty .050" stainless steel, brass, bronze or aluminum material standard. Other materials including .038", .062", .125" and custom options available.
- Pencil beveled on all four sides standard.
- Stretcher plates include heavy bevel, countersink and oval head screws standard.
- Custom cutouts, sizes and shapes available.

### SPECIFICATIONS

#### MATERIAL OPTIONS

- BR** – Brass
- BZ** – Bronze
- AI** – Aluminum
- SS** – Stainless Steel

#### WARRANTY

Limited Lifetime Warranty

#### SERIES

- KA038** Armor plate, .038", 17"-48" high
- KA050** Armor plate, .050", 17"-48" high
- KA064** Armor plate, .064", 17"-48" high
- K0038** Kick plate, .038", 7"-16" high
- K0050** Kick plate, .050", 7"-16" high
- K0064** Kick plate, .064", 7"-16" high
- K0125** Kick plate, .125", 7"-16" high
- KM038** Mop plate, .038", 6" high or less
- KM050** Mop plate, .050", 6" high or less
- KM064** Mop plate, .064", 6" high or less
- KS050** Stretcher plate, .050", countersunk & heavy B4E
- KS038** Stretcher plate, .038", countersunk & heavy B4E
- K6000** Plastic kick plate, 1/8", 4" -48" high

### FINISHES

- 605** Polished Brass
- 606** Satin Brass, Dull
- 612** Satin Bronze
- 613** Oil Rubbed Bronze
- 628** Satin Aluminum, Clear Anodized
- 629** Polished Stainless Steel
- 630** Satin Stainless Steel
- SPEC** Special Options Available

# Protection Plates

## HOW TO SPECIFY & ORDER

### CHOOSE THE FOLLOWING

Type	Height Range	Plate Thickness	Part Number	Finishes	Options
Armor Plates	17"-48"	.038"	KA038	<b>605</b> Polished Brass	<b>B4E</b> Heavy
		.050"	KA050	<b>606</b> Satin Brass	<b>C</b> Sunk
		.064"	KA064	<b>612</b> Satin Bronze	<b>Cut</b> Louvre
Kick Plates	7"-16"	.038"	K0038	<b>613</b> Oil Rubbed Bronze	<b>Cut</b> Mortise
		.050"	K0050	<b>628</b> Satin Aluminum, Clear Anodized	<b>Cut</b> Rosette
Mop Plates	6" or Under	.064"	K0064	<b>629</b> Polished Stainless Steel	<b>RC</b> Round Corner
		.125"	K0125	<b>630</b> Satin Stainless Steel	<b>Adhesive</b> Tape Mounted
		.038"	KM038	<b>SPEC</b> Special Options Available	
		.050"	KM050		
Stretcher Plates	Specify	.064"	KM064		
		.038"	KS038		
		.050"	KS050		
Plastic Kick Plates	4"-48"	.125"	K6000	Standard Black & Grey, Other Colors Available: Khaki Brown, Beige, Dove Grey, Frosty White	

### EXAMPLE

For a 34" x 34" armor plate manufactured from .050" stainless steel, with countersunk and heavy bevel, specify or order:  
**KA050.630 34" x 34" B4E-Heavy C-Sunk.**

### PLASTIC PUSH PLATE COLOR OPTIONS

#### STANDARD COLORS



1595-60 BLACK



1500-60 GREY

#### OTHER STANDARD COLORS



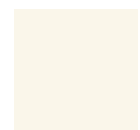
D50-60 KHAKI BROWN



1530-60 BEIGE



D92-60 DOVE GREY



1573-60 FROSTY WHITE

\* Dimensions are informational only. Templates are available at [www.trimcobbw.com](http://www.trimcobbw.com)



# Silicone Bulb Fire and Smoke Seal

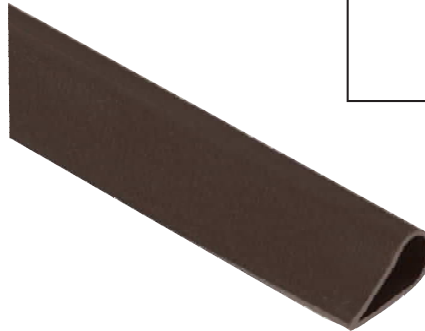
**5050**





**Material**  
Synthetic rubber polymer: Siloxane  
Self-Adhesive


- Excellent flexibility and memory
- Flame resistant
- Moisture resistant
- Temperature range -100°F to 500°F, remains flexible at extreme temperatures
- Excellent resistance to ozone, UV and aging
- Recommended for areas using FM200 or Halon Fire Suppression Systems
- BHMA Certified to ANSI/BHMA A156.22 performance tests for heat, cold and air infiltration
- Modified acrylic pressure sensitive adhesive protected by release liner
- Provides high initial adhesion and long term holding power for permanent mounting in exterior or interior locations
- Resistant to aging, weathering, UV radiation, water, detergent, alcohol and the influence of chemicals
- End use temperature range of adhesive, long term exposure -30°F up to 250°F
- Shelf life of adhesive prior to installation is one year when stored at 75°F and 50% relative humidity or less
- Meets requirements of RoHS directive
- 1/2" wide x 1/4" tall
- Available in 17', 20', 21', 25' and 300' rolls.

<b>Color</b>	
5050B	Brown
5050C	Charcoal
5050W	White
5050T	Tan
5050CL	Clear

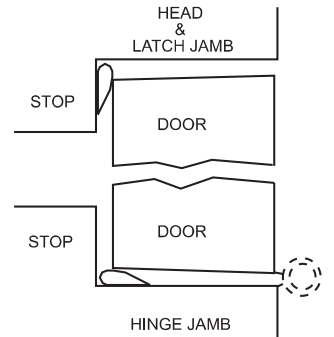
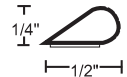


 **Edge Sealing System - Category "G"** for 20 minute rated category B wood doors perimeter application up to:  
 single swing . . . . . 4'0 x 8'0  
 pairs . . . . . 8'0 x 8'0  
 use 9550 at the meeting edge of pairs

 **Smoke and Draft Control - Category "H"**  
 Up to 3 hours Hollow Metal fire doors  
 Up to 90 minutes Wood fire doors

 **STC 33**  
**STC 44 - two rows**

<b>Project:</b>
<b>Submitted by:</b>
<b>Date:</b>
<b>Notes:</b>





## Neoprene Sweep

200N



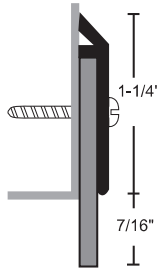
### Material

Aluminum alloy 6063, T5 temper  
 Synthetic rubber polymer blend: PVC, Nitrile rubber (NBR), and Chloroprene closed cell advanced elastomeric foam  
 Neoprene is black

- Very good abrasion resistance, tensile strength and memory
- Flame resistant
- Moisture resistant
- Temperature range -20°F to 200°F
- Good resistance to ozone, sunlight and aging
- BHMA certified to ANSI/BHMA A156.22 performance tests for heat, cold, air infiltration and smoke infiltration
- #6 x 3/4" stainless steel sheet metal screws furnished
- Screw holes slotted for adjustment

### Finishes

- 200NA Anodized Aluminum
- 200NB Gold
- 200NDKB Dark Bronze



<b>Project:</b>
<b>Submitted by:</b>
<b>Date:</b>
<b>Notes:</b>



1229A



1229B



1229EL

**ABOUT THE 1229 SERIES SILENCERS & ELEVATOR BUMPERS**

Trimco Silencers are available for both metal and wood frames as well as for elevators. Available in high-grade, grey rubber.

**FEATURES**

- Available for both metal and wood frames.
- Elevator bumpers also available.
- High-grade, durable grey rubber.

**APPLICATIONS**

- Office Buildings
- Retail & Strip Malls
- Commercial & Industrial Buildings
- Hospitality
- Government & Military Facilities

TRIMCO#	1229A
OA	1/2" x 1/2"
BHMA	L03011

**Silencers for Metal Frames**  
Sold in multiples of 100

TRIMCO#	1229B
OA	5/8" x 3/4"
BHMA	L03021

**Silencers for Wood Frames**  
Sold in multiples of 100

TRIMCO#	1229EL
H	1/4"
D	1-1/8"

**Elevator Bumper - Grey**  
Sold in multiples of 125



**262 Flush bolt - 6" square end**

- An exceptionally smooth working flush bolt with sharp, crisp lines
- Double action spring design provides automatic holding of brass bolt in projected or retracted position, and assures ease of operation in conjunction with deep cup finger hole
- Made from polished cast brass
- Bolt tip is 1/2" diameter
- Bolt throw is 1"
- Bolt backset is 15/32"

**Certifications**

- Meets ANSI A156.16, L04201

**Mounting**

- 5 X 5/8" FPHSMS
- 8 X 3/4" FPHSMS

**Dimensions**

Body size (Width X Length X Depth)	Strike size (Width X Length)
3/4" x 6" x 1-11/32"	7/8" x 1-3/4"

**Finishes**

BHMA	Description	Substrate	US
605	Bright brass	Brass	US3
609	Satin brass	Brass	US5
613	Oil rubbed bronze	Brass	US10B
619	Satin nickel	Brass	US15
625	Bright chrome	Brass	US26
626	Satin chrome	Brass	US26D

Custom finishes are available as engineering special, consult customer service.

A Hinges & pivots

B Pulls & plates

C11 Flush bolts & coordinators

D Latches, catches & bolts

E Stops

F Exterior hardware

G Miscellaneous hardware

# 5 Knuckle Full Mortise Hinges

## Heavy Weight Ball Bearing

FBB168 – (ANSI A8111) Steel – polished and plated or phosphated and prime coated for painting

FBB199 – (ANSI A2111) Brass or bronze – polished and plated or painted

FBB199 (32) – (ANSI A5111) Stainless steel – highly polished

FBB199 (32D) – (ANSI A5111) Stainless steel – satin finish



- For use on heavy doors or doors where high frequency is expected such as entrance doors to office buildings, stores, public buildings and corridor entrance doors to offices
- All hinges have template screw hole location for use on either wood or hollow metal doors and frames
- Equipped with four Stanley permanently lubricated non-detachable ball bearings
- Pins in non-ferrous hinges are stainless steel
- Hole in bottom tip for easy pin removal
- Reversible flush tips and pins
- Hinges can be furnished as follows:
  - with raised barrel (RB)
  - with electric wires and/or switches (CE and/or CS)
  - with hospital tips (HT)
  - with decorative tips
  - with security studs
  - with non-removable pins (NRP)



Size Open		Gauge of Metal		Flat Head Screws Per Piece		Quantity Per Box	Quantity Per Case	Case Weight			
Inches	(mm)	Inches	(mm)	Machine	Wood			Bronze		Steel	
							Lbs.	(Kg)	Lbs.	(Kg)	
4 1/2 x 4 1/2	(114 x 114)	.180	(4.6)	8 - 12-24 x 1/2	8 - 12 x 1 1/4	3 ea.	30 ea.	45	(21)	42	(19)
5 x 4 1/2	(127 x 114)	.190	(4.8)	8 - 12-24 x 1/2	8 - 12 x 1 1/2	3 ea.	24 ea.	46	(21)	40	(18)
5 x 5	(127 x 127)	.190	(4.8)	8 - 12-24 x 1/2	8 - 12 x 1 1/2	3 ea.	24 ea.	50	(23)	46	(21)
6 x 4 1/2	(152 x 114)	.203	(5.2)	10 - 1/4 - 20 x 1/2	10 - 14 x 1 1/2	3 ea.	24 ea.	63	(29)	53	(24)
6 x 5	(152 x 127)	.203	(5.2)	10 - 1/4 - 20 x 1/2	10 - 14 x 1 1/2	3 ea.	24 ea.	65	(30)	55	(25)
6 x 6	(152 x 152)	.203	(5.2)	10 - 1/4 - 20 x 1/2	10 - 14 x 1 1/2	3 ea.	24 ea.	76	(35)	61	(28)
8 x 6*	(203 x 152)	.203	(5.2)	16 - 1/4 - 20 x 1/2	16 - 14 x 1 1/2	3 ea.	12 ea.	57	(26)	51	(23)
8 x 8*	(203 x 203)	.203	(5.2)	16 - 1/4 - 20 x 1/2	16 - 14 x 1 1/2	3 ea.	12 ea.	68	(31)	61	(28)

\* Available in Steel only

Consult factory for other sizes not listed



# 9K Series

**Heavy Duty Cylindrical Locks – Levers**



BEST: Setting the Standard for Security

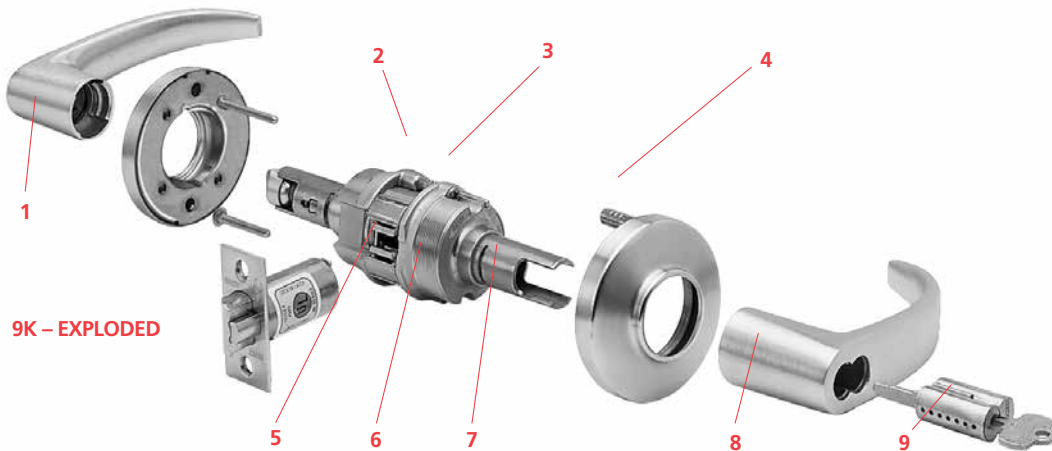


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## Features

1. For versatile applications, lever by knob trim variations are available.
2. Rose locking pin and rose assembly design offers great torque resistance. It prevents the locking pin from twisting, bending, or breaking under attack.
3. The innovative design of the slotted key release cam and locking lug assembly create maximum attack resistance. Even though damaged, the lock still allows key access. In addition, the lever is fully functional from the inside. The hub-mounted torsion spring and strong retractor springs help prevent lever sag and offer a smooth and snappy operation.
4. Strong through-bolt mounting studs increase torque resistance. Heavy rose liner material is highly attack resistant.
5. Strong retractor springs provide resistance to lever sag.
6. Zinc hubs with a shrouded locking lug, guaranteeing higher quality and increased torque resistance.
7. The outside lever sleeve is a seamless one piece construction made of a hardened steel alloy that provides additional reinforcement in the locking lug slot.
8. Lost Motion feature available allowing 45° lever rotation in either direction without engaging retractor assembly.
9. Interchangeable core allows for quick re-keying and customized masterkeying.



## Specifications

**ADA—Americans With Disabilities Act: 9K series** – The design and operation of the BEST® cylindrical lock meets the intent of the standard for ANSI A117.1 section 404.2.6

**Builders Hardware Manufacturers Association: 9K series** – Listed by BHMA for A156.2, Series 4000, Grade 1.

**Underwriters Laboratories®: 9K series** – Listed by Underwriters Laboratories for use on 3 Hr, A label for single or double swinging doors.

**Florida Building Code and Miami-Dade County Code: 9K series** – 9/16" latch throw – Listed by Florida Building Code and Miami-Dade County at ± 75 PSF for single doors. 9K series – 3/4" latch throw – Listed by Florida Building Code and Miami Dade County at ± 80 PSF for single doors and ± 50 PSF for double doors.

"WS" option must be ordered for the lock to include a "Miami-Dade County Product Control Approved" label for inspection purposes.

**California State Fire Marshal: 9K series** – Listed with California State Fire Marshal.

9K series 14 & 15 lever conforms with California Title 24.





**Backset** – 2 3/4" standard, 3 3/4" and 5" available.

**Chassis** – Critical latch and chassis components are brass or corrosion-treated steel. 2 1/16" diameter to fit 2 1/8" hole in door (Conforms to ANSI A115.2). Lost Motion feature available as an option. (see page 5 for options/features).

**Door thickness** – Available for 1 3/4" to 2 1/4" doors only. Spacers available for 1 3/8" doors.

**Roses** – C – 3" Convex, D – 3 1/2" Convex, K – 3" Convex-no ring, L – 3 1/2" Convex-no ring

**Products protected by one or more of the following patents** – 5,590,555 5,794,472 Other products patent pending.

**Finishes –**

(BHMA)	US	DESCRIPTION	(BHMA)	US	DESCRIPTION	(BHMA)	US	DESCRIPTION
605	3	bright brass	613	10B	oxidized satin bronze, oil rubbed	622	19	flat black
606	4	satin brass	618	14	bright nickel plated	625	26	bright chromium plated
611	9	bright bronze	619	15	satin nickel plated	626	26D	satin chromium plated
612	10	satin bronze				690	20	dark bronze

**Antimicrobial Finish** – 626AM satin chrome plated with UltraShield™ antimicrobial protected coating

The BEST UltraShield™ finish inhibits the growth of bacteria and other microbes on the surface of the hardware.



**NOTE:** BEST's UltraShield™ option is recommended for use on any hardware application where product cleanliness is a high priority. i.e.: Hospital/Healthcare, Elderly Care, Education, Transportation, Food-Service, Hospitality.

**Latch** – Solid brass 9/16" throw. Front 2 1/4" x 1 1/8" beveled.

**Lever handles** – Lever handles are a high-quality zinc alloy. Trim components are brass or bronze. Body is approximately 5/8" in diameter; Handle is approximately 4 3/4" long (from center-line of chassis). #14 and #15 levers conform to California Administrative Code Title 19 and Title 24. All three styles of levers conform to the Illinois Accessibility Standard.

**Mounting** – In addition to standard door preparation (ANSI A115.2 for 1 3/4" doors), two additional holes are needed for through-bolts. Through-bolts require two 5/16" diameter holes located at 12 o'clock and 6 o'clock positions. A drill jig can be ordered to insure accuracy of the holes. (see KD303 page 5).

**Projection on door** – Approx. 2 3/4" when mounted on 1 3/4" door.

**Strike** – STK: Conforms to ANSI A115.2 (2 3/4" x 1 1/8" with curved lip & box). S3: Conforms to ANSI A115.2 for 1 3/4" doors (4 7/8" x 1 1/4" with curved lip). S3-7/8: Conforms to ANSI A115.2 for 1 1/4" doors (4 7/8" x 1 7/8" flat)

## How to Order

9K	3	7	AB	15	A	STK	626	
Series	Backset	Core Housing	Function Code	Lever	Rose Style	Strike Package	Standard Finishes	Options
9K	3 – 2 3/4" 4 – 3 3/4" 5 – 5"	0– keyless 7– 7-pin housing accepts all BEST® cores	AB– entrance D– storeroom L– privacy N– passage R– classroom etc.	♿14– curved return ♿15– contour angle return ♿16– curved no return	C– 3" convex D– 3 1/2" convex K– 3" convex - no ring L– 3 1/2" convex - no ring	STK– 2 3/4" ANSI S3– 4 7/8" ANSI S3– 7/8- 7/8" flat strike	605 606 611 612 613 618 619 622 625 626 690	AL– abrasive lever LL– lead lined LM– lost motion RQE– request to exit** SH– security head screws TL– tactile lever 3/4– 3/4" throw latch 7/8" LTC– flat lip strike NOTE: specify inside (I), outside (O), or both (B) for AL,TL options
			pages 6-9	pages 4-5	pages 4-5	page 11		page 5

\*Handles are made from a zinc alloy, and have been plated to be equivalent in appearance to the finishes listed.

For information on 9K non-IC products please refer to BEST's non-IC keying products brochure.

\*\*RQE option requires modification to chassis and is sold with assembly unit only.

# Shipping Weights

The chart is the approximate shipping weight for the standard 9K functions locksets. This weight includes the weight of the lockset with the "#15" style lever, "K" style rose, latch, strike package, and box. Listed separately are the approximate weights for "with core" and "less core" shipments.

Lock Function Nomenclature	Case Quantity	Shipping Weight With Core	Shipping Weight Less Core
Y	9		31 lbs
N	9		40 lbs.
L,NX,P	9		40 lbs.
AB,D,E,H,HJ,R,T	9	42 lbs.	40 lbs.
C,G,IN,S,W	9	44 lbs.	40 lbs.

# Lever Styles and Trim

#14C 



#15C 



#16C 



#14D 



#15D 



#16D 



#14K 



#15K 



#16K 



#14L 



#15L 



#16L 



## Lever Features

### Abrasive Lever Option

Besides complying with a wide variety of accessibility codes and ordinances, BEST lever handles are available with a special abrasive feature. Abrasive strip on the lever immediately identifies warnings on doors to hazardous areas for the blind.

**To order:** Designate **"AL"** on How to Order (page 3). Note: abrasive strip is available on all levers, except #14, #15, #16 levers in 613 finish.

### Lost Motion Feature

The Lost Motion feature allows the lever handle to move 45 degrees from parallel to the horizontal plane without engaging the latchbolt assembly. When the lockset is in the locked mode, this feature makes over-torque or over-lever-age abuse more difficult to achieve. **To order:** designate **"LM"** on How to Order (page 3).

### Non IC Lever Option

The 9K heavy duty cylindrical lock may be adapted to existing keying systems by using a special retrofit lever and throw member that will accept 6 pin single shear-line cylinders from non BEST manufacturers. No internal modifications are required to adapt the 9K to cylinders from the following manufacturers: Corbin-Russwin, Medeco, Sargent, Schlage, Yale. Refer to BEST® non-IC keying products brochure for more details.

### RQE Feature

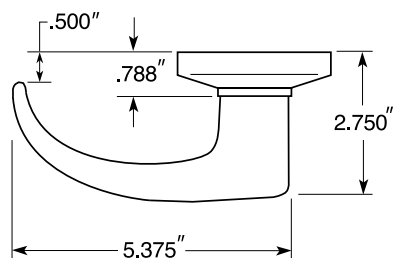
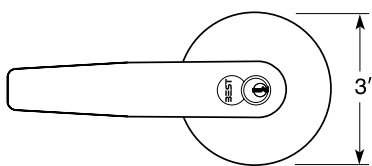
The 9K lever handle cylindrical can be built to incorporate a request-to-exit (RQE) switch. A normally open switch provides momentary switch closure when the inside lever is rotated. RQE option requires modification to chassis and is sold with assembly unit only.

**To order:** designate **"RQE"** on How to Order (page 3).

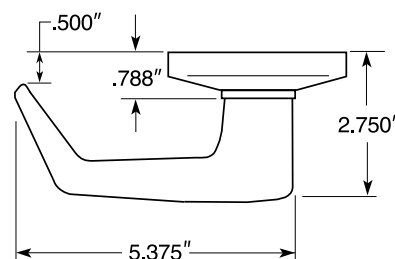
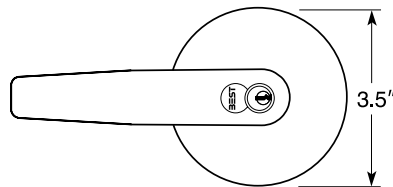
### Tactile Lever Option

Tactile levers may be used in areas where improved grip is required or as a warning in hazardous areas. Grooves are machined into the back of the hand grasp portion of the lever to improve grip and/or to provide a sensory warning in hazardous areas. This option can be used for Blind, Safety or Accessibility applications. **To order:** Designate **"TL"** on How to Order (page 3).

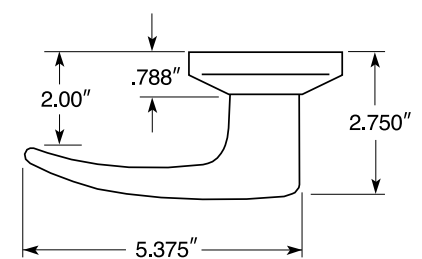
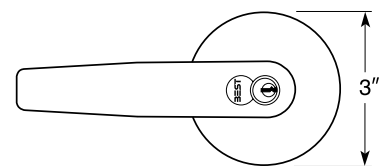
## Lever & Trim Dimensions












#14C or #14K Trim  
("C" rose shown)



#15D or #15L Trim  
("D" rose shown)



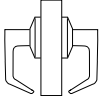

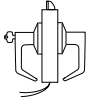
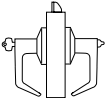
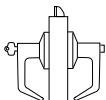
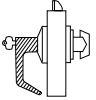
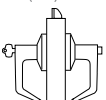
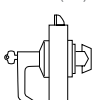
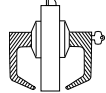
#16C or #16K Trim  
("K" rose shown)

	Description	Outside Lever		Inside Lever	
Function & Diag. (ANSI No.)	Latch operated by	Locked by	Unlocked by	Locked by	Unlocked by
<b>Single keyed</b>					
Entrance (AB) F109 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever—only when the inside push button is out,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Pushing the inside button,</li> <li>Pushing and turning the inside button. Turning the button keeps the outside lever locked until the button is turned back</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the outside lever, (only when the button is not turned)</li> <li>Rotating the inside lever, (only when the button is not turned).</li> <li>Closing the door (only when the button is not turned)</li> </ul>	Cannot be locked	Always unlocked
Storeroom (D) F86 	<ul style="list-style-type: none"> <li>Turning the key in the outside lever,</li> <li>Rotating the inside lever</li> </ul>	Always fixed	Cannot be unlocked	Cannot be locked	Always unlocked
Service Station (E) F92 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever—only when the inside push button is out.</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Pushing the inside button,</li> <li>Pushing and turning the inside button. Turning the button keeps the outside lever locked until the button is turned back</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the outside lever,</li> <li>Rotating the inside lever,</li> <li>Closing the door—only when the button is not turned,</li> <li>Turning back the slotted button</li> </ul>	Cannot be locked	Always unlocked
Hotel Guest Room (H) F93  (Indicator Included)	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Turning the key in the outside lever—only when the inside push button is out,</li> <li>Removing the core with a control key and using a special emergency key</li> </ul>	Always fixed	Key block feature is released by: <ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Closing the door</li> </ul>	Cannot be locked	Always unlocked
Pushing the inside button projects an “occupied” indicator in the outside lever and blocks all operating keys.					
Hotel Guest Room (HJ)  (No Indicator)	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Turning the key in the outside lever—only when the inside push button is out,</li> <li>Removing the core with a control key and using a special emergency key</li> </ul>	Always fixed	Key block feature is released by: <ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Closing the door</li> </ul>	Cannot be locked	Always unlocked
Pushing the inside button blocks all operating keys, but no “occupied” indicator is projected.					
Classroom (R) F84 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Turning the key in the outside lever,</li> <li>Rotating the outside lever when not locked by key</li> </ul>	Turning the key in the outside lever,	Turning the key in the outside lever,	Cannot be locked	Always unlocked
Dormitory (T) F90 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever when not locked by key or push button</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the outside lever,</li> <li>Pushing the button on the inside lever</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the outside lever,</li> <li>Rotating the inside lever (only when locked by push button),</li> <li>Closing the door (only when locked by push button)</li> </ul>	Cannot be locked	Always unlocked
Entrance/Office (UA) 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever—only when the inside push button is out,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Pushing the inside button,</li> <li>Pushing and turning the inside button. Turning the button keeps the outside lever locked until the button is turned back</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the outside lever, (only when the button is not turned)</li> <li>Rotating the inside lever, (only when the button is not turned).</li> </ul>	Cannot be locked	Always unlocked
<b>Double keyed</b>					
Corridor (C) F88 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever when not locked by key,</li> <li>Turning the key in the outside lever</li> </ul>	Turning the key in the inside lever	Turning the key in the inside lever	Cannot be locked	Always unlocked

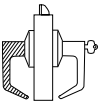
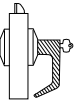
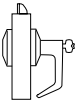
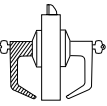
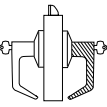
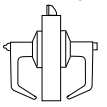
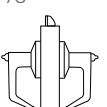

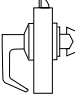
\*ATTENTION: Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

Function & Diag. (ANSI No.)	Description	Outside Lever		Inside Lever	
		Latched operated by	Locked by	Unlocked by	Locked by
<b>Double keyed (Continued)</b>					
Storeroom* (G) F91 	<ul style="list-style-type: none"> <li>Rotating the outside lever when not locked by key,</li> <li>Rotating the inside lever when not locked by key</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Turning the key in the outside lever</li> </ul>
Turning the key in either the inside or the outside, locks or unlocks both sides.					
Intruder (IN) F11 	<ul style="list-style-type: none"> <li>Rotating inside lever,</li> <li>Rotating outside lever only when not locked by inside or outside key</li> </ul>	<ul style="list-style-type: none"> <li>Turning key in the inside lever,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Turning key in the inside lever,</li> <li>Turning the key in the outside lever</li> </ul>	Cannot be locked	Always unlocked
Communicating* (S) F80 	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Turning the key in the outside lever,</li> <li>Rotating the inside or outside lever (if unlocked)</li> </ul>	Turning the key in the outside lever	Turning the key in the outside lever	Turning the key in the inside lever	Turning the key in the inside lever
Turning the key in either lever, locks or unlocks its own lever independently..					
Communicating* (W) F87 	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Turning the key in the outside lever</li> </ul>	Always fixed	Cannot be unlocked	Always fixed	Cannot be unlocked
<b>Keyless</b>					
Privacy (L) F76 	<ul style="list-style-type: none"> <li>Rotating the inside lever</li> <li>Rotating the outside lever only when the inside push button is out</li> </ul>	Pushing the inside button	<ul style="list-style-type: none"> <li>Rotating the outside slotted button,</li> <li>Rotating the inside lever,</li> <li>Closing the door.</li> </ul>	Cannot be locked	Always unlocked
Passage (N) F75 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever</li> </ul>	Cannot be locked	Always unlocked	Cannot be locked	Always unlocked
Exit (NX) F89 	Rotating the inside lever	Always fixed	Always fixed	Cannot be locked	Always unlocked
Patio (P) F77 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever only when the inside push button is out</li> </ul>	Pushing the inside button	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Closing the door</li> </ul>	Cannot be locked	Always unlocked
Exit (Y) 	Rotating the inside lever			Cannot be locked	Always unlocked
Single Dummy Trim (1DT) 	This is a single, surface-mounted lever for an inactive door or a non-latching door				

\*ATTENTION: Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

	Description	Outside Lever		Inside Lever	
Function & Diag. (ANSI No.)	Latch operated by	Locked by	Unlocked by	Locked by	Unlocked by
<b>Keyless (Continued)</b>					
Double Dummy Trim (2DT) 	This is a through bolt mounted pair of matching levers for an inactive door or a non-latching door				
<b>Electromechanical</b>					
Electrically Locked (DEL) 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever only when power is off,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Applying 24 Volts DC.</li> <li>Outside lever remains locked only while power is on</li> </ul>	Switching off 24 Volts DC	Cannot be locked	Always unlocked
Electrically Unlocked (DEU) 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever only when power is on,</li> <li>Turning the key in the outside lever</li> </ul>	Switching off 24 Volts DC	<ul style="list-style-type: none"> <li>Applying 24 Volts DC</li> <li>Outside lever remains unlocked only while power is on</li> </ul>	Cannot be locked	Always unlocked
<b>Special</b>					
Dormitory or Storeroom (A) F81 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever only when inside turn button is in unlocked position,</li> <li>Turning the key in the outside lever</li> </ul>	Turning the inside button	Turning the inside button	Cannot be locked	Always unlocked
NOTE: Turn button must be manually rotated to unlock the outside lever.					
Office (B) F82 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever only when inside push button is out,</li> <li>Turning the key in the outside lever</li> </ul>	Pushing the inside button		Cannot be locked	Always unlocked
NOTE: Push button is released by turning the key in the outside lever, OR rotating the inside lever. Closing the door does not release the push button.					
Closet or Storeroom (DZ) 	<ul style="list-style-type: none"> <li>Turning the key in the outside lever,</li> <li>Turning the inside closet turn knob</li> </ul>	Always fixed	Cannot be unlocked	Closet turn knob cannot be locked	Closet turn knob cannot be locked
Entrance or Office (EA) 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever only when inside push button is out,</li> <li>Turning the key in the outside lever</li> </ul>	<ul style="list-style-type: none"> <li>Pushing the inside button,</li> <li>Pushing and turning the inside button. Turning the slotted button keeps the outside lever locked until the button is turned back</li> </ul>	<ul style="list-style-type: none"> <li>Turning the key in the outside lever,</li> <li>Rotating the inside lever,</li> <li>Turning the slotted button back</li> </ul>	Cannot be locked	Always unlocked
Closet or Storeroom (RZ) 	<ul style="list-style-type: none"> <li>Turning the key in the outside lever,</li> <li>Turning the inside closet turn knob,</li> <li>Rotating the outside lever when not locked by key</li> </ul>	Turning the key in the outside lever	Turning the key in the outside lever	Closet turn knob cannot be locked	Closet turn knob always free
Special* (XD) 	Turning the key in the inside lever	Always fixed	Cannot be unlocked	Always fixed	Cannot be unlocked

\*ATTENTION: Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.

Function & Diag. (ANSI No.)	Description	Outside Lever		Inside Lever	
		Latched operated by	Locked by	Unlocked by	Locked by
<b>Special (Continued)</b>					
Special* (XR) 	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Rotating the inside lever when not locked by key</li> </ul>	Always fixed	Cannot be unlocked	Turning the key in the inside lever	Turning the key in the inside lever
Exit *(YD) 	Turning the key in the inside lever			Always fixed	Cannot be unlocked
Special *(YR) 	<ul style="list-style-type: none"> <li>Turning the key in the inside lever,</li> <li>Rotating the inside lever when not locked by key</li> </ul>			Turning the key in the inside lever	Turning the key in the inside lever
Special *(DR) 	<ul style="list-style-type: none"> <li>Rotating the inside lever only when not locked by key,</li> <li>Turning the key in the outside lever,</li> <li>Turning the key in the inside lever</li> </ul>	Always fixed	Cannot be unlocked	Turning the key in the inside lever	Turning the key in the inside lever
Special *(RD) 	<ul style="list-style-type: none"> <li>Rotating the outside lever only when not locked by key,</li> <li>Turning the key in the outside lever,</li> <li>Turning the key in the inside lever</li> </ul>	Turning the key in the outside lever	Turning the key in the outside lever	Always fixed	Cannot be unlocked
Hospital Privacy (LL) 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever only when the inside push button is out</li> </ul>	Pushing the inside push button	<ul style="list-style-type: none"> <li>Turning the turn button in the outside lever,</li> <li>Rotating the inside lever,</li> <li>Closing the door</li> </ul>	Cannot be locked	Always unlocked
Communicating* (M) F78 	<ul style="list-style-type: none"> <li>Rotating the inside lever-only when the outside turn button is in the unlocked position,</li> <li>Rotating the outside lever-only when the inside turn button is in the unlocked position</li> </ul>	Turning the inside turn button	Turning the inside turn button	Turning the outside turn button	Turning the outside turn button
NOTE: Do not use this function for rooms that have no other entrance.					
Exit (Q) F83 	<ul style="list-style-type: none"> <li>Rotating the inside lever,</li> <li>Rotating the outside lever-only when the inside turn button is in the unlocked position</li> </ul>	Turning the inside turn button	Turning the inside turn button	Cannot be locked	Always unlocked
Closet (Z) 	<ul style="list-style-type: none"> <li>Rotating the outside lever,</li> <li>Turning the inside closet turn knob</li> </ul>	Cannot be locked	Always unlocked	Closet turn knob cannot be locked	Closet turn knob is always free

\*ATTENTION: Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.



# CORMAX™ Patented Keying System

BEST® CORMAX™ is the premier patented keying system offered by BEST. CORMAX will meet your needs for security, key control, and convenience. A simple solution with no compromising allowed.

CORMAX is the upgrade path for existing BEST Standard, Premium, and MX8 customers; and it is an essential element of non-residential access control as security administrators strive to eliminate the unauthorized duplication of keys.



**CORMAX™  
Patented Keying System**

## CORMAX offers the following features and benefits:

- A long-term US utility patent that guarantees the extended useful life of the system through 2027.
- A second, independent locking mechanism that utilizes a patented set of built-in side pins to provide higher security.
- Several levels of geographical exclusivity, including national exclusivity, are available via the patented side pin feature.
- CORMAX cores and keys are available exclusively through BEST sales offices. Key blanks are only sold to individuals authorized by the customer to ensure key blanks do not end up in the possession of unauthorized personnel either inside or outside the customer's facility.
- CORMAX cores are certified to meet the security, safety, and reliability requirements of BHMA A156.5 Grade 1.
- Picking and drilling resistance options are available if higher levels of security are desired.
- Complete factory masterkeying service offered, and at no charge with purchase of BEST locksets and PHI exit devices.
- Keyways are organized in families of four keyways each, with double-milled and quad-milled key levels to facilitate the design of masterkey systems in multi-building campuses.
- BEST CORMAX cores are compatible with all existing BEST interchangeable core housings, eliminating the need for new or modified locksets.

## Deadlocking Latches & Strikes



### 8KL3 Deadlocking Latch

**Bolt throw** – 9/16"

**Backset** – 2 3/4"

**Front** – 2 1/4" x 1 1/8" beveled.

**Tube** – To fit 1" diameter hole in door edge.

**To order:** (with unit) designate "9K3" on How to Order (page 3).

**To order:** (without unit) designate "8KL3-SL" (Spring Latch) or DL (Deadlocking Latch) and finish.



### 8KS3-7/8 Flat Strike

**Dimension:** Conforms to ANSI A115.2 for 1 3/4" doors (4 7/8" x 1 7/8" flat)

**To order:** (with unit) designate "S3-7/8" on How to Order (page 3).

**To order:** (without unit) designate 8KS3-7/8 and finish.



### 8KL4 Deadlocking Latch

**Bolt throw** – 9/16"

**Backset** – 3 3/4"

**Front** – 2 1/4" x 1 1/8" beveled.

**Tube** – To fit 1" diameter hole in door edge.

**To order:** (with unit) designate "9K4" on How to Order (page 3).

**To order:** (without unit) designate "8KL4-SL" (Spring Latch) or DL (Deadlocking Latch) and finish.



### 8KS3 Strike

**Dimension:** Conforms to ANSI A115.2 for 1 3/4" doors (4 7/8" x 1 1/4" with curved lip).

**To order:** (with unit) designate "S3" on How to Order (page 3).

**To order:** (without unit) designate 8KS3 and finish.



### 8KL5 Deadlocking Latch

**Bolt throw** – 9/16"

**Backset** – 5"

**Front** – 2 1/4" x 1 1/8" beveled.

**Tube** – To fit 1" diameter hole in door edge.

**To order:** (with unit) designate "9K5" on How to Order (page 3).

**To order:** (without unit) designate "8KL5-SL" (Spring Latch) or DL (Deadlocking Latch) and finish.



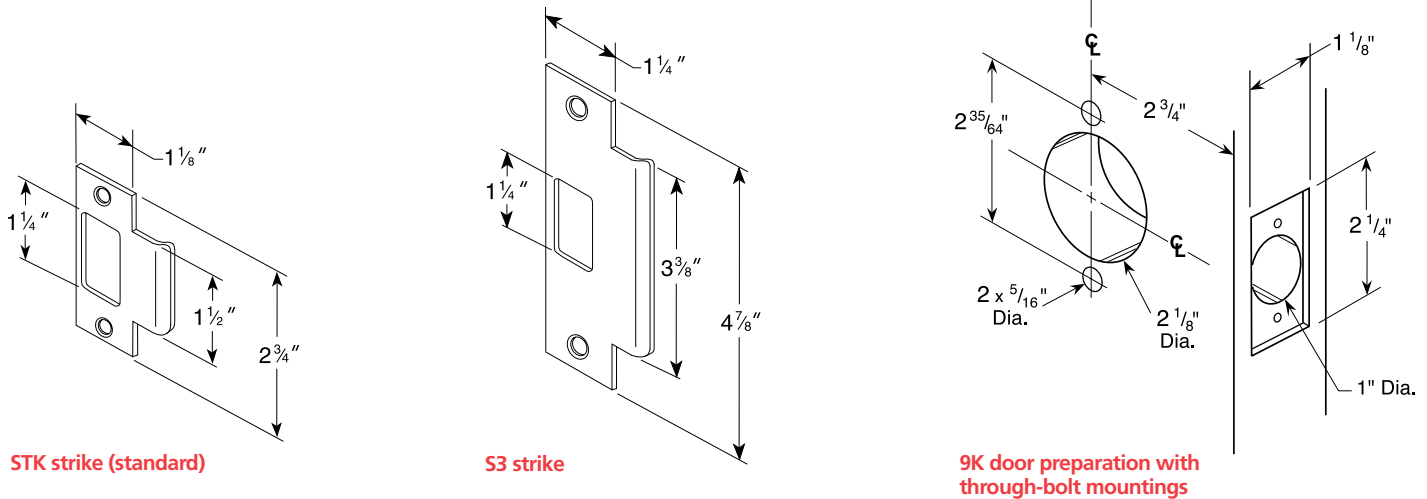
### 8KS2 Strike (Supplied Standard)

**Dimension:** Conforms to ANSI A115.2 for 1 3/8" doors (2 3/4" x 1 1/8" with curved lip and box).

**To order:** (with unit) designate "STK" on How to Order (page 3).

**To order:** (without unit) designate 8KS2 and finish.

## Strikes & Door Preparation



STK strike (standard)

S3 strike

9K door preparation with through-bolt mountings

## Sample Specification Acceptable Manufacturers

### A. Locksets and Latchsets

BEST - No Substitution.

1. Locksets and latchsets: ANSI A156.2, Series 4000, Grade 1 UL listed, extra heavy-duty cylindrical type.
2. Backset 2 3/4 inches (70mm)
3. Interchangeable core 7-pin: [Restricted keyway] [Patented] [Standard] [\_\_\_\_\_].
4. Locksets to have anti-rotational studs that are through-bolted.
5. Keyed lever with no exposed keeper hole.
6. Each lever to have independent spring mechanism designed to control lever only.
7. Outside lever sleeve seamless, 1-piece construction, hardened steel alloy.
8. Keyed Lever: Removable only after core is removed, by authorized control key, to allow access to knob keeper
9. Hub, side plate, anti-rotational studs 1-piece casting with shrouded locking lug.

### B. Keys and Keying

A. Cylinders: 7-pin, interchangeable core and keyed into a [New] [Existing] factory registered Grand Masterkey System with a [Standard] [Restricted] [Patented] keyway.

1. Acceptable Material: Cylinders as manufactured by BEST.

B. Provide construction cores and keys during construction period. Construction control and operating keys and cores are not part of permanent keying system or furnished on same keyway (or key section) as permanent keying system.

C. Permanent Keys and Cores: Prepare permanent cores and keys in accordance with keying schedule. [Stamp with applicable key mark for identification.] [Do not stamp.] [\_\_\_\_\_].

D. Provide Grand Masterkeys, Masterkeys and other Security Keys.

E. Furnish keys in the following quantities:

1. [4] [\_\_\_\_\_] each Grand Masterkeys.
2. [4] [\_\_\_\_\_] each Masterkeys per set.
3. [2] [\_\_\_\_\_] each Change keys each keyed core.
4. [6] [\_\_\_\_\_] each Construction masterkeys.
5. [2] [\_\_\_\_\_] each Control keys.
6. Install permanent cores in locksets.

F. Return construction cores to [{BEST} factory representative] [Hardware manufacturer's representative].

## Service Equipment

### KD304A Boring Jig Kit

The KD304A jig kit is made for boring cut-outs in wooden doors for Fed. Spec. 160 and 161 series cylindrical/tubular locksets, doors 1 3/8" to 2 1/4" thick. The KD304A kit includes the boring jig (to drill wood doors for 2 3/8", 2 3/4", 3 3/4", and 5" backsets), a quick-release adaptor for 3/8" drill chuck, a 2 1/8" bit, and a 1" diameter x 9" bit.

**The following kit items can also be purchased separately.**

**KD309** – 2 1/8" bit

**KD318** – 1" dia. x 9" bit

**KD319** – 3/8", quick release adaptor

**To order complete kits specify:**

**KD304A Kit**

### KD312 and KD315 Face Plate Marking Chisel and KD325 Strike Plate Location Pin

The KD315 face plate marking chisel (which locates the mortising for the faceplate) and the KD325 strike locating pin (which centers the strike for proper installation) and is used for Fed. Spec. 161 cylindrical lockset, (1 1/8" x 2 1/4"), and BEST® series 82T & 83T tubular locks. The KD312 face plate marking chisel is available for Fed. Spec. 160 (1" x 2 1/4") preparation

**To order specify:**

**KD312**– face plate marking chisel 1" (160)

**KD315**– face plate marking chisel 1 1/8" (161)

**KD325**– strike plate locating pin

### KD303 Through-Bolt Drill Jig

Special accessory jig aids in aligning 5/16" holes for through-bolt mounting. Install the latch first, then insert jig in 2 1/8" bored hole, align with door edge and drill with 5/16" drill bit. **To order specify: KD303.**

### KD317 Spanner Wrench and KD340 Spring Tool

All 9K locksets require the use of KD317 spanner wrench for door removal. This tool is included 1 per every 9 locksets with your order. If more are needed, desnate KD317 on your order. The KD340 lever return spring tool with its unique design feature is used when replacing the 9K lever return spring. **To order specify: KD340.**



KD304A parts



KD304A with case



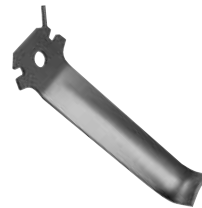
KD315  
(Fed. Spec. 161)



KD325



KD303-9K



KD317  
Spanner Wrench



KD340  
Spring Tool



6161 East 75th Street  
Indianapolis, IN 46250 USA

Phone 855-365-2407

[bestaccess.com](http://bestaccess.com)



1240

## ABOUT THE 1240 HINGE PIN STOP

Trimco's 1240 is a heavy-duty hinge pin stop. The ultimate in flexibility, this hinge pin stop can be adjusted from 70° to 100° door opening, can be used with both 1/4" and 5/16" hinge pins and incorporates rubber bumpers onto both ends for protection of both door and frame.

### FEATURES

- Adjustable from 70° to 100° door opening.
- Heavy-duty construction.
- Can be used with both 1/4" and 5/16" hinge pins.
- Rubber bumper on both ends.

### APPLICATIONS

- Multifamily & Mixed Use
- Office Buildings
- Retail & Strip Malls
- Commercial & Industrial Buildings
- Hospitality

TRIMCO#	1240
Door Opening	70° to 100°
619 finish only	



Document 08 80 00

**GLASS AND GLAZING**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. Requirements for materials, fabrications and installation of glass and glazing and associated accessories, except that which is included under other sections, as shown on drawings and necessary to complete the Work.
- B. Glazing in pressed metal frames.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. The requirements of Division 1 apply to the Work of this Section.
- B. Section 07 92 00 – Joint Sealants except as included herein.
- C. Section 08 41 13 – Aluminum Framed Entrances and Storefronts.
- D. Section 08 51 13 – Aluminum Framed Windows

**1.02 QUALITY ASSURANCE**

- A. Standards of Manufacture: Manufacturers designed herein indicate quality of materials to be used on this project. Products of other manufacturers equal to these standards in all respects may be provided.
- 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. Requirements of Regulatory Agencies:
  - 1. California Code of Regulations (CCR) Title 24, Part 2.
  - 2. California Building Code (CBC) - Chapter 24, adopted Edition.
  - 3. FGMA Glazing Manual, FGMA Sealant Manual for glazing installation methods.
- D. Reference Standards: Work shall conform to the recommended procedures for glazing as outlined in the glazing manual of the Flat Glass Jobbers Association, as recommended by the window and glass manufacturers, and as recommended by provisions of Fed. Spec. DD-G451C and DD-G451D and the American National Institute Z97.1-1975.
- E. Safety glazing shall be identified in accordance with the current CBC Section 2406.3, Title 24, Part 2.

### **1.03 SUBMITTALS**

- A. Product Data of Glass type specified; provide and include structural, physical, environmental characteristics, size limitations, special handling and installation requirements.
- B. Product Data of Glazing Compounds: Provide chemical, functional and environmental characteristics, limitations, special handling and installation requirements. Identify available colors.
- C. Samples:
  - 1. Two (2) 12 inch x 12 inch pieces of each type of glass.
  - 2. One (1) bead, approximately 1/4" wide and 3" long of each sealant employed, including color of set or cured material.
- D. List of Materials: Submit list of materials proposed for use, with glazing conditions and locations for each material together with manufacturer's statements certifying that materials and methods proposed are recommended for accomplishing best results for each condition.

### **1.04 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver glass with manufacturer's labels intact and store in protected areas. Keep glass free from contamination by materials capable of staining.
- B. Deliver Glazing compounds, Sealants, Accessories and Specialty Items in manufacturer's unopened, labeled containers.
- C. Handling: Glass shall be carefully handled and glazed to avoid edge damage.

### **1.05 ENVIRONMENTAL REQUIREMENTS**

- A. Perform glazing when ambient temperature is above 40 degrees Fahrenheit. Maintain ambient temperature for 48 hours following installation of glazing compounds.
- B. Perform glazing on dry surfaces only.

### **1.06 FIELD MEASUREMENTS**

- A. Verify dimensions prior to fabrication and cutting of glass.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURER**

- A. Glass shall be manufactured by P.P.G. Industries or equal.

### **2.02 GLASS TYPES**

- A. Float Glass: 1/4" thick, glazing quality.

- B. Tempered Glass: ¼" thick glazing quality; tempering marks per 1.02 E.
- C. Laminated: ¼" laminated security glass

### **2.03 GLAZING MATERIALS**

- A. Primer-Sealers and Cleaners: As recommended by the glass manufacturer.
- B. Non-rated Glazing Sealants: ASTM C920, Type S, Grade NS, uses "G" and "A", as manufactured by Dow Corning 795, Tremco "Proglaze" or approved equal. All sealants shall be compatible with the type of glazing and window frame to which they are applied.
- C. Rated Glazing Sealants: UL 9 and *CBC Standard 12-7-4* compliant, GVD grade and erosion resistant high performance glazing compound. Pemko "Fireglaze FG 3000" or acceptable equal. This glazing compound shall be installed at all vision lites in fire rated doors. Compound shall be compatible with and acceptable for use with the type of glazing and window frames to which they are applied.
- D. Tape for Glazing: Shall be butyl type fully cured, Incolastic Corporation No. 750; Protective Treatment No. 606 Butyl Tape; Tremco Manufacturing Company No. 440 Tape with 10-15 Shore A Durometer hardness, coded a release paper, color black.
- E. Setting Blocks: Neoprene or EPDM blocks with a Shore A durometer hardness of 85, plus or minus 5 percent and chemically compatible with sealant used.
- F. Shims and Spacers: Neoprene or EPDM (individual shims or continuous rods) with a 50-60 Shore A durometer hardness minimum 3 inches long x ½ height glazing stop x thickness or as recommended by the appropriate glass manufacturer.
- G. Filler Rod: Compressible synthetic rubber or foam, chemically compatible with sealant used.
- H. Glazing points and Wire Spring Clips.
- I. Miscellaneous: Furnish all primers and sealers, setting blocks, shims, compression seals, felts, etc., as required for a first class workmanlike job.

## **PART 3 - EXECUTION**

### **3.01 INSPECTION AND JOB CONDITIONS**

- A. Coordinate the work with components to be glazed to prevent a delay in the work.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions and ready to receive glazing.
- C. Verify that openings for glazing are correctly sized and within tolerance.



- D. Inspection:
1. Examine all subsurfaces to receive work under this Section. Report in writing, to the Contractor, with a copy to the Architect, any conditions that may prove detrimental to the work.
  2. Check that glass is free of edge damage or face imperfections.
  3. Inspect existing steel frames and clean as required for installation of the new glazing.
  4. Commencement of work will be construed as acceptance of subsurfaces.

### **3.02 PREPARATION**

- A. Measurements:
1. Verify all frame dimensions by taking field measurements.
  2. Compute actual glass size, allowing for edge clearances.
- B. Preparation of Surfaces: Surfaces receiving glass shall be clean, dry and free of foreign matter. Prepare, clean and prime surfaces to which sealant is to be applied in accordance with sealant manufacturer's recommendations.

### **3.03 INSTALLATION**

- A. General: Install glass types at locations indicated, according to glass manufacturer's recommendations, CBC codes and as specified herein.
- B. General: Glass shall be fully and evenly bedded, finish puttied, sealed, back puttied or set with specified materials applicable to the type of installation involved.
- C. Glass Glazing:
1. Positioning Glass: Orient pattern and draw of glass pieced in same direction. Set all sheet glass so that any waves, etc. are horizontal.
  2. Do not cut, nip or abrade tempered glass.
  3. 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 sight line, it shall form a watershed when compressed. Do not undercut a sealant, compound, or tape below the sight line. Tool and finish sealant as required. Use tooling solution recommended by the sealant manufacturer.
  4. Positive Contact:
    - a. When applying in a heel bead, lap onto the glass a minimum of 3/16".
    - 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.
  5. Setting blocks shall be 1/16" less than the full rabbet width, minimum length of 4" and high enough clearance for the glass. Center blocks at 1/4 points unless otherwise recommended by the glass manufacturer.

6. Provide space-shims at a maximum of 24" o.c.
7. Clearances: Observe minimum face clearances, edge clearance and glass bite as recommended by the glass and sealant manufacturers.
8. 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.
9. Glazing tapes must be kept under proper compression.
10. Glazing stops shall be installed so that stop or frame does not bear directly against glass.

### **3.03 ADJUST AND CLEAN**

- A. Cleaning: Thoroughly clean all surfaces just prior to final inspection.
- B. Protection: Immediately at the conclusion of the glazing operation protect all glass areas by means of tape or special removable marking to the window. Protection shall remain in place until the conclusion of painting operations.
  1. Labels indicating the manufacturer, quality, and thickness shall remain on the glass until Architect has approved installation. Absence of labels will constitute cause for rejection.
- C. Replacement: At completion of building 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



Document 09 26 00

**GYP SUM WALL BOARD**

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to work of this Section as if printed herein.
- B. Section includes: Description of requirements for materials, fabrications and installation of gypsum wallboard, including trim, joint treatment, as shown on Drawings and necessary to complete the work.
- C. Related Work Specified Elsewhere:
  - 1. Section 06 10 00 – Rough Carpentry.
  - 2. Section 09 90 00 – Painting.

1.02 QUALITY ASSURANCE

- A. Installer's Qualifications: Installation shall be done only by an installation firm that is normally engaged in this business. All work shall be performed by qualified mechanics working under an experienced supervisor.
- B. Industry Standards: Materials and workmanship shall comply with requirements of American Standards Association, Standards Specifications for Gypsum Wallboard Finish, A97.1; and Recommended Specifications of the Gypsum Association for the Application and Finishing of Gypsum Board, GA-216, latest Edition, except where more detailed or more stringent requirements are indicated, including recommendations of manufacturer.
- C. Allowable Tolerances: 1/8 inch offsets between planes of board faces. Wall surfaces shall not vary more than 1/8 inch in 8'-0" from required plane. Corners shall be square, straight and plumb.
- D. Surface Acceptance: The Painting contractor shall not be required to accept the gypsum wallboard installation until after he has applied sealer. At that time, he shall inspect the installation and report to the General Contractor, with a letter to the Architect, of any surface damage, defects or uneven walls. Uneven walls shall mean those that are not straight, plumb or an even, true plane.
- E. Fire rated gypsum board systems shall comply with CCR Title 24, and shall satisfy minimum fire ratings as noted and shall conform to methods approved by applicable Building Code. All corridors, kitchen, storage, restrooms, and custodial rooms shall have 5/8" Type X – Gypsum Board.

1.03 SUBMITTALS

- A. Manufacturer's literature describing products and installations.

- B. Samples: Only as requested by Architect.

#### 1.04 JOB CONDITIONS

- A. Delivery: All materials shall be delivered in original packages or bundles with the manufacturer's labels intact and legible.
- B. Handling and Storage: Materials shall be kept dry, stacked off the ground and properly supported and protected from weather. Protect all edges and surfaces. Stack wallboard neatly and flat.

#### 1.05 JOB CONDITIONS

- A. Environmental: Do not install wallboard and joint compounds if building temperature is below 55 degrees F and proper ventilation is not provided to eliminate excessive moisture from building.
- B. Protect work in progress as well as work of other trades.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. Acceptable Manufacturers: Gold Bond Building Products; U.S. Gypsum; Georgia Pacific Domtar America, Inc. Pabco Gypsum.
- B. All Standard Gypsum Board shall conform to ASTM C36, Type 'X', label as fire code and shall be approved by the State Fire Marshall. Ends shall be square cut with tapered edges, 48 inches wide and maximum length available to minimize joints.
  - 1. Thickness shall be 5/8-inch, unless indicated otherwise.
  - 2. Draftstops above ceiling shall be 1/2" Gyp. Bd.
- C. Backing board at areas indicated to receive ceramic tile finish shall be cement board and meet U.S. Gypsum Standards Systems SA-932 - 2012 Edition.
- D. Joint Treatment: Joint reinforcement and adhesives shall be as recommended by the manufacturer of gypsum wallboard and conform to ASTM C475, or cement board ANSI-A118.0-1990 and ANSI 108.11-190 UL listed 34L2.
- E. Water shall be suitable for domestic consumption.
- F. Accessories:
  - 1. Metal Corners: USG No. 104 Cur-A-Bead.
  - 2. Metal Casing: USG No. 200B.
  - 3. "J" Edge: USG No. 400.
  - 4. Control Joints: As recommended by manufacturer for type of joint.
  - 5. Special Trim: Provide all custom designed trim, edgings, etc. indicated or required to provide a complete, finished installation.

- G. Fasteners: Annular ring nail, GWB-54, sufficient length to provide a minimum of 3/4-inch penetration into framing member; 6d cooler nails may be used at single ply application. For cement board fasteners, see U.S. Gypsum Systems SA-932 2012 Edition.
- H. Electrical Box Sealer: Lowry's "Electrical Box Pads", or approved equal, 6 inch x 8 1/8 inch resilient sealer pads.
- I. Miscellaneous: Provide all other materials and accessories as necessary to complete the Work.

### PART 3 - EXECUTION

#### 3.01 INSPECTION:

- A. Inspect areas and surfaces scheduled to receive gypsum wallboard and verify that:
  - 1. Support systems are in proper alignment.
  - 2. Required blocking, bracing and backing members of support systems are installed.
- B. Do not proceed with installation of wallboard until deficiencies are corrected and surfaces to receive wallboard are acceptable.

#### 3.02 PREPARATION

Coordinate details with other work supporting, adjoining, or fastening to gypsum wallboard.

#### 3.03 INSTALLATION - CONTROL JOINTS

Provide control joints in gypsum wallboard panel surfaces as recommended by systems manufacturer.

#### 3.04 APPLICATION OF GYPSUM BOARD

- A. General Requirements:
  - 1. Apply and finish gypsum board in accordance with requirements of ASTM C840 unless otherwise noted.
  - 2. Cut gypsum board by scoring and breaking or sawing from face side. Smooth all cut edges and ends of gypsum board where necessary, in order to obtain neat jointing.
  - 3. Scribe ceiling board neatly in casing bead where it meets surfaces in other planes.
  - 4. Apply in either vertical or horizontal direction with ends and edges falling on supports, except where edge joints are at right angles to support. At vertical applications, gypsum board shall be of length required to reach full height of vertical surface in one continuous piece. Bring ends and edges into contact with adjoining board, but do not force into place. Maximum allowable gap at end joints: 1/4-inch.

5. Lay out joints at openings so that no end joint aligns with edges of opening, Stagger end joints and arrange joints on opposite sides of partition to occur on different stud. At external corners, butt and fit board to provide solid edge. At end joints occurring between framing members, taper, and back-block.
  6. Hold gypsum board nominal 1/4-inch above floor or curb typical.
  7. Where gypsum board is carried full height to structure above, provide for deflection of structure by undercutting board nominal 3/8-inch and seal top edge of board to structure in continuous bead to form elastic closure.
  8. Cut board to fit electrical outlets, pipes, or other items as required. Cut gypsum board by scoring on face and back in outline before removal or by cutting with a saw or other suitable tool. Smooth all cut out where necessary.
  9. After trim is applied and prior to decoration, correct surface damage and defects.
  10. Fastening:
    - a. Attach board from center to edges and ends, pressing firmly against supports. Place fasteners approximately 3/8-inch from edges with heads just below gypsum board surfaces; but do not break paper.
    - b. Walls: Space fasteners maximum 6 inches on center in field and along abutting edges.
    - c. Ceilings: Space fasteners maximum 6 inches on center in field and along abutting edges.
- B. Joint Treatment:
1. Apply tape and cement to joints and corners in strict accordance with directions of gypsum board manufacturer.
  2. Pre-fill V-grooves formed by the abutting beveled or rounded wrapped edges with joint compound as per manufacturer's recommendations.
  3. Use tape and cement, minimum three coats cement; allow to dry between coats.
  4. Work final coat to smooth level plane surface.
  5. Accessories: Install corner beads at all exposed external corners. Edges and ends wherever exposed and where not indicated otherwise, shall have metal edge beads. Beads shall be installed to a true line and butt tightly to other surfaces, where sealant is indicated or specified. Miter corners of all beads and fasten sufficiently to properly embed flanges in cement.
  6. Treat fastening head dimples same as joints; tape may be omitted.
  7. Joints and fastening head dimples in backer board need only be treated as required to preserve fire rating.
  8. Seal joints shown on Drawings and where gypsum board meets dissimilar material with sealant conforming to applicable portions of Section 07920. Tool to neat surface, ready for paint; remove excess material.
- C. Fire-Rated Conditions:
1. Preserve continuity of fire rating.
  2. Provide fire-rated enclosures for electrical outlets and junction boxes, lighting fixtures, recessed cabinets, fixtures and other items requiring same.

3. Where adjacent interior spaces have suspended ceilings of different heights, extend separating partition finish on both faces of studs to at least three inches above higher ceiling finish.
  4. Conform to applicable codes and authorities for requirements of taping and cementing joints and fasteners heads.
- D. Moisture Resistant and High Impact gypsum Board: Location as shown on plans.
- E. Finish shall be sprayed light orange peal texture, existing walls to remain shall be skimmed and textured to match new walls.

3.05 ADJUST AND CLEAN

- A. "Fastener Pop":
1. When face paper is punctured, drive new fastener approximately 1-1/2 inches from defective fastening and remove defective fastener.
  2. Fill damaged surface with compound.
- B. Touch-up: Prior to surface decoration, surface damage and other defects shall be repaired and/or touched-up. Repairs and touch-up shall not obvious.
- C. Cleaning and Repair: Clean surfaces (including work of other trades) that have been spotted or soiled during wallboard application.
- D. Defective Work: Remove and replace defective work which cannot be satisfactorily repaired, at the direction of the Architect, with no additional cost to the Owner.
- E. Protection: Protect installed gypsum board work against damage from other construction work.
- F. Materials and installation of fire rated assemblies shall comply with the fire rated design noted on drawings.

END OF SECTION





Document 09 51 00

**ACOUSTICAL CEILING**

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications, and installation of acoustical ceiling work and associated accessory items including, but not necessarily limited to, the following:
  - 1. Non-fire rated suspended metal grid system complete with wall trim.
  - 2. Acoustical ceiling panels.
  - 3. Coordination with installation of the thermal & acoustical insulation.
  - 4. Coordination with installation of Light fixtures and mechanical work.
- C. Related Work:
  - 1. Section 05 10 00: Cold Formed Steel Framing
  - 2. Section 09 26 00: Gypsum Wallboard Systems
  - 3. Section 09 90 00: Paint
  - 4. Division 15: Mechanical equipment within Ceiling System
  - 5. Division 16: Lighting Fixtures

1.02 QUALITY ASSURANCE

- A. Standards of Manufacture: Manufacturers designated herein indicate quality of materials to be used on the Project. Equivalent products of other manufacturers may be provided.
  - 1. Types of Materials shall be as indicated herein. Each type shall be the product of one manufacturer, with identical color and texture throughout. All acoustical materials approved for use on the project shall be guaranteed to provide the acoustical characteristics, within plus or minus 10% of the coefficients as published in the current issue of the Acoustical Materials Association Bulletin.
- B. Installer Qualifications: Installation shall be by manufacturer's authorized representative who is normally engaged in this business, with a minimum of 10 years experience in acoustical ceiling systems.
- C. Requirements of Regulatory Agencies:
  - 1. State of California, California Code of Regulations, Title 24, Part 2 (CCR Title 24), including Interpretation of Regulations M-3 (IR).
- D. Reference and Standards:
  - 1. Manufacturing of materials conform to ASTM C635, "Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings".

2. Installation shall be in accordance with ASTM C636, "Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels", except as otherwise specified herein.
3. Standards for Terminology and Performance: Applicable publications by Acoustical and Insulating Materials Association (AIMA), including "Performance Data, Architectural Acoustical Materials.

1.03 SUBMITTALS (Submit under the provisions of Section 01300)

- A. Manufacturer's product specifications and installation instructions for acoustical material and suspension system, proposed for use.
- B. Samples: Samples show full range of exposed color and texture variations to appear in finished work.
  1. Submit two (2) 12" x 12" samples each of acoustical panels and tiles.
  2. Submit one (1) 6" long full size sample of suspension system member (include joint connection) and moldings.
- C. Shop Drawings: Submit shop drawings of acoustical ceiling system, clearly indicating grid layout and all related dimensioning, junctions with other work or ceiling finishes, interrelation of mechanical and electrical items related to system.
  1. In addition, furnish drawings and directions to all other trades that are necessary to effect proper coordination of their work with the work of this section and be responsible for the correctness of such drawings and directions.
- D. Certificates: Furnish certification that all materials and systems conform to specification requirements.
- E. Replacements Panels: At completion of the work furnish SCOE with a minimum of one (1) box each of acoustical lay-in panels and tile, from the color, pattern and manufacturer of the replacement panels.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unopened protective packaging with manufacturer's labels indicating brand name, pattern, size and thickness; legible and intact.
- B. Store materials in original protective packaging to prevent soiling, physical damage or wetting. Store cartons open at each end to stabilize moisture content and temperature.
- C. Handle materials in such a manner as to prevent damage to products or finishes.

1.05 ENVIRONMENTAL CONDITIONS

- A. Do not install acoustical work until building areas are enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead mechanical (tested and approved) and electrical work are completed.

- B. Permit wet work to dry prior to commencement of installation.
- C. Maintain a humidity of 65 to 75 percent, at a uniform temperature in the range of 65°F in areas where acoustical materials are to be installed 25 hours before, during, and 25 hours after installation.

## PART 2 – PRODUCTS

### 2.01 CEILING SUSPENSION SYSTEM

- A. Comply with ASTM C635, as applicable to type of suspension system required for ceiling units indicated.
  - 1. Main and Cross Members and Wall Angles: Galvanized steel or extruded aluminum alloy 6063-T5.
  - 2. Structural Class: Equal to Armstrong Prelude XL.
    - a. 15/16" Exposed Tee System
  - 3. Attachment Devices: Size for 5 times design load indicated in ASTM C635, Table 1 Direct Hung.
  - 4. Hanger Wires: Galvanized carbon steel, ASTM A641, soft temper, pre-stretched, yield-stress load of at least 3 times design load, but not less than 12 gauge (0.106 inch). Wire installed for vertical loads on ceiling grid, seismic
  - 5. Acceptable System Manufacturers: Same as acoustical unit manufacturer or as follows:
    - a. Armstrong
    - b. USG
  - 6. Seismic Struts: Seismic Compression Struts shall be installed at 12'-0" on center, each direction as indicated on the plans and as required per C.B.C.
- B. System Type: Direct-hung T-bar suspension system; Manufacturer's standard exposed runners, crossrunners and accessories, of type and profiles indicated, with exposed cross-runners coped to lay flush with main runners.
- C. Finish of Exposed Members: Provide uniform factory applied finish on exposed surfaces of ceiling suspension system including mouldings, trim and accessories; color white.

### 2.02 LAY-IN ACOUSTICAL PANELS

- A. Armstrong or approved equal conforming to Class I when tested to UBC Std 42-1. The material shall also be classified by UL under hazard classification for flame spread of 0 to 25. Smoke density not to exceed 0 (zero) to 450.
  - 1. Acoustical Tile Cortega Mineral composition, Tegular Design, # 703, Class "A" rating, ASTM E1264, flamespread and smoke density 25 or under, smoke developed index of 450 or less, when tested in accordance with ASTM E 84 (Class A/1, size 24" x 48", NRC 0.55, CAC 30, Sag Resistant Standard, Light Reflect 0.81, Durability-Standard.
    - a. Wet formed mineral board
    - b. Insulation valve: R Factor 1.6 BTU units.

- c. Weight S.F.: 0.70 lbs/sf
- d. Product shall conform to PA-026 Chicago Metallic Suspended Ceiling System, PA-030 USG Interior Donn Suspended Ceiling Grid System, PA-041 Armstrong World Industries Suspended Ceiling System.

### PART 3 – EXECUTION

#### 3.01 INSPECTION

- A. Examine areas to receive acoustical treatment and verify that:
  - 1. Installation of building components located above ceiling is complete.
  - 2. Spacing, direction, and details of grid members and supports to accommodate installation of light fixtures, diffusers, and other items as shown on Reflected Ceiling Plan are correct.
  - 3. Areas are clean and free of materials or rubble that could damage acoustical work.
  - 4. Coordinate thermal insulation along with the installation of the acoustical ceiling tile. The insulation is to be located on top of the acoustical ceiling tile and shall be installed as the ceiling is being installed.
- B. Do not proceed with work until unsatisfactory conditions have been corrected to the satisfaction of the installer. Work in progress on any surface shall be assumed as acceptable to the acoustical contractor.

#### 3.02 PREPARATION

- A. Coordination with other work:
  - 1. Provide the Contractor with a complete layout for all hangers where the locations are required to be coordinated with the work of other Sections of the Specifications. Coordination shall be initiated in sufficient advance of the work of those other trades, that no delays to the work of the Project be encountered.
  - 2. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Pattern shall be uniform and symmetrical, square with the building. Avoid use of less-than half width units at borders, and comply with reflected ceiling plans wherever possible.
  - 3. Consult Mechanical and Electrical Drawings for type and extent of their work becoming part of, or penetrating acoustical ceilings.
  - 4. Coordinate installation of the thermal building insulation on the top of the acoustical ceiling tile.

#### 3.03 SUSPENSION SYSTEM INSTALLATION

- A. Install materials in accordance with manufacturer's printed instructions; comply with governing regulations, industry standards applicable to work.
- B. The ceiling suspension system shall be installed straight and level to within 1/8" in 12' with joints neat and uniform, and fitted to hairline joints between

adjoining members. Grid shall be rigid and free of burrs, dents, rough edges or defects of any kind, and of one uniform color.

- C. Install lateral bracing (seismic restraint) for all acoustical ceilings as required by CCR, Title 24, Part 2. Section 2501A.5.
- D. Hanger wires shall be provided for all main runners and cross runners within 8" of ceiling perimeters. All hanger wires and unbraced ducts, pipes, etc. must be separated by at least 6 inches.
  - 1. Hanger wires that are more than 1 in 6 out of plumb shall be counterbraced wires.
- E. Separate hanger wires are to be installed supporting each light fixture independent of ceiling grid systems. Refer to the Electrical Drawings.
- F. Hanger Wire Anchorage to Structure: Do not hang wires from ductwork, pipes, electrical or telephone conduits. Saddle-tied hanger wires shall be wrapped around itself a minimum of three (3) times.
- G. Suspension System (Exposed Grid): Securely fasten wall angles to wall surfaces to provide a rigid and level installation. Suspend main tees from structure above with wires near each end and spaced 4'-0" o.c. Main runners shall be spaced at 4'-0" o.c. with cross runners spaced at 2'-0" o.c.
  - 1. Cope exposed flanges of intersecting suspension system members so that flange faces will be flush (cope flange or member supported by other member).
  - 2. Install edge moldings at intersection of ceiling and vertical surfaces, using maximum lengths, straight, true to line and level. Miter corners.

#### 3.04 ACOUSTICAL PANEL INSTALLATION

- A. Fit acoustical lay-in panels in place, free from damaged edges or other defects detrimental to appearance and function. Lay directionally patterned units as shown on drawings. Fit border units neatly against abutting surfaces.
- B. Install lay-in panels level, in uniform plane and free from twist, warp and dents.
- C. Install hold-down clips for each lay-in units, spaced as recommended by unit manufacturer for application indicated, except do not exceed spacing required by governing regulations.
- D. Scribe and cut units accurately at penetrations and edges requiring cut units. Make field tegular cuts around perimeter of room and at partial cut panels.
- E. Install materials in accordance with manufacturer's printed instructions and the following:
  - 1. Install all tile with Type I mounting.
  - 2. Tile shall be installed so that joints will align.
  - 3. Scribe tile neatly to vertical surfaces and cut tile accurately at penetrations requiring cut tile.

#### 3.05 ADJUST AND CLEAN

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

- A. Cleaning and Finishing: Upon completion of work, clean ceiling board surfaces and exposed portions of suspension system, removing any discoloration or foreign matter, and touch up all exposed, abraded or cut areas and exposed edges with finishing material recommended by manufacturer. Touch up shall not be obvious.
- B. Adjustments and Defective Work: Adjust any sags or twists which develop in ceiling systems; remove and replace damaged or improperly installed suspension system components or acoustical panels, as directed by Architect.
- C. Protect installed acoustical work against damage from other construction work.

END OF SECTION

Document 09 65 30

**RESILIENT FLOORING ACCESSORIES**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope: Work of this Section shall include all materials and installation necessary to provide Resilient Wall Base and Accessories, including resilient wall base, resilient flooring accessories, as shown and detailed on the Drawings and specified herein.
- B. Related Sections include the following:
  - 1. Section 09 26 00 – Gypsum Wall Board

1.02 SUBMITTALS

- A. Product Data: For each type of product specified.
- B. Samples for Verification: In manufacturer's standard sizes, but not less than 12" long, of each product color and pattern specified.
- C. Product Certificates: Signed by manufacturers of resilient wall base and accessories certifying that each product furnished complies with requirements.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer to perform work of this Section who has specialized in installing resilient products similar to those required for this Project and with a record of successful in-service performance.
- B. Source Limitations: Obtain each type and color of product specified from one source and one (1) dye lot per room with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.
- C. Fire-Test-Response Characteristics: Provide products with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by a testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Critical Radiant Flux: 0.45 W/sq. cm or greater when tested per ASTM E 648.



2. Smoke Density: Maximum specific optical density of 450 or less when tested per ASTM E 662.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to Project site in manufacturer's original, unopened cartons and containers, each bearing names of product and manufacturer, Project location, including dye lot number and shipping and handling instructions.
- B. Store products in dry spaces protected from the weather, with ambient temperatures maintained between 50° and 90°F.
- C. Move products into spaces where they will be installed at least 48 hours before installation, unless longer conditioning period is recommended in writing by manufacturer.

#### 1.05 PROJECT CONDITIONS

- A. Maintain a temperature of not less than 70°F or more than 95°F in spaces to receive resilient products for at least 48 hours before installation, during installation, and for at least 48 hours after installation, unless manufacturer's written recommendations specify longer time periods. After post-installation period, maintain a temperature of not less than 55°F or more than 95°F for a minimum of 48 hours.
- B. Do not install products until they are at the same temperature as the space where they are to be installed.
- C. For resilient products installed on traffic surfaces, close spaces to traffic during installation and for time period after installation recommended in writing by manufacturer.
- D. Coordinate resilient product installation with other construction to minimize possibility of damage and soiling during remainder of construction period. Install resilient products after other finishing operations, including painting, have been completed.

#### 1.06 EXTRA MATERIALS

- A. Furnish extra materials installed, as described below packaged with protective covering for storage, and identified with labels describing contents.
  1. Furnish not less than 10 linear feet for each 500 linear feet or fraction thereof, of each different type, color, pattern, and size of resilient product installed.
  2. Deliver extra materials to SCOE.

## PART II - PRODUCTS

### 2.01 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, those indicated in the Resilient Flooring Accessory Schedule at the end of Part 3.
- B. Products: Subject to compliance with requirements, provide one of the products indicated for each designation in the Resilient Flooring Accessory Schedule at the end of Part 3.

### 2.02 RESILIENT PRODUCTS

- A. Rubber Wall Base: Products complying with FS SS-W-40, Type I and with requirements specified in the Resilient Flooring Accessory Schedule.
- B. Rubber Accessory Moldings: Products complying with requirements specified in the Resilient Tile Flooring Schedule.

### 2.03 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by resilient product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

## PART III - EXECUTION

### 3.01 EXAMINATION

- A. Examine substrates, areas, and conditions where installation of resilient products will occur, with Installer present, for compliance with manufacturer's requirements. Verify that substrates and conditions are free of defects and fully comply with manufacturer's specified requirements for resilient product installation. Determine adhesion and dryness by performing flooring manufacturer's recommended bond and Calcium Chloride Test for moisture. Concrete slabs moisture should not exceed 5 lbs. per 1,000 sq. ft. per 24 hours. Provide the Owner's Representative with test results prior to installation for all concrete slabs.

### 3.02 PREPARATION

- A. General: Comply with manufacturer's written installation instructions for preparing substrates indicated to receive resilient products.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- D. Broom and vacuum clean substrates to be covered immediately before installing resilient products. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.03 INSTALLATION

- A. General: Install resilient products according to manufacturer's written installation instructions.
- B. Apply resilient wall base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
  - 1. Install wall base from rolls without gaps at seams and with tops of adjacent pieces aligned.
  - 2. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
  - 3. Do not stretch base during installation.
  - 4. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
  - 5. Form outside corners on job, from straight pieces of maximum lengths possible, without whitening at bends. Shave back of base at points where bends occur and remove strips perpendicular to length of base that are only deep enough to produce a snug fit without removing more than half the wall base thickness.
  - 6. Form inside corners on job, from straight pieces of maximum lengths possible, by cutting an inverted V-shaped notch in toe of wall base at the point where corner is formed. Shave back of base where necessary to produce a snug fit to substrate.
- C. Place resilient products so they are butted to adjacent materials and bond to substrates with adhesive. Install reducer strips at edges of flooring that would otherwise be exposed.

- D. Apply resilient products to stairs as indicated and according to manufacturer's written installation instructions.

### 3.04 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing resilient products:
  - 1. Remove adhesive and other surface blemishes using cleaner recommended by resilient product manufacturers.
  - 2. Sweep or vacuum horizontal surfaces thoroughly.
  - 3. Do not wash resilient products until after time period recommended by resilient product manufacturer.
  - 4. Damp-mop or sponge resilient products to remove marks and soil.
- B. Protect resilient products against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by resilient product manufacturer.
  - 1. Cover resilient products installed on floors and stairs with undyed, untreated building paper until inspection for Substantial Completion.
- C. Clean resilient products not more than 4 days before dates scheduled for inspections intended to establish date of Substantial Completion in each area of Project. Clean products according to manufacturer's written recommendations.

### 3.05 RESILIENT FLOORING ACCESSORY SCHEDULE

- A. Rubber Wall Base:
  - 1. Products: Roppe Pinnacle Rubber Wall Base, as manufactured by Roppe, Burke, or equal.
  - 2. Color: Black
  - 3. Profile: Standard Toe
  - 4. Minimum Thickness: 1/8"
  - 5. Height: 4 inches per plans
  - 6. Lengths: Install from rolls
  - 7. Outside Corners: Formed on site
  - 8. Inside Corners: Formed on site

9. Ends: Premolded
10. Surface: Smooth

END OF SECTION

Document 09 90 00

**PAINTING**

PART 1 - GENERAL

1.1 SECTION INCLUDES

1.1.1 Surface preparation.

1.1.2 Products and application.

1.1.3 Surface finish schedule.

1.2 REFERENCES

1.2.1 ASTM D16 – Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.

1.2.2 ASTM D2016 - Test Method for Moisture Content of Wood.

1.3 SYSTEM DESCRIPTION

1.3.1 Preparation of all surfaces to receive final finish.

1.3.2 Painting and finishing work of this section using coating systems of materials including primers, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.

1.3.3 Surface preparation, priming, and finish coats specified in this Section are in addition to shop-priming and surface treatment specified under other Sections.

1.3.4 Painting and finishing all exterior and interior surfaces of materials including structural, mechanical, and electrical work on site, in building spaces, and above or on the roof.

1.3.5 Paint exposed surfaces except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces.

1.4 DEFINITIONS

1.4.1 Conform to ASTM 016 for interpretation of terms used in this Section.

1.5 QUALITY ASSURANCE

1.5.1 Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five (5) years' experience.

1.5.2 Applicator: Company specializing in commercial painting and finishing with five (5) years documented experience.

1.6 REGULATORY REQUIREMENTS

1.6.1 Comply with applicable codes and regulations of governmental agencies having jurisdiction including those having jurisdiction over airborne emissions and industrial waste disposal. Where those requirements conflict with this specification, comply with the more stringent provisions.

1.6.2 Comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA).

1.6.3 Coats: The number of coats specified is the minimum number acceptable. If full coverage is not obtained with the specified number of coats, apply such additional coats as are necessary to produce the required finish.

1.6.4 Employ coats and undercoats for all types of finishes in strict accordance with the recommendations of the paint manufacturer.

1.6.5 Provide primers and undercoat paint produced by the same manufacturer as the finish coat.

1.7 SUBMITTALS

1.7.1 Submit product data under provisions of Section 013300.

1.7.2 Provide manufacturer's technical information and instructions for application of each material proposed for use by catalog number.

1.7.3 List each material by catalog number and cross-reference specific coating with specified finish system.

- 1.7.4 Provide manufacturer's certificate that products proposed meet or exceed specified materials.
  - 1.7.5 Submit samples under provisions of Section 013300.
  - 1.7.6 Submit two (2) samples 8-1/2 x 11 inch in size of each paint color and texture applied to cardboard. Resubmit samples until acceptable color, sheen and texture is obtained.
  - 1.7.7 On same species and quality of wood to be installed, submit two (2) 4 x 8 inch samples showing system to be used.
  - 1.7.8 LEED Submittal: Credit EQ 4.2, submit manufactures product data for paints and coatings, including printed statement of VOC content and chemical components under the provisions of Section 01814.
- 1.8 FIELD SAMPLES
- 1.8.1 Provide field samples under provisions of Section 013300.
  - 1.8.2 On wall surfaces and other exterior and interior components, duplicate specified finishes on at least 100 sq.ft. of surface area.
  - 1.8.3 Provide full-coat finishes until required coverage, sheen; color and texture are obtained.
  - 1.8.4 Simulate finished lighting conditions for review of field samples.
  - 1.8.5 After finishes are accepted, the accepted surface may remain as part of the work and will be used to evaluate subsequent coating systems applications of a similar nature.
- 1.9 DELIVERY, STORAGE, AND HANDLING
- 1.9.1 Deliver products to site and store and protect under provisions of Section 016500.
  - 1.9.2 Deliver products to site in sealed and labelled containers; inspect-to verify acceptance.
  - 1.9.3 Full unopened 1 GAL can (new) - Container labelling to include paint Formula, manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and



instructions for mixing and reducing. Paint containers not displaying product identification will not be acceptable.

1.9.4 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.

1.9.5 Take precautionary measures to prevent fire hazards and spontaneous combustion.

#### 1.10 ENVIRONMENTAL REQUIREMENTS

1.10.1 Provide continuous ventilation and heating facilities to maintain interior surface and ambient temperatures above 50 degrees F with a maximum humidity level of 50 percent for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.

1.10.2 Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.

1.10.3 Minimum Application Temperatures for Latex Paints: 50 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

1.10.4 Minimum Application Temperature for Varnish and Urethane Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.

1.10.5 Provide lighting level of 80 foot candles measured mid-height at substrate surface.

#### 1.11 EXTRA MATERIAL

1.11.1 Provide 1-gallon only unopened container of each color and surface texture to Owner.

1.11.2 Label each container with paint mixture formula, color, texture, and room locations in addition to the manufacturer's label.

#### 1.12 WARRANTY

1.12.1 All "Deep Tone" colors shall be warranted for 10-year color retention with a delta loss of no more than 75 cie lab units.

### PART 2 - PRODUCTS

#### 2.1 ACCEPTABLE MANUFACTURERS - PAINT

2.1.1 Unless specifically identified otherwise, product designations included at end of section are those of the Dunn Edwards, [www.dunnedwards.com](http://www.dunnedwards.com) and shall serve as the standard for kind, quality, and function.

2.1.2 Subject to compliance with requirements, other manufacturers offering equivalent products are:

2.1.2.1 Dunn Edwards, [www.dunnedwards.com](http://www.dunnedwards.com).

2.1.3 Substitutions: Under provisions of Section 013300.

## 2.2 MATERIALS

2.2.1 Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.

2.2.2 Good flow and brushing properties; capable of drying or curing free of streaks or sags.

2.2.3 "Deep Tone" colors to be composed of 100 percent acrylic pigments, factory ground, with a colored base.

2.2.4 Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.2.5 Chemical Components of Interior Paints and Coatings: Shall not exceed the limitations of Green Seal's Standard GS-11 for VOC content and the following restrictions:

2.2.5.1 Flat Paints and Coatings: VOC content of not more than 50 g/L.

2.2.5.2 Non-Flat Paints and Coatings: VOC content of not more than 150 g/L.

2.2.5.3 Anticorrosive Coatings: VOC content of not more than 250 g/L.

2.2.6 Varnishes and Sanding Sealers: VOC content of not more than 350 g/L.

2.2.7 Stains: VOC content of not more than 250 g/L.

2.2.8 Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).

2.2.9 Restricted Components: Paints and coatings shall not contain any of the following:

2.2.9.1 Acrolein.

2.2.9.2 Acrylonitrile.

- 2.2.9.3 Antimony.
- 2.2.9.4 Benzene.
- 2.2.9.5 Butyl benzyl phthalate.
- 2.2.9.6 Cadmium.
- 2.2.9.7 Di (2-ethylhexyl) phthalate.
- 2.2.9.8 Di-n-butyl phthalate.
- 2.2.9.9 Di-n-octyl phthalate.
- 2.2.9.10 1, 2-dichlorobenzene.
- 2.2.9.11 Diethyl phthalate.
- 2.2.9.12 Dimethyl phthalate.
- 2.2.9.13 Ethylbenzene.
- 2.2.9.14 Formaldehyde.
- 2.2.9.15 Hexavalent chromium.
- 2.2.9.16 Isophorone.
- 2.2.9.17 Lead.
- 2.2.9.18 Mercury.
- 2.2.9.19 Methyl ethyl ketone.
- 2.2.9.20 Methyl isobutyl ketone.
- 2.2.9.21 Methylene chloride.
- 2.2.9.22 Naphthalene.
- 2.2.9.23 Toluene (methylbenzene).
- 2.2.9.24 1, 1, 1-trichloroethane.
- 2.2.9.25 Vinyl chloride.

### 2.3 WORK NOT TO BE PAINTED

- 2.3.1 Painting is not required on surfaces in concealed and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces and duct shafts.

- 2.3.2 Do not paint metal surfaces such as stainless steel, chromium plate, brass, bronze, and similar finished metal surfaces.
- 2.3.3 Do not paint anodized aluminum or other surfaces which are specified to be factory pre-finished.
- 2.3.4 Do not paint sandblasted or architecturally finished concrete surfaces.
- 2.3.5 Do not paint prefinished acoustic materials or acoustic suspension systems.
- 2.3.6 Do not paint over Underwriters Laboratories, Factory Mutual or other code-required labels or identifications.

## 2.4 APPLICATION

- 2.4.1 Apply products in accordance with manufacturer's instructions.
- 2.4.2 Do not apply finishes to surfaces that are not dry.
- 2.4.3 Apply prime coat to surfaces which are to be painted or finished.
- 2.4.4 Apply each coat to uniform finish.
- 2.4.6 Sand lightly between coats to achieve required finish.
- 2.4.7 Allow applied coat to dry according to the Manufacturers Specifications before the next coat is applied.
- 2.4.8 The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.
- 2.4.9 Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- 2.4.10 Prime back surfaces of interior and exterior woodwork with primer paint.
- 2.4.11 Prime back surfaces of interior woodwork scheduled to-receive stain or varnish finish with water-based Urethane varnish.
- 2.4.12 Paint mill finished door seals to match door or frame.
- 2.4.13 Paint primed steel glazing stops in doors to match door or frame.
- 2.4.14 Cloudiness, spotting, lap marks, brush marks, runs, sags, spikes and other surface imperfections will not be acceptable.
- 2.4.15 Where spray application is used, apply each coat of the required thickness. Do not double back to build up film thickness of two (2) coats in one pass.

2.4.16 Where roller application is used, roll and redistribute paint to an even and fine texture. Leave no evidence of roller laps, irregularity of texture, skid marks, or other surface imperfections.

2.5 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

2.5.1 Refer to Section 233000 and Section 260000 for schedule of color coding and identification banding of equipment, ductwork, piping, and conduit.

2.5.2 Paint shop primed equipment. Do not paint shop prefinished items.

2.5.3 Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

2.5.4 Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.

2.5.5 Replace identification markings on mechanical or electrical equipment when painted accidentally.

- 2.5.6 Paint interior surfaces of air ducts, and connector and baseboard heating cabinets that are visible through grilles and louvers with one (1) coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and connector and baseboard cabinets to match face panels.
- 2.5.7 Paint exposed conduit and electrical equipment occurring in finished areas with existing matching wall color.
- 2.5.8 Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
- 2.5.9 Color code equipment, piping, conduit, and exposed ductwork in accordance with requirements indicated. Color band and identify with flow arrows, names, and numbering.
- 2.5.10 Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.
- 2.5.11 Paint grilles, registers, and diffusers which do not match color of adjacent surface.
- 2.5.12 Paint all mechanical and electrical equipment, vents, fans, and the like occurring on roof.
- 2.5.13 Do not paint moving parts of operating units; mechanical or electrical parts such as valve operators; linkages; sensing devices; and motor shafts.
- 2.5.14 Do not paint over labels or equipment identification markings. .
- 2.5.15 Do not paint mechanical room specialties such as compressors, boilers, pumps, control panels, etc.
- 2.5.16 Do not paint switch plates, light fixtures, and fixture lenses.
- 2.6 CLEANING
  - 2.6.1 As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
  - 2.6.2 During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
  - 2.6.3 Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

2.7 PROTECTION OF COMPLETED WORK

- 2.7.1 Protect finished installation under provisions of Section 016000.
- 2.7.2 Erect barriers and post warning signs. Maintain in place until coatings are fully dry.
- 2.7.3 Confirm that no dust generating activities will occur following application of coatings.

2.8 PATCHING

- 2.8.1 After completion of painting in any one room or area, repair surfaces damaged by other trades.
- 2.8.2 Touch-up or re-finish as required to produce intended appearance.

2.9 FIELD QUALITY CONTROL

- 2.9.1 Field inspection and testing will be performed under provisions of Section 014523.
- 2.9.2 The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary.
- 2.9.3 The Owner will engage the services of an independent testing agency to sample paint material being used.
- 2.9.4 Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
- 2.9.5 The testing agency will perform appropriate quantitative materials analysis and other characteristic testing of materials as required by the Owner.
- 2.9.6 If test results show materials being used and their installation do not comply with specified requirements or manufacturer's recommendations, the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing and repaint surfaces to acceptable condition.

2.10 COLOR SCHEDULE

- 2.10.1 Paint and finish colors shall be selected by the Architect from manufacturer's entire range of standard and custom color selections and special colors

selected to match or compliment the colors of other materials, equipment, or components which comprise the work.

- 2.10.2 Access doors, registers, exposed piping, electrical conduit and mechanical/electrical panels: Generally the same color as adjacent walls.
- 2.10.3 Exterior and interior steel doors, frames and trim: Generally a contrasting color to adjacent walls.
- 2.10.4 Doors generally are all the same color, but of a contrasting color from frame and trim.
- 2.10.5 Exterior and interior steel fabrications: Generally a contrasting color to adjacent walls.
- 2.10.6 Exposed interior mechanical/ductwork: Generally a contrasting color to adjacent walls or ceiling.
- 2.10.7 Ceilings are generally to be painted a different color than walls. .
- 2.10.8 Five (5) different color schemes for painting of walls.
- 2.10.9 Approximately 20 percent of overall painting work will be required to be "Deep Tone" colors. This work will require one (1) additional coat of paint beyond that as specified.

### **PART 3 - EXECUTION**

#### **3.1 INSPECTION**

- 3.1.1 Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- 3.1.2 Examine surfaces to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- 3.1.3 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. Plaster and Gypsum Wallboard                 | 12 percent   |
| 2. Masonry, Concrete, and Concrete Unit Masonry | 12 percent   |
| 3. Interior Located Wood                        | 15 percent, measured in accordance with ASTM 02016 |
| 4. Exterior Located Wood                        | 15 percent, measured in accordance with ASTM 02016 |



3.1.3.1 Beginning of installation means acceptance of existing surfaces.

3.2 PREP WORK:

3.2.1 See attached sheet for Lead paint and Asbestos awareness.

3.2.2 Remove all tacks, stickers, staples adhesive glue, picture hangers, protruding nails, tape and adhesive glue, and all other foreign materials from surfaces prior to priming or painting. Mask off and protect existing room identification tags including Asbestos tags on door frames.

3.2.3 All exterior surfaces to be painted will be pressure washed to remove all loose paint, blisters, bridged cracks, surface-chalk and loose debris at no less than 3200-PSI, or sand blasted.

3.2.4 If prior is not possible, washing all surfaces with TSP made by Synco or Jasco, by hand means, scraping and sanding of all surfaces is required prior to prepriming for proper patching and painting of surfaces.

3.2.5 Prior to any painting, any wood or metal deficiencies should be replaced including but not limited to, doors, facial boards, overhang wood, siding, trim etc.

3.2.6 All glossy surfaces WILL be sanded prior to any paint application. NO EXCEPTIONS.

3.2.7 Clean all roofing tar from facial boards and metal flashing etc.

3.2.8 All factory primed new material wood, metal etc, will be sanded prior to priming and painting.

3.2.9 All surfaces to be patched will be pre-primed with the proper material as per manufacture specifications for substrate.

3.2.10 Any efflorescence will be primed as per Dunn-Edwards EFF-Stop concrete and masonry filler manufactures specifications.

3.2.11 Wash all doors, casings and other surfaces with TSP made by Synco or Jasco to remove oily dirt, dust, smoke, and other residues that could prevent proper adhesion of any paint products.

3.2.12 For all fillers and patching compounds used, surfaces will be primed before, after application, and before finish paint being applied.

3.2.13 Do not paint over all murals until artist waiver is filled out and provided. Please check with the SCUSD Paint Shop Supervisor before project starts.

3.2.14 All prep work will be done like the SCUSD standard NO EXCEPTIONS This includes patching, scraping, sanding, caulking, and removal of all drips, sags, runs and removal of all foreign matter on or in painted surface.

3.2.15 All interior window trim, door trim, cabinets, cubbyholes, pin-board, counter tops in addition, wall panel joints shall be caulked.

3.3 PRIMING:

3.3.1 All new or bare galvanized metal will first be etched and then primed with appropriate galvanized latex or oil base primer, use cleaner and primer measures as per manufactures specification.

3.3.2 All door and Casings may be sprayed. Doors may also be tight rolled with a 3/8<sup>th</sup> inch nap roller. All casings to be brushed or laid off with a brush. ABSOLUTELY NO EXCEPTIONS.

3.3.3 All holes and cracks are to be filled with the proper exterior patching compound and latex caulking with silicone.

3.3.4 All rusty ferrous and ferrous metal are to be primed with a rust-inhibitive red, gray or white oxide all galvanized metal will be primed with a galvanized primer.

3.4 FINISH COAT

3.4.1 All parking lot and playground stripping. Mil thickness 12-15 mils dry. Apply material as per manufacture specs to achieve thickness. All colors of stripping are to match existing.

3.4.2 All existing walls and overhangs to be painted should be colored as either the SCUSD (special Heather) or to match existing body color. One of the following products must be used:

3.4.2.1 Kelly Moore – 1247 Acryshield with matching Kelly Moore primer

3.4.2.2 Dunn Edwards – SSSL30 Spartashield with matching Dunn Edwards primer

3.4.2.3 Sherwin Williams – A75 Solo eggshell with matching Sherwin Williams primer

3.4.3 All fascia boards to be painted should be colored as 1 of the 5 standard SCUSD trim colors. Please check with SCUSD Paint Shop Supervisor for correct formula. One of the following products must be used:

3.4.3.1 Kelly Moore – 1250 – Acryshield with matching Kelly Moore primer

3.4.3.2 Dunn Edwards – SSSL50 Spartashield with matching Dunn Edwards primer

3.4.3.3 Sherwin Williams – A76 Solo SemiGloss with matching Sherwin Williams primer

NO EXCEPTIONS.

- 3.4.4 All metal poles, handrails if not galvanized and iron gates are to be finished in water-born alkyd urethane semi-gloss finish paint. One of the following must be used:
- 3.4.4.1 Dunn Edwards Aristoshield ASHL50 semi-gloss
  - 3.4.4.2 Kelly Moore 1998 Interior Exterior Semi-Gloss Enamel
  - 3.4.4.3 Sherwin Williams Water Based Alkyd Urethane Semi-Gloss B53-1150
- 3.4.5 All doors and casings to have Water Born Alkyd Urethane finish, tops, bottoms, and proper edges of doors and casings included according to trade standards. All doors can be sprayed or tight rolled with a 3/8<sup>th</sup> inch nap roller or sprayed. All Casings must have sprayed or brushed finishes. NO EXCEPTIONS.
- 3.4.6 All concrete pillars are to be done in water born alkyd urethane semi-gloss paint.
- 3.4.7 All trim finishes are to be done in water born alkyd urethane semi-gloss paint.
- 3.4.8 All colors and product material to be used are to be APPROVED by the SCUSD paint shop Supervisor before application NO EXCEPTIONS.
- 3.4.9 All handrails to be done in urethane finish.
- 3.4.9.1 Interior upper walls above door frame to be done in (SCUSD (ALTAMONT) SHEEN TO MATCH \ Dunn Edwards Spartashield SSSL30, Sherwin Williams Solo A75 Eggshell, Kelly-Moore 1010 eggshell.
- 3.4.10 Interior lower walls below door header to be done in (SCUSD (COLONY WHITE) SHEEN TO MATCH water born alkyd urethane - First choice: Dunn Edwards Artistoshield ASHL50, second choice: Kelly-Moore 1998 Epic Semi-gloss, or third choice: Sherwin Williams water based alkyd urethane Semi-gloss B53-1150. Interior doors, door trim and painted cabinets to be done in (SCUSD (COLONY TAN) First choice: Dunn Edwards Artistoshield ASHL50, second choice: Kelly-Moore 1998 Epic Semi-gloss, or third choice: Sherwin Williams water based alkyd urethane Semi-gloss B53-1150. Exterior Body color to be (SCUSD (SPECIAL HEATHER) some school colors to be determined. Check with SCUSD paint shop Supervisor. Exterior trim colors to be determined by SCUSD paint shop Supervisor and school site.
- 3.4.11 Interior kitchens and baths to be painted: Match existing paint finish material, Full prime, Finish shall be water born alkyd urethane - First choice: Dunn Edwards Artistoshield ASHL50, second choice: Kelly-Moore 1998 Epic Semi-gloss, or third choice: Sherwin Williams water based alkyd urethane Semi-gloss B53-1150.
- 3.4.12 All pin boards if not replaced or re-covered with appropriate material,

**Solano Community College**

B300 Modifications:  
Mailroom and Graphics Project

shall be patched then painted with SCUSD approved pin board paint and color.

3.5 NOT USED

END OF SECTION



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**SIGNS**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications and installation of all signs and plaques and associated accessory items as shown on Drawings and herein specified necessary to complete the Work but not limited to the following:
  - 1. Disabled accessibility signs for site as indicated on the drawings.
  - 2. Signage Restrooms.
  - 3. Tactile exit signs.
  - 4. Tactile room signage
  - 5. Assisted listening signage
- C. Related Section:
  - 1. Section 09 90 00: Painting

1.02 QUALITY ASSURANCE

- A. Disabled Signs and Plaques as specified herein shall conform with the requirements of California Code of Regulations, Title 24, "Disabled Regulations". See existing signs - replace missing or broken with like sign.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver to project site in manufacturer's original, unopened and undamaged packaging. Store in original packaging under protective cover and protect from damage. Handle materials in such a manner as to prevent damage to products or finishes.

PART 2 - PRODUCTS

- A. Colors shall be selected from standard colors. Blue shall be equal to No. 15090 in Federal Standard 595C.
- B. All signs at all locations required by the California Building Code, shall include braille symbols identifying room, building, number, or use, etc. Signage and graphics shall include Contracted Grade 2 Braille, which shall be used wherever

Braille symbols are specifically required. Signage and graphics shall comply with all requirements of CBC Section 11B-703.

- C. Signage shall comply with all District standards.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION

- A. General: Install or apply all signs and plaques at all locations either specified or as indicated on Drawings. All materials shall be installed level and plumb and at the heights required by ADA / T-24 requirements.
- B. Sign Posts shall be mounted directly into concrete foundation. Height above grade shall be as indicated (80" min.). Concrete shall be as specified in Section 03300.
- C. Wall mounted signs shall be vandal proof and mounted to exterior wall surfaces by mechanical fasteners as recommended by the manufacturer.

#### 3.02 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 which 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.

END OF SECTION

Document 22 05 00

**PLUMBING GENERAL REQUIREMENTS**

**PART 1 GENERAL**

1.01 SCOPE:

- A. Furnish and install all plumbing work indicated on the drawings and described herein, and also any incidental work not shown or specified necessary to provide the complete system.
- B. The work includes all work shown on the Contract Drawings within a line 5 feet from the building wall. All connections to site utilities will be the work of this Section.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

- A. Mechanical General Requirements: Section 230500

**PART 2 – PRODUCTS**

2.01 PIPE AND FITTINGS

- A. Waste and Vent piping shall be Schedule 40 PVC (Polyvinyl Chloride) plastic pipe. All pipe, couplings and fittings shall be manufactured of material conforming to ASTM D1785. Plastic solvent cement for PVC plastic pipe shall conform to ASTM D2235. (Alternative: ABS below slab or in wall.)
- B. Condensate Drain Piping: Type DWV copper tubing and fittings or Schedule 40 galvanized steel pipe and malleable iron fittings. (PVC piping will not be acceptable.)
- C. Water Pipe (Hot and Cold Water): Type L below grade, type M above grade, copper tubing, hard-temper, with wrought copper fittings. Soldering / brazing material shall be lead free, silver solder below grade, 95-5 or similar above grade. Capped or plugged outlets shall be Schedule 40 screwed brass. Elbows at branch outlets shall be screwed outlet, with ears, for nailing or screwing to wall backing.

2.02 CLEANOUTS

- A. Cleanouts shall be "T" or "Y" branches or trap hubs of same material as pipe in which they are placed. Cleanouts in cast iron lines shall have cast iron bodies with brass plugs. Cleanouts in vertical lines shall be Josam 58710. Furnish cleanouts in waste drop from each lavatory, sink, drinking fountain and urinal.

2.03 VALVES

- A. Crane, Walworth, Nibco, Kennedy, or equal. General Service valves shall be non-rising stem, split wedge gate valves, or at Contractor option, full port ball valves with bronze body and stainless steel ball.



2.04 PIPE INSULATION

- A. Insulate domestic hot water piping with 1" thick Thermaseal insulation or equal. Tape all butted joints with tape as recommended by the manufacturer. Use enlarged sections at fittings, where required, and mitered joints at elbows, etc. Valve and pump bodies need not be insulated.
- B. Insulate traps and water branch piping at handicapped fixtures with 1/4" insulation with white pre-molded vinyl jacket.

2.05 FLASHING

- A. Provide 4 pound lead flashing, 8" minimum skirt, for each pipe through roof, Stoneman 1100-2 or 1100-4, Acorn, or equal, flashing fitting, Stoneman 1100-3 or 1100-5, Acorn, or equal, for vents.

2.06 PIPE HANGERS

- A. Support pipe with Grinnell, Unistrut, or equal, materials. Do not use wood, perforated tape or similar materials.
- B. Pipe Support and Hanger Spacing Schedule:

Type of Pipe	1" Dia. 1-1/4" to or Under	3" Dia.	3-1/2" Dia. & Over
Steel Pipe	8'-0"	10'-0"	10'-0"
Copper Tubing	5'-0"	8'-0"	10'-0"
Gas Piping	6'-0"	10'-0"	10'-0"
Cast Iron	Support at every joint and 10'-0" max.		
PVC (Sch 40)	Support every 4'-0", allow for expansion every 30'		
ABS DMV	Support every 4'-0", allow for expansion every 30'		

2.07 FIXTURES AND TRIM

- A. P-traps for lavatories and sinks shall be 17 gage chrome plated cast brass, adjustable with cleanout plug.
- B. Concealed stops shall be Speedway SSR44; 3/4" stops shall be Dick Brothers #3150-LK. Exposed stops and supplies shall be 1/2" Speedway #SR3712A, lock shield, loose key, threaded inlet. Compression inlet stops will not be acceptable.
- C. Fixtures and equipment: As listed on Drawings.

2.08 GAS PIPING

- A. Refer to section 231123 'natural gas piping'

**PART 3 - EXECUTION**

3.01 RECORD DRAWINGS

- A. Comply with Section 230500 requirements.
- B. Cathodic Protection
  - 1. Provide dielectric fittings at all points of connection of copper to ferrous piping, and all ferrous hangers supporting copper piping. Fittings shall be unions or couplings for piping connections, felt or vinyl tape at hangers.
  - 2. Wrap all ferrous, copper or galvanized piping, except asphaltic coated soil pipe installed below grade with two layers of PABCO-Wrap, Trantex or approved equal. Factory installed coatings such as Extrucoat may be used, providing joints are wrapped with two layers of factory recommended tape or coating material. Piping shall be inspected the full length before placement for any voids or holidays in the coating. Provide fiberglass or similar wrap for all piping penetrations through concrete floors or walls.

### 3.02 FIXTURE NOTES

- A. Install all fixtures at locations shown on Architectural drawings. Provide hold down screws, 2 x 6 blocking secured with U.J.H. clips. Provide 12" long minimum air chamber on each fixture connection.
- B. All exposed piping, bibbs, stops, faucets, traps, and other trim for all fixtures shall be chrome plated.

### 3.03 ACCESS DOORS

- A. Provide Milcor, Bilco, or equal, access doors wherever necessary to maintain systems. Type of doors to be as required for construction, finish materials, and fire rating.

### 3.04 FIXTURES

- A. Crane, American Standard, Kohler, Eljer, unless noted. Provide 12" high air chamber and 1/2" Speedway CR1920A lock shield, loose key threaded inlet stop on hot and cold water to each, 17 gage chrome P-trap on each sink and lavatory. All exposed piping and trim shall be chrome plated.

### 3.05 DISINFECTION

- A. Disinfect all water lines used for domestic supply. Amount of chlorine applied shall equal at least 50 parts per million for a period of 8 hours.
- B. Open and close all valves several times during the period, then flush out the system until the residual chlorine content is not greater than 0.2 ppm.

### 3.06 PIPING INSTALLATION

- A. Close ends of pipe immediately after installation. Leave closure in place until removal is necessary for completion of installation.

- B. Each piping system shall be thoroughly flushed and proved clean before connection to equipment.
- C. Pipe the discharge of each drip pan, relief valve, air vent, backflow preventor, and similar device to floor sink or drain.
- D. Provide plates for all pipe penetrations. Pack space around pipe and duct penetrations with incombustible material. Provide union adjacent to each valve and on each connection to equipment and automatic valves.

3.07 PIPING SLOPING

- A. Minimum grade on drain, vent, and waste piping shall be 1/4" per foot unless noted or later approved. Vent piping shall be graded up to a soil or waste line.

3.08 TESTS

- A. Test the installations in accordance with the following requirements and all applicable codes. Notify the Architect at least seven (7) days in advance of any test. All piping shall be tested at completion of roughing-in, or at other times as directed by the Architect. Isolate all equipment which may be damaged.
- B. Test Schedule: (No loss in pressure or visible leaks shall show after two (2) hours for gas and eight (8) hours for waste, vent and water piping at the pressures indicated.)

<u>System Tested</u>	<u>Test Pressure PSI</u>	<u>Test With</u>
Waste, Condensate Drain, and Vent Piping	10' Head	Water
Domestic Hot & Cold		
Water Piping	100	Water
Gas	10	Air

END OF SECTION

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**Mechanical General Requirements**

**PART 1 GENERAL**

1.01 SCOPE:

- A. The requirements of this section shall apply to all work specified and included under division 22 and 23. Furnish and install any incidental work not shown or specified which can reasonably be inferred as part of the work necessary to provide complete functional systems. The general and special conditions of these specifications apply as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

- A. Plumbing: Section 220500
- B. Heating, ventilating and air-conditioning: Section 230510

1.03 PRODUCT HANDLING:

- A. Contractor shall be responsible for delivery, storage, protection and placing of all equipment and materials.
- B. Protect the work and materials of other trades as the Mechanical work and material from damage during construction. Equipment stored and installed at the job site shall be protected from dust, water or other damage. Close all piping at the completion of roughing-in. Cover all equipment stored exposed to weather.
- C. It shall be the responsibility of the contractor to properly protect all equipment and controls during painting operations and contractor shall repair and/or replace any item damaged due to painting.

1.04 MATERIAL AND EQUIPMENT:

- A. All material and equipment shall be new, of the type, capacity and quality specified and free from defects. Materials shall be of the same brand or manufacture throughout for each class of material or equipment wherever possible.

1.05 DRAWINGS AND SPECIFICATIONS:

- A. Information presented on drawings and in the specifications is based upon latest data available during their preparation. The drawings and specifications are for the assistance and guidance of the contractor and exact locations, distances,

levels, etc., will be governed by the structures and the site and contractor shall accept same with this understanding.

1.06 CODES AND SAFETY ORDERS:

- A. All work and materials shall be in full accordance with the latest rules and regulations of the State Fire Marshall; the Safety Orders of the Division of Industrial Safety; the I.S.O. Codes; the California Plumbing Code; the California Building Code; the California Mechanical Code; California Energy Code (Title 24); and other applicable laws or regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these codes. Drawings and specifications shall take precedence when work and materials called for exceed code requirements

1.07 PERMITS AND FEES:

- A. Obtain all permits and pay all required fees for permits and/or utility services. Inspections required by local ordinances during the course of construction shall be arranged as required. On completion of the work, furnish the owner's representative with certificates of inspection.

1.08 SITE CONDITIONS:

- A. Assume all responsibility for damage to adjoining properties and restore property to its original condition should damage occur as a result of the work of this section. Contractor shall thoroughly familiarize himself with all site conditions. Should utilities not shown on the drawings be found during excavations, promptly notify the Architect for instructions as to further action. Failure to do so will make the contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities not shown on plans.

1.09 MATERIAL AND EQUIPMENT SUBSTITUTIONS:

- A. Whenever any material or process is indicated or specified by patent or proprietary name and/or name of manufacturer, in the specifications and/or on the drawings, it shall be understood that such specification is used to facilitate the description of the material and/or process and shall be deemed to be followed by the words or equal unless noted no substitute. Substitute materials shall be equal in quality and utility to those specified. Approval of substitute material shall be regarded as general only and shall not relieve the contractor from complying with the requirements of the drawings and specifications; and the contractor shall be responsible and at his own expense, for any changes caused by proposed substitutions which affect other parts of his own work or the work of other contractors.
- B. Substitutions note:  
Mechanical systems design reflect equipment specified. When equipment substitutions occur and duct design, duct drops, gas input and electrical service varies from that specified, then it shall be the responsibility of the work of this Section for all additional engineering fees when substituted equipment reflect a change or revision on the Contract drawings, including any changes required to the Energy (Title 24) Forms and Calculations.

1.10 SUBMITTALS:

- A. Within 35 calendar days after award of the contract, and before fabrication and installation of any material, submit for approval six (6) copies of complete submittal data on specified and proposed substituted equipment and material. Submittals shall include lists of all equipment and materials proposed identified with drawing symbols and specific data on equipment such as specific arrangements, performance curves, sizes, capacity, motor location, and other pertinent data. All substituted equipment shall be accompanied with shop drawings showing revised ductwork and/or piping layouts in order to ascertain that substituted equipment does not adversely affect layout or work of others. Any changes to other services (electrical, plumbing, structural, T-24 calculations and resubmittal, etc.) together with any associated costs shall be the responsibility of the work of this section and shall be accomplished at no additional cost to the owner. All submittals shall be checked by the contractor for conformance to the requirements of the construction documents before forwarding to the Architect for approval. One proposed substitution will be allowed for each item. No consideration will be given to substitutions submitted past the 35 day limit. **No consideration will be given to partial submittals or to submittals which are not marked with equipment designations (tags), performance points, etc., therefore, submittal will be rejected.** Equipment quantities are the responsibility of the contractor and will not be reviewed by the Architect or his representative. Contractor shall be responsible for all quantities and errors or omissions of submittals. Submittals for materials shall be accompanied with samples when requested.
- B. Submittals shall be made in bound form, in loose leaf type notebooks or binders, with Index or Table of Contents, tabbed sections, name of submitting contractor (or sub-contractor) , project identification, etc.

1.11 ELECTRICAL REQUIREMENTS:

- A. Provide adequate working space around electrical equipment in compliance with the applicable code and any safety orders. Coordinate the mechanical work with the electrical work to comply. Furnish and set in place all motors and duct or pipe installed controls. Location of all switches shall be verified with Architect or Engineer before roughing-in. Furnish necessary control diagrams and instruction for the proper installation of the controls. Assume responsibility to insure that all motors are connected with flexible conduit. Assume responsibility for the proper supervision and testing of the controls for sequence of operation. Motors and control equipment shall conform to the National Electrical Manufacturers Association Standards. All equipment electrical characteristics shall be as noted on the drawings, or as specified. Verify before ordering any equipment. Before permitting operation of any equipment which is furnished, installed or modified under this contract, review all wiring connections which pertain to mechanical equipment or work, and verify that these connections are correct. Ascertain that the overload protection devices installed are of the correct type, rating and setting to properly protect this equipment.
- B. Electric motors of 3/4 HP rating and above, furnished under this contract, shall be, unless otherwise noted, heavy duty, ball bearing, open drip-proof, squirrel cage induction type, normal starting torque 60 cycle service, 40 degrees F.

continuous rating, and shall conform in all respects to the latest applicable standard of NEMA and AIEE. Motors up to 3/4 HP rating shall have sleeve or ball bearings. Electric motors which are not housed within equipment they serve shall be stamped for Quiet-Operation.

- C. Motor starters and contactors which are not in motor control centers shall be included in the mechanical work. Provide the necessary starter auxiliary contactors as required by the temperature controls. All starters shall provide protection in all phases.

1.12 MAINTENANCE AND OPERATING INSTRUCTIONS:

- A. Furnish four (4) complete sets of operating and maintenance instructions. Contractors shall start compiling the data immediately upon approval of his list of materials, so as not to delay the final approval of the work installed.
- B. Service manuals shall be bound in vinyl encased hard cover 3-ring binders suitable for 8-1/2" X 11" paper.
- C. First page shall be title page and shall have the following information presented in neat and orderly fashion:
  - 1. Job name and location.
  - 2. Contractor's name, address, and telephone
  - 3. Architect and Engineer's name.
- D. The second page shall be an index of the various sections. Sections shall correspond to sub-sections of Mechanical Specifications, Plumbing, Heating, Ventilating, Air Conditioning and others, etc.
- E. Each section shall include the following:
  - 1. Operating Instructions.
  - 2. Maintenance Instructions.
  - 3. Parts List and sources of supply for parts.
  - 4. Valve Schedule.
- F. Valve schedule of all major valves giving tag number, location, room, bank or area served, service, etc.
- G. Plumbing data shall be assembled by plumbing contractor and shall be given to air conditioning contractor for insertion in manual.
- H. Contractor shall instruct the owner in the use of the equipment and maintenance manuals. The controls contractor shall explain and instruct owner in adjustment of all controls.
- I. Operating instructions shall include a sequence of operations, control diagram(s) and complete control data and description of operation for all equipment.

J. Maintenance instructions shall include frequency of inspection and lubrication recommended, lubricants to be used, adjustments and/or replacement anticipated, etc.

K. Include a copy of the approved air (and water) balance report(s) in the HVAC section.

1.13 GUARANTEE:

A. All work shall be guaranteed for a minimum of one year from date of acceptance, against all defects in material, equipment and workmanship. Additional, extended guarantee periods may be required under other sections of this division. Guarantee shall also cover repair of damage to any part of the premises resulting from leaks or other defects in material, equipment and workmanship. Guarantee shall be on a form supplied by the owner's representative.

1.14 AS-BUILT DRAWINGS:

A. The contractor shall indicate on reproducible drawings the actual location of all underground or concealed piping or ductwork as the work installed. The line work, lettering, etc., shall be of the same quality as the original drawings. Changes must be shown in black pencil or pen. The as-built drawing(s) shall be delivered to the owner for his records at the completion of the job. Copies of the original reproducible drawings will be furnished for the contractor's use upon request.

**PART 2 - PRODUCTS - Not Used**

**PART 3 - EXECUTION**

3.01 LOCATION OF EQUIPMENT, PIPING AND DUCTWORK:

A. Where job conditions do not permit the installation of piping, ductwork, etc., in the location shown, it shall be brought to the Architect's attention immediately before fabrication of ductwork, piping, etc., and the relocation required shall be determined in a joint conference. The contractor will be held responsible for the relocating of any items installed without first obtaining the Architect's approval. He shall remove and relocate such items at his own expense as so directed by the Architect. Where piping or ducting is installed exposed within a room, the same shall be run in vertical or horizontal planes. Where possible, uniform spacing shall be maintained between parallel lines and/or adjacent wall, floor or ceiling surfaces. Horizontal runs of plumbing and heating pipes and /or electrical conduit suspended from ceilings shall provide for maximum clearance, in no event less than 7'0" unless otherwise noted. Minor changes in locations of equipment, piping, ducts, etc., from locations shown including minor offsets shall be made when, directed by the Architect, at no additional cost to the Owner.

3.02 SPECIAL FRAMING

A. Special framing, recesses, chases and backing for the work of this division is covered under other sections. Be responsible for the placement of all sleeves,



hangers and supports, and locations for all openings, recesses, chases and backing for the work of this section.

3.03 PAINTING

- A. Prime all exposed ferrous surfaces outside the building with red lead primer.
- B. Finish painting will be part of the work of Division 09.

3.04 ACCESSIBILITY:

- A. Contractor shall not install any equipment, valve, control, motor, filter, or any other device requiring maintenance of service in an inaccessible location or position and shall install access doors as herein specified to render all such equipment serviceable whether specifically shown on the plans or not. Maintain code clearances to all equipment.

3.05 EQUIPMENT IDENTIFICATION:

- A. Identify all equipment with permanently attached plastic labels, for mechanical engraving, engraved with 1/2 inch high white letters on a black background. Identify equipment with symbols shown on the plans such as MZ-1, EF-2, CWP-2, etc. and area served. In addition, identify zone ducts leaving fan room with zone number and floor served such as F-1, F-2, etc.

3.06 CARE AND CLEANING:

- 1. Clean and adjust all equipment at completion of installation to provide operating conditions satisfactory to the Engineer. Remove broken, damaged or defective parts; repair or replace as directed by Engineer. Remove surface material and debris resulting from this work when directed

2. 3.07 SPECIAL SEISMIC REQUIREMENTS

- A. Supports for all piping and ductwork shall be in accordance with SMACNA Guidelines for Seismic Restraint of Mechanical Systems. Contractor shall provide calculations for isolators and mounting acceptable to the reviewing authority when required by same.

END OF SECTION

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**METAL DUCTS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
  - 1. Single-wall round ducts and fittings.
  - 2. Sheet metal materials.
  - 3. Sealants and gaskets.
  - 4. Hangers and supports.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: A single set of plans, drawn to scale, showing the items described in this Section, and coordinated with all building trades.
- B. Welding certificates.
- C. Field quality-control reports.

1.4 QUALITY ASSURANCE

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Duct Design: Duct construction, including sheet metal thicknesses, seam and joint construction, reinforcements, and hangers and supports, shall comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" and with performance requirements and design criteria indicated in "Duct Schedule" Article.
- B. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment," and Section 7 - "Construction and System Startup."

- C. ASHRAE/IES Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6.4.4 - "HVAC System Construction and Insulation."
- D. Duct Dimensions: Unless otherwise indicated, all duct dimensions indicated on Drawings are inside clear dimensions and do not include insulation or duct wall thickness.

## 2.2 SINGLE-WALL ROUND DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," based on indicated static-pressure class unless otherwise indicated.
  - 1. Construct ducts of galvanized sheet steel unless otherwise indicated.
  - 2. For ducts exposed to weather, construct of [Type 304] [Type 316] stainless steel indicated by manufacturer to be suitable for outdoor installation.

## 2.3 SEALANT AND GASKETS

- A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested in accordance with UL 723; certified by an NRTL.

## PART 3 - EXECUTION

### 3.1 DUCT INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and coordination drawings.
- B. Install ducts in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install ducts in maximum practical lengths with fewest possible joints.
- D. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- E. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.

- F. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- G. Install ducts with a clearance of 1 inch (25 mm), plus allowance for insulation thickness.

### 3.2 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

### 3.3 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches (610 mm) of each elbow and within 48 inches (1220 mm) of each branch intersection.

### 3.4 CONNECTIONS

- A. Make connections to equipment with flexible connectors complying with Section 233300 "Air Duct Accessories."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

### 3.5 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Leakage Tests:
  - 1. Comply with SMACNA's "HVAC Air Duct Leakage Test Manual." Submit a test report for each test.
  - 2. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.
  - 3. Testing of each duct section is to be performed with access doors, coils, filters, dampers, and other duct-mounted devices in place as designed. No devices are to be removed or blanked off so as to reduce or prevent additional leakage.
  - 4. Test for leaks before applying external insulation.

5. Conduct tests at static pressures equal to maximum design pressure of system or section being tested. If static-pressure classes are not indicated, test system at maximum system design pressure. Do not pressurize systems above maximum design operating pressure.

C. Duct System Cleanliness Tests:

1. Visually inspect duct system to ensure that no visible contaminants are present.
2. Test sections of metal duct system, chosen randomly by Owner, for cleanliness in accordance with "Description of Method 3 - NADCA Vacuum Test" in NADCA ACR, "Assessment, Cleaning and Restoration of HVAC Systems."
  - a. Acceptable Cleanliness Level: Net weight of debris collected on the filter media shall not exceed 0.75 mg/100 sq. cm.

D. Duct system will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

3.6 DUCT CLEANING

A. Clean new duct system(s) before testing, adjusting, and balancing.

B. Mechanical Cleaning Methodology:

1. Clean metal duct systems using mechanical cleaning methods that extract contaminants from within duct systems and remove contaminants from building.
2. Use vacuum-collection devices that are operated continuously during cleaning. Connect vacuum device to downstream end of duct sections so areas being cleaned are under negative pressure.
3. Use mechanical agitation to dislodge debris adhered to interior duct surfaces without damaging integrity of metal ducts, duct liner, or duct accessories.
4. Clean fibrous-glass duct liner with HEPA vacuuming equipment; do not permit duct liner to get wet. Replace fibrous-glass duct liner that is damaged, deteriorated, or delaminated or that has friable material, mold, or fungus growth.
5. Clean coils and coil drain pans in accordance with NADCA ACR. Keep drain pan operational. Rinse coils with clean water to remove latent residues and cleaning materials; comb and straighten fins.

C. Branch Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection."
  - a. Rectangular Main to Rectangular Branch: 45-degree entry.

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- b. Rectangular Main to Round Branch: Conical spin in.
- 2. Round: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees." Saddle taps are permitted in existing duct.

END OF SECTION



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**Air Diffusers**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Rectangular and square ceiling diffusers
  - 2. Louver face diffusers.

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product.

**PART 2 - PRODUCTS**

**2.1 RECTANGULAR AND SQUARE CEILING DIFFUSERS**

- A. Manufactured by: Titus or krueger.
- B. Material: Steel.
- C. Finish: Baked enamel, white.
- D. Face Size: 24x24 inches and 12x12 inches
- E. Mounting: T-bar and hard lid ceiling
- F. Pattern: Fixed.
- G. Dampers: Radial opposed blade.

**PART 3 - EXECUTION**

**3.1 INSTALLATION**

- A. Install diffusers level and plumb.
- B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw,



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and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.

- C. Install diffusers with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

3.2 ADJUSTING

- A. After installation, adjust diffusers to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION

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**ELECTRICAL WORK GENERAL REQUIREMENTS**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications'
- C. All conduit and pull boxes provided by the contractor for utility company wiring and cabling will be home runs from the point of entry to the District's property, to the Main Switchboard to Main Terminal Backboards, and/or to transformers, etc.  
The pull boxes and conduits are for the wire and cable installed by the providing utility company exclusively.

1.2 WORK NOT INCLUDED UNDER THIS SECTION

- A. Furnishing of motors, fans, compressors, heaters, and controls included under Mechanical Section.
- B. Finish painting of exposed metal surfaces included under Painting Section.
- C. Equipment and work indicated "N.I.C." or "By Others".
- D. Monthly Utility Company charges.

1.3 REQUIREMENTS

- A. Other Divisions: Requirements of other divisions shall apply to this division as if repeated herein, and should work under this division require any carpentry, backfill, masonry, etc., the appropriate division requirements shall apply. This includes work required for construction of proper stands, bases, and supports for electrical materials and equipment.
- B. Rules and Regulations: All work and materials shall be in full accordance with the latest rules and regulations of the following:
  - 1. California Electrical Code, 2016 edition

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2. California Building Code, 2016 edition
3. Applicable regulations of local utility companies
4. California Code of Regulations, Title 8, Electrical Safety Orders
5. Equipment Utility Service Requirements Committee Standards
6. General Order 95 of the Public Utilities Commission

Nothing in these drawings or specifications is to be construed to permit work not conforming to the above codes, rules, and regulations.

Whenever indicated, material, workmanship, arrangement, or construction is of higher quality or capacity than that required by the above rules and regulations, the drawings and/or specifications shall take precedence. Should there be any direct conflict between the rules and regulations and the drawings and/or specifications, the rules shall govern.

- C. Permits, Fees, and Inspections: Contractor shall obtain all permits and arrange for Owner to pay required fees to any governmental agency or utility company having jurisdiction over the work of this Section. Inspections required by any local ordinances or utility companies during construction shall be arranged by the Contractor.

All work and materials covered by these specifications and accompanying drawings shall at all times be subject to inspection by the Architect or his representative. Any material not in accordance with the plans and specifications, or not installed in a neat and workmanlike manner, shall, upon order from the Architect, be removed from the premises or corrective action taken within three days; and if material in question has been installed, the entire expense for removing and reinstalling shall be borne by the Contractor.

On completion of the work, satisfactory evidence shall be furnished to the Architect to show that all work has been installed in accordance with the Codes.

- D. Specifications and Contract Drawings: Accuracy of data given herein and on the drawings is as exact as could be secured, but their extreme accuracy is not guaranteed. The drawings and specifications are for the assistance and guidance of the Contractor and exact locations, distances, levels, etc., will be governed by the construction and existing conditions and the Contractor shall accept same with this understanding.

Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial and not exact), but shall be followed as closely as possible. Architectural, structural, mechanical, and other drawings shall be examined noting all conditions that may affect this work. Where connections to equipment provided by other divisions are shown on electrical drawings, refer to drawings of respective division for exact locations and electrical requirements of equipment. Report conflicting conditions to the Architect for adjustment before proceeding with work. Should Contractor proceed with work without reporting conflict(s), he does so on his own responsibility, and shall alter work if directed by the Architect, at his own expense. Right is reserved to make minor changes in locations of equipment and wiring systems shown, providing change is ordered before conduit runs and/or work directly connected to same is installed and no extra materials are required.

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Drawings and specifications may be superseded by later detail specification and detail drawings prepared by the Architect, and the Contractor shall conform to them and to such reasonable changes in the contract drawings as may be called for by these revised drawings without extra cost to the Owner. Contractor may request additional detail(s) and such shall be conformed to, without additional cost. Contractor may offer alternate detail(s), but such detail(s) shall be approved by Architect and authority having jurisdiction.

- E. Structural Requirements: Installation under this Section shall comply with the California Building Code. Obtain the Architect's approval before performing any cutting or patching of concrete, masonry, or wood structure in the building. Refer to details on structural drawings for penetration requirements through framing top plates, sill plates, beams, joists, rafters, etc. Provide notching, boring, drilling, anchor bolts, and other work in strictest conformance to structural details.
- F. Examination of Site: The Contractor shall be held to have visited the site prior to bidding and satisfied himself as to the conditions under which the work is to be performed. He shall check existing conditions which may affect his work. Where signal systems exist, and services of other firms are required, Contractor shall instruct those firms to investigate existing systems and determine labor and materials needed to add devices or modify systems. Where new conduits are to be run underground at existing sites, contractor shall visit site prior to bidding and walk routes of new underground conduits, note areas of concrete and asphalt being crossed, and include in bid all costs for cutting and patching. No allowances shall subsequently be made in Contractor's behalf for any extra expense to which he or his "subs" may be put due to failure or neglect to discover conditions affecting the work.
- G. Underground Utilities: Existing underground utilities, services, circuits, piping, irrigation piping, etc., are present, but their exact locations are not known. Contractor shall locate and protect before trenching or excavating in any area. Consult utility companies, "as-built drawings" and Owner's maintenance personnel for location of existing underground work. If existing piping or utilities are damaged during construction, Contractor shall repair immediately at own expense. New underground work shall be modified as necessary to conform to existing conditions.
- H. Shop Drawings, Substitutions, Materials, and Submittals:
  - 1. Shop drawings and all supporting data shall be submitted as instruments of the Contractor who shall certify on his transmittal form that the submittals meet all requirements of the contract documents and conform to structural and space conditions. Contractor shall mark each page of each copy of submittal to clearly identify materials, products, or models being proposed. All extraneous information shall be marked out or page pulled if no item(s) on page are being proposed. Submittals which do not clearly identify items being proposed will be returned without review.

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2. When specific names are used in connection with materials, they are used as standards only, but this implies no right upon the part of the Contractor to use other materials or methods unless approved as equal in quality and utility by the Architect in writing.
3. Whenever an item of equipment or system is described herein or on the drawings in a descriptive, functional, or operational manner as opposed to catalog number or type, then the Contractor's submittal shall include all such descriptive, functional, or operational features to prove full equality to specified item or system.
4. Panelboard submittals shall be arranged to show bussing and circuit numbers with respective branch circuit protective device similar to schedules on Drawings.
5. Within 30 days after award of the contract, submit seven bound copies of complete material list, which includes manufacturer's name and catalog numbers for materials being proposed. All material specified herein and on the drawing shall be included in list. Proposed substitutions, and only proposed substitutions, shall be accompanied by catalog cuts, ratings, sizes, performance curves, shop drawings, and other data complete to prove full equality to the specified item. List shall include contractor's confirmation that material is UL labeled or listed. Refer to attached form.
6. Within 10 days after return of material list, submit seven bound copies of brochures containing complete information and catalog cuts on all equipment, including that which is to be furnished as specified. The brochures shall be bound as complete volumes or bound according to classifications of equipment such as power, fixtures, signals, and miscellaneous. Incomplete submittals (such as signal system product data submitted without system shop drawings) will be returned without review.
7. Approval of a substitution does not authorize any deviation from the utility, size, or function of the specified item unless specifically pointed out and approval requested in the letter of submittal. Responsibility for conflicts due to space limitations is not relieved by approval of a substitution. If revision of wiring, piping, or arrangement of other equipment is required by substitutions, prepare drawings showing such revisions, and after approval, furnish seven copies for file and future reference.
8. Submittal Review:
  - a. Items marked "No Exceptions Taken" or "Make Corrections Noted" shall not be resubmitted in subsequent submittals unless a complete package submittal is required by a reviewing agency or firm. Resubmittal items which have already been reviewed but no resubmittal was required, will not be reviewed a second time. Pages for such items will be returned unstamped and unmarked.
  - b. When an item is marked "Revise and Resubmit" or "Rejected", the Contractor shall furnish a resubmittal for that item. Pages for resubmitted items shall be new submittal pages. The Contractor shall not resubmit previously stamped and annotated pages or photocopies of such pages. Resubmittals which include pages stamped as part of an earlier review or photocopies of such stamped

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pages will not be reviewed and will be returned as previously stamped and annotated.

- c. Refer to I.1 above. Non-compliance with paragraph I.1 requirements will cause submittal to be returned without review.
9. Should the Contractor's first submittal fail to meet approval, or should the Contractor fail to submit the specified items within the time schedule, then the right is reserved by the Architect to select any or all items in question, which selection shall be final and binding upon the Contractor. The materials selected or approved by the Architect shall be used in the work at no additional cost to the Owner.
10. Unless otherwise shown or specified, material shall be new, full weight, standard, the best quality of its kind, and satisfactory to the Architect. Unless otherwise shown or specified, major equipment shall be the product of a manufacturer who has, for a period of not less than five years, been in successful manufacture of the equipment, and who has a nationally distributed catalog covering ratings and specifications of said equipment.
11. Electrical materials shall bear the label of, or be listed by, the Underwriters Laboratories unless of a type for which label or listing service is not provided.
12. Materials and components shall conform to Industry Standard, including:

NEMA	National Electrical Manufacturer's Association
ANSI	American National Standards Institute
ASTM	The American Society for Testing and Materials
ICEA	Insulated Cable Engineer's Association
USA	United States of America Standards
13. Samples of fixtures, materials, and equipment shall be submitted for approval if requested.
  - I. Expedited Delivery: Where construction schedule does not allow for "normal" delivery of equipment in Division 26, 27 and 28 work, contractor shall purchase equipment for accelerated delivery. All additional costs for expedited delivery shall be included in bid.
  - J. Identification of Equipment: Nameplates shall be installed on electrical equipment. Nameplates shall adequately describe the item and its function or use of the particular equipment involved. Equipment to be labeled shall include the following:
    1. Individual enclosures for equipment such as time switches, push buttons, contactors, relays, etc.
    2. Group mounted equipment such as panelboards, terminal and control cabinets, etc.

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3. Individual circuit breakers on switchboards. Include breaker trip ampacity on line below use description.
4. Wall switches for lighting or other use where the control function is not self-evident.
5. Disconnect switches mounted remote from equipment and unit served is not self-evident.
6. Terminal backboards (locate centered at top).
7. Terminal strips at terminal backboards and cabinets (located centered above terminal block for each system). At terminal strips, the following abbreviations may be used:

CLK	Clock
DATA	Data Communications
FA	Fire Alarm
IC	Intercom
IA	Intrusion Alarm

Nameplate material shall be laminated phenolic plastic, black front and back with white core. Engraving shall be through the outer layer. Embossed plastic pressure sensitive labels are not acceptable.

In lieu of plastic plates, typed pasteboard inserted behind clear plastic protector in a metal holder inside door may be used to identify circuit breakers in panelboards.

In lieu of plastic plates, device plates shall be engraved directly with lettering filled with black enamel.

Nameplates shall be securely fastened to the equipment with #4 Phillips round head cadmium plated steel self-tapping screws or brass bolts or riveted to equipment.

- K. Cutting of Structural Members: Unless specifically detailed on the structural drawings, cutting of joists and similar structural members is limited to cuts and bored holes located and sized in accordance with the requirements of Title 24. Cutting of structural mullions is prohibited except as specifically shown.
- L. Record Drawings: The Contractor's foreman shall keep in his possession a minimum of two copies of DSA approved plans. One set shall be marked as the work is installed, showing the work that has been installed, with deviations. The other set shall be marked showing deviations for the work shown and the locations of major items of equipment and feeders, dimensioned from curbs, foundations, or other landmarks. Obtain inspector's progressive approval of these marked sheets. Upon completion of the work, all work installed shall be drafted by the Contractor to reproducible drawings, which shall be the as-built drawings. Coordinate with General Contractor on requirements for reproducible record drawings.
- M. Cleaning and Cleanup: After all work has been accomplished such as sanding, painting, etc., lighting fixtures, panelboards, and switchboards shall be cleaned to remove all dust, dirt, grease, paint, or other marks. All electrical equipment

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shall be left in a clean condition inside and out, satisfactory to the Architect. Keep buildings and premises free from accumulated waste materials, rubbish, and debris resulting from work herein, and, upon completion of said work, remove tools, appliances, surplus materials, waste materials, rubbish, debris, and accessory items used in or resulting from said work and legally dispose of off the site.

- N. Protection: The Contractor shall protect from damage during construction the work and materials of other trades as well as the electrical work and material. Electrical equipment stored and installed on the job site shall be protected from dust, water, or any other damage.
- O. Working Space: Adequate working space shall be provided around electrical equipment in strict compliance with the Codes. In general, provide 6'6" of headroom and 36" minimum clear work space in front of switchboards, panelboards, transformers, disconnect switches and controls for 120/208V and 42" for 277/480V. Carefully coordinate locations and orientation of electrical equipment with other divisions to ensure that working space will be clear of piping, conduits, and equipment provided by others.
- P. Interruption of Service: Services (power, telephone, fire alarm and other signal services) to existing building(s) and their related circuits which are to remain in operation shall not be interrupted except by specific approval of the Owner. If it is deemed necessary to shut down circuits for the installation of new work, such shut down shall be scheduled with the Owner who may, at his option, have a representative present. Any accidental interruption of service to circuits or equipment as a result of work performed by the Contractor shall, at the Contractor's expense, be restored in a manner acceptable to the Owner.
- Q. Cooperation and Coordination: Cooperate and coordinate with other crafts in putting the installation in place at a time when the space required by this installation is accessible. Work done without regard to other crafts shall be moved at the Contractor's expense.
- R. Electrical Work for Equipment Furnished by Others: Contractor shall make electrical connections to all equipment furnished and installed by others. Specific requirements shall be obtained from contractor providing the equipment and used to perform electrical work. Contractor's responsibility is limited to having correctly installed and connected electrical work in accordance with diagrams and specifications furnished him by the appropriate equipment contractor.
  - 1. Equipment or Systems Other Than HVAC or Plumbing: This contractor shall provide all conduit, conductors, disconnects, and connections for power and controls for equipment requiring electrical services.
- S. Inspection: The Contractor shall cooperate with the Architect and shall provide assistance at all times for the inspection of the electrical work performed under



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this contract. He shall remove covers, operate machinery, or perform any reasonable work which, in the opinion of the Engineer, will be necessary to determine the quality and adequacy of the work.

- T. Manufacturer's Directions: Follow manufacturer's directions where these directions cover points not included on the drawings or in the specifications. When equipment is provided by other divisions, obtain directions from respective supplier.
- U. Workmanship: Good workmanship shall be evidenced in the installation of all electrical materials and equipment. Equipment shall be level, plumb and true with the structure and other equipment. All materials shall be firmly secured in place and adequately supported and permanent. The recommendations of the National Electrical Contractors Association Standard of installation shall be followed except where otherwise specifically directed.
- V. Operating Test: After the installation is complete, and at such time as the Engineer and other authorities having jurisdiction may request, the Contractor shall conduct an operating test for approval.
- W. Manuals: In addition to the catalog data and Shop Drawings submitted for approval as required hereinbefore, the Contractor shall furnish to the Architect three final corrected sets of all data applicable to the equipment furnished.
  - 1. All data shall be delivered not less than 30 days before the start of operation by the Owner or any demonstration period hereinafter specified and before finalizing construction work.
  - 2. Each set of data per system shall be bound in one or more volumes. A top quality three-ring binder with vinyl or hard cover will be acceptable in lieu of binding; however, all insert data must be properly punched and reinforced. Each volume shall have permanent identification information on the spine.
  - 3. Identification information shall include the building name, address, and location, system or systems included, and titled "Maintenance Manual".
  - 4. All data shall be assembled in an orderly sequence with tabbed dividers to correspond with the table of contents.
  - 5. Manufacturer's catalog data, Shop Drawings, etc., shall be marked clearly to identify the items applicable only to this project. Make and model numbers of each item installed shall be marked clearly in catalog data and identified with symbol used on the Drawings.
  - 6. Each set of data shall contain the following:
    - a. Table of Contents, listing orderly indexed names of items.
    - b. Descriptive literature.
    - c. Rating data, including rating tables, performance curves, etc.
    - d. Dimension data.
    - e. Spare Parts Lists.
    - f. Manufacturer's operation and maintenance instructions and manuals.
    - g. Shop Drawings.

- h. Copies of posted instructions and diagrams.
  - i. Control diagrams and descriptions of sequence of operation.
  - j. Copies of warranties, guarantees, certificates, etc.
7. Complete data, including component parts, shall be provided on each item listed below:
- a. Intrusion Alarm Equipment.
  - b. Clock Equipment.
  - c. Fire Alarm Equipment.
  - d. Lighting Fixtures.
  - e. Lighting Control Equipment.
  - f. Sound and Signal Equipment.
  - g. Emergency Lighting Equipment.
  - h. Panelboards.
- Submit copy to Architect for approval before delivery to Owner.
8. In addition to the requirements above, contractor shall provide final programming information to District on disk for all systems requiring programming.
- X. Contractor's Supervision: The Electrical Contractor shall personally, or through an authorized and competent representative, constantly supervise the work from its beginning to its completion and acceptance. He shall, as far as possible, keep the same foreman and workers on the work from its commencement to its completion.
- Y. Temporary Work: All temporary electrical equipment and materials installed for construction and safety operations shall remain the property of the Contractor and shall be removed when permanent connections have been completed. No wire, bus, or electrical equipment which is part of any of the permanent electrical systems may be used for temporary electrical service. Temporary connections shall be safe and in accordance with accepted practices. The Contractor shall be responsible for any damage or injury to equipment, materials, or personnel caused by improperly protected temporary installations. All costs for materials and installation for temporary electrical facilities and energy for their operation shall be at the expense of the Contractor. The hours of operation, level of illumination, and coverage for safety of personnel shall meet the minimum requirements of the Owner (Division of Industrial Safety).
- Z. Scheduling of Work:
- 1. Due to its nature, this work will have to proceed with a definite sequence of operations to minimize outages and to continue facilities to certain areas. The building(s) will remain in operation during the work and the Contractor shall make every effort to maintain required services (power and signal).
  - 2. Wherever the work makes it necessary to cut off a feeder, branch circuit or signal circuit and it stands to remain out of service for some time, or longer than building operations will permit, the Contractor shall make temporary connections so the required outlets, devices, or loads will

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continue to be operational. Some outlets, devices and wiring in the area will remain undisturbed. The Contractor shall reconnect these circuits, extending where necessary, so all circuits will operate satisfactorily upon completion of the work.

3. Where power or signal system outages are unavoidable, such outages shall be scheduled with the Owner and shall occur at such times deemed least disruptive by the Owner.
  4. Special precautions shall be taken to insure safety of school staff and students during construction. No trenches shall be left open and no equipment left unsupervised.
- AA. Existing Work: Existing conduits in alteration, extension, and remodeling areas which are required to be extended, altered, or reconnected shall be accomplished as shown or as directed. Where existing conduits which are indicated to be revised or which will be essential to the functioning to the particular system are cut or exposed due to construction changes, new connections shall be made in the most expeditious manner as directed or indicated. Where wiring is involved, new wires shall be "pulled-in" between the nearest available, accessible, reused outlets. In all cases where new wires are required, indicated, or specified to be installed in existing conduits, if same cannot be installed, new conduits shall be provided therefore as directed. Attention is called to the fact that all new conduit, wiring, and apparatus shown on drawings or specified shall be connected to the existing systems so as to function as complete units. All conduits and electrical apparatus, etc., in place and not shown or specified to be reused or which will not be essential to the functioning of the various systems when the work is complete, shall be removed and stored where directed. No old material shall be reinstalled or reused unless so indicated on drawings or so specified. Concealed conduits which are not indicated or specified to be reused and become exposed due to construction changes shall be removed to the nearest available, accessible, reused outlets. Where existing panel feeders are required to be extended, altered, or reconnected, megger test existing wiring prior to alteration and after work is complete. Note any defects or deficiencies found and present to Owner in letter form. It will be assumed existing feeders in area of alteration are in good working order unless noted otherwise by Contractor.
- BB. Copies of codes, safety orders, submittals, specifications, drawings, addenda, and as built shall be on the job and in possession of person responsible for electrical work (foreman or general foreman).
- CC. Guarantee: Acceptance of the contract for this work includes this guarantee: The Contractor guarantees that he has performed the work in accordance with the contract documents. Contractor also agrees to replace or repair, as new, any defective work, materials, or part which may appear within two years of final payment if in the opinion of the Architect or the Owner the defect is due to workmanship or material.

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- DD. Warranties, guarantees, certificates, etc. that are furnished and are available for equipment and materials furnished and installed under this section shall be properly filled out as of the date of final payment and shall be delivered to the Engineer.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION



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**LOW VOLTAGE ELECTRICAL CONDUCTORS AND CABLES**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Conductors for power, lighting, control, and signals shall be in raceway and shall be as follows:
1. #10 AWG and smaller shall be solid copper, 98% conductivity except for signal and control cables which may be stranded. (Stranded conductors may be used for #10 and smaller if wiring devices [switches, receptacles, etc.] are equipped with terminals specifically designed to accommodate stranded wire.)
  2. #8 AWG and larger shall be stranded copper, 98% conductivity.
  3. Minimum size branch circuit shall be #12 AWG.
  4. Signal and control circuits shall be as indicated on Drawings or as required by equipment manufacturers. Where specialty cables are required for signal systems (such as for fire alarm, intrusion alarm), Contractor must coordinate cable types with system supplier to insure proper cable type is provided (shielded, non-shielded, etc.).
  5. Branch circuit conductors within fixtures shall be type RHH or THHN except as noted.
  6. Fixture tap conductors shall be #14 AWG minimum type RHH or THHN except as noted.
  7. All insulation shall be 600V THHN/THWN except for low voltage control and signal cable.
  8. Conductors shall be color coded. Refer to Part 3 of this section.
  9. Conductor markers - T&B vinyl, Brady Permashield, or equal.
  10. Control wiring smaller than #12 AWG shall be type TFF or THWN.
- B. Terminators:
1. Use lugs or socket type terminals furnished with equipment.
  2. For #10 and smaller, T&B Sta-Kon, Buchanan "Termend", or equal, self-insulated forked tongue lug.

3. #8 to #4/0 - Single Hex head screw or bolt clamp type with double hole tongue, T&B locktite, Burndy Qiklug type QA, or equal.
4. #250 MCM and larger - Double Hex head screw or bolt clamp type with double hole tongue, T&B locktite tandem, Burndy Qiklug type QQA, or equal.

C. Splices:

1. #10 and smaller, including fixture taps - pre-insulated coiled-spring type connectors, 3M Scotchloks, T&B Piggys, or equal.
2. #8 to #4, Split bolt service connectors, T&B locktite, Burndy Servit, or equal, insulated with Scotch #88, Okoweld four purpose tape, or equal.
3. #2 and larger, bolted pressure connectors, OZ ST, Burndy OKLIP, or equal, insulated with "Scotchfill" and Scotch #88 or Okoweld four purpose tape.
4. Splice sealing kits - Scotchlock sealing packs for wire size to #10 and Scotchcast kits for larger splices as recommended by 3M Co. Engineer knows of no equal to Scotch kits.

D. Lubricant for conductor installation shall be powdered soapstone, Y-er EAS, Minerallac "Pull-In" compound, or other U.L. approved lubricant.

E. Cable Identification: Non-ferrous identifying tags or pressure sensitive labels shall be securely fastened to all cables, feeders, and power circuits in pullboxes and manholes. Tags or labels shall be stamped or printed to correspond with markings on Drawings or marked so that feeder or cable may be readily identified.

## PART 3 - EXECUTION

### 3.1 WIRING SYSTEMS

A. Tests: Test all wiring and connections for continuity and grounds before any fixtures or equipment are connected, and where such tests indicate faulty insulation or other defects, they shall be located, repaired, and retested at the Contractor's expense. Rotation of all motors shall be checked and corrected, if necessary, after final connections are made. Motor rotation corrections shall be made at the motor or equipment lugs, not in equipment disconnect.

### 3.2 CONDUCTORS

A. Phasing: Terminals in panelboards, switchboards, and other equipment shall be phased A, B, C, reading left to right or top to bottom looking into the front of the equipment.

B. Conductors shall be coded as follows:

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<u>Voltage</u>	<u>Phase A</u>	<u>Phase B</u>	<u>Phase C</u>	<u>Neutral</u>	<u>Ground</u>
120/208V	Black	Red	Blue	White	Green
277/480V	Brown	Orange	Yellow	Gray	Green

Color coding shall be permanently posted using nameplates affixed at each panelboard, switchboard, and other equipment. Refer to Section 26 05 00 for nameplate requirements.

Direct current - positive is red, negative is black.

Control conductors, other than branch circuits, shall be black.

Conductors in sizes up through #6 AWG shall have solid color finish as listed above. #4 AWG and larger shall be coded by application of phase tape for minimum of 6" length on conductor. Coding shall occur at all splices, terminations, and pullboxes.

Color coding shall be continuous and consistent throughout the work. Do not use different colors for switch legs, fixture taps, travelers, etc.

- C. Circuit Identification: Each branch circuit, control, and signal conductor shall be labeled with the circuit number or terminal it is connected to. Use T&B vinyl, Brady Permashield mylar markers, or equal. Conductors shall be labeled at each panelboard, switchboard, control center, terminal cabinet, pullbox, and at each point of utilization such as fixtures, motors, speakers, etc. Labeling shall correspond to control diagrams where applicable.
- D. Connections to terminals shall be as follows: Refer to 2.1B. of this Section.
- E. Splices:
  - 1. Refer to 2.1C. of this Section.
  - 2. Splices in underground pullboxes or in other areas subject to moisture shall be provided with cast resin kits. Use Scotchlock sealing packs for wire size to #10 and Scotchcast kits for larger splices as recommended by 3M Co. All splices to be prepared as hereinbefore specified before resin kits are applied. Engineer knows of no equal to Scotch kits. (Note: No signal splices are allowed in underground pullboxes or areas subject to moisture. Refer to respective signal section of Specifications.)
  - 3. Wire splicing devices shall be sized according to manufacturer's recommendation.
- F. Conductors in panels, etc., shall be laced with T&B Ty-raps, Dennison "Bar-loks", or equal.

END OF SECTION





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**GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.
- C. Grounding and Bonding: Grounding and bonding shall be installed as required by the applicable codes, rules, and regulations, and as follows:
  - 1. Each building shall have its own grounding electrode. Metal water and gas piping, and building structural steel, shall be bonded to grounding electrode at first panel ground bus unless detailed otherwise on the Drawings.
  - 2. All raceway systems, supports, cabinets, panelboards, control equipment, motor frames, lighting fixtures, and utilization apparatus shall be permanently and effectively grounded.
  - 3. Where the raceway is used as the grounding conductor, good contact shall be made between conduit or tubing and panels, cabinets, outlet boxes and equipment, lighting fixtures, etc., to maintain continuity of ground. Where it is not possible to obtain good contact, additional bonding shall be provided. Supplemental bonding shall be provided between raceway and enclosure and at conduit knockouts and at reducing washers.
  - 4. All non-metallic power, control, signal, and other raceways, exclusive of public telephone and data communications, shall contain a code size copper conductor, green insulated, properly bonded to equipment at each end, and to metallic portions of the same raceway.
  - 5. All grounding type receptacles shall have grounding contact connected to a grounding conductor. Grounding conductor may be code size green insulated copper conductor installed in circuit raceway or may be metallic raceway. If metallic raceway is used as grounding conductor, a green insulated copper conductor must connect receptacle grounding contact to lug or screw terminal in outlet box or to grounding bushing at raceway. Isolated grounding type receptacles shall have code sized green insulated copper conductor installed in circuit raceway.
  - 6. Provide bonding jumper around flexible metallic conduit. Bonding jumper shall be inside flex.
  - 7. Raceway size shall be increased if necessary, to accommodate bonding or grounding conductors and shall be based on raceway fill tables.

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8. Where cabinets are furnished with grounding bus, all required bonding conductors shall connect thereto, each with separate lug.
9. Buried ground connections shall be made by the Cadweld process using molds and charges according to manufacturer's recommendations.
10. Unless detailed otherwise on drawings, grounding electrode(s) shall be foundation ground grid(s) consisting of two opposing runs of 25' lengths of #4/0 soft drawn bare copper conductors installed at bottom of foundation with 2" of concrete between conductors and earth, encased in concrete their entire length exclusive of tails for connections to equipment. Keep conductors separated from reinforcing steel by use of insulating tape. Conductors shall be interconnected by the Cadweld process using molds and charges according to manufacturer's recommendations. Tails for connection to equipment where shown or called for on drawings shall provide not less than 24" length above finished floor level. Protect all tails against damage.
11. Provide grounding bar in electrical room, closet, etc. for grounding of low voltage (LV) equipment, racks and the like. Refer to drawings for detail. Locate grounding bar adjacent to data communication rack.
12. Grounding electrodes and connections to building water and gas mains or building structural steel shall have insulated conductors run in conduit directly to service ground bus separate from any other grounding conductor.
13. Each grounding electrode installed shall be tested prior to connection to equipment. Ground resistance tests shall be performed by an independent testing agency using a Megger Earth Tester or equivalent and test results shall be forwarded to the Architect for approval.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

Document 26 05 29

**HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS**

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
  - 1. Hangers and supports for electrical equipment and systems.
  - 2. Construction requirements for concrete bases.

1.02 PERFORMANCE REQUIREMENTS

- A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
- B. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- C. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.03 SUBMITTALS

- A. Product Data: For steel slotted support systems.
  - 1. Trapeze hangers. Include Product Data for components.
  - 2. Steel slotted channel systems. Include Product Data for components.
  - 3. Equipment supports.

1.04 QUALITY ASSURANCE

- A. Comply with CEC.

PART 2 - PRODUCTS

2.01 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Allied Tube & Conduit.
    - b. Cooper B-Line, Inc.; a division of Cooper Industries.
    - c. ERICO International Corporation.
    - d. GS Metals Corp.
    - e. Thomas & Betts Corporation.
    - f. Unistrut; Tyco International, Ltd.
    - g. Wesanco, Inc.
    - h. Approved equal.
  2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
  3. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
  4. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
  5. Channel Dimensions: Selected for applicable load criteria.
- B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
    - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      - 1) Hilti Inc.
      - 2) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
      - 3) MKT Fastening, LLC.
      - 4) Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.

- 5) Approved equal.
2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
  - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - b. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - 1) Cooper B-Line, Inc.; a division of Cooper Industries.
    - 2) Empire Tool and Manufacturing Co., Inc.
    - 3) Hilti Inc.
    - 4) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
    - 5) MKT Fastening, LLC.
    - 6) Approved equal.
3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

## 2.02 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
- B. Materials: Comply with requirements in Division 05 for steel shapes and plates.

## PART 3 - EXECUTION

### 3.01 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with conduit clamps.

### 3.02 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
  1. To Wood: Fasten with lag screws or through bolts.
  2. To New Concrete: Bolt to concrete inserts.
  3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
  4. To Existing Concrete: Expansion anchor fasteners.
  5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
  6. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts, and Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.
  7. To Light Steel: Sheet metal screws.
  8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

### 3.03 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Comply with installation requirements in Division 05 for site-fabricated metal supports.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

- C. Field Welding: Comply with AWS D1.1/D1.1M.

#### 3.04 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Division 03."
- C. Anchor equipment to concrete base.
  - 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
  - 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

#### 3.05 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
  - 1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION





Document 26 05 33

**RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.

PART 2 - PRODUCTS

2.1 RACEWAY

- A. All wiring shall be run in raceway.
- B. The size of each raceway shall be largest of the following:
  - 1. Minimum size to be 1/2".
  - 2. Underground conduits to be 3/4" minimum.
  - 3. Telephone and data communications conduits to be 2" minimum.
  - 4. The size required by code fill table for THHN/THWN to accommodate the number, size, and type of wires shown or specified or recommended by the manufacturer of the equipment served and also ground conductor.
  - 5. The size noted on the Drawings.
- C. Conduit Fittings: Except where otherwise noted, conduit fittings shall be Appleton, Crouse-Hinds, or equal. Unilets, condulets, etc., shall be malleable iron and fitted with cover and gasket.
- D. Conduit Supports: Kindorf, Unistrut, T&B, or equal. All multiple hanger and support parts shall be zinc coated by hot dipping or electroplating or otherwise protected against corrosion.
- E. Conduit Straps: T&B, Gedney, or equal, one or two-hole malleable iron or snap type steel with ribbed back, galvanized or cadmium plated.
- F. Cable Supports: Cable supports and boxes shall be installed for all vertical feeders in accordance with the schedule in the California Electrical Code. Cable supports shall be of the split wedge type which clamp each individual conductor firmly and tightens due to weight of cable. For cables with a metallic sheath, a basket weave or equal type of support shall be provided.

- G. Acceptable raceway systems and their limitations of use are as follows:
1. Rigid Steel Conduit (RSC):
    - a. Standard weight, zinc coated on outside by hot dipping with either zinc coating or other U.L. approved corrosion-resistant coating on inside.
    - b. Fittings shall be threaded and finished similar to conduit. Threadless fitting shall not be used. All joints shall be coated with conductive antiseize compound, T&B "Kopr-Shield" or approved equal, except where conduit is run in permanently dry locations. Engineer knows of no equal to "Kopr-Shield".
    - c. Where installed in contact with earth or fill material, conduit shall be wrapped with net four layers of Scotchrap #50, Schuller VID-10, or equal, or encased in three inches of concrete. In lieu of hand wrapping, Contractor may provide PVC coated galvanized conduit and fittings. The thickness of the PVC coating shall be a minimum of .040" (40 mil) on all pipe and fittings (except where part shape demands less thickness). PVC coated elbows shall be Ocal, Inc. Engineer knows of no equal.
    - d. Conduits connected to boxes and cabinets shall be fitted with two locknuts and insulated bushings, OZ B Series, Appleton BU Series, or equal, U.L. approved and bonded. Grounding bushings shall be used whenever grounding conductors are installed.
    - e. Conduit stubs shall be capped with coupling, nipple, coupling and plug.
    - f. Conduits connected to top and sides of boxes, cabinets, or any exterior enclosure exposed to weather or in areas subject to excessive moisture shall be fitted with watertight sealing hubs of steel or malleable iron with sealing ring and insulated throat, T&B 370 Series, EFCOR 40-50B Series, or equal.
  2. Intermediate Metal Conduit (IMC): Requirements for IMC are same as specified for RSC.
  3. Electric Metallic Tubing (EMT):
    - a. Rolled steel, zinc coated outside with either zinc coating or other approved corrosion-resistant coating on the inside.
    - b. Couplings shall be concrete tight steel set screw couplings, Appleton TWC-5 Series, T&B TK-120 Series, or equal. A green insulated bonding conductor shall be provided in raceway when using set screw fittings.
    - c. Connectors shall be concrete tight steel set screw couplings, Appleton TW50-SI Series, T&B TC-720 Series, or equal. A green insulated bonding conductor shall be provided in raceway when using set screw fittings.
    - d. May be used:
      - 1) Concealed in stud partitions.
      - 2) Concealed in non-grouted masonry walls.
      - 3) Concealed above furred ceilings.
      - 4) Exposed above 8' elevations, indoors.
      - 5) Exposed in electrical rooms, telephone rooms, data communication rooms and mechanical rooms.

4. Flexible Metal Conduit:
  - a. Minimum trade size, 1/2", unless specified otherwise in other sections of these specifications. Flexible conduit shall be steel.
  - b. Connectors - T&B "Tite Bite" insulated. Engineer knows of no equal. Where used for connection of recessed fixtures, connectors may be of the type that screw into inside of conduit, Efcor 1100 Series, Steel City XC-840 Series, or equal.
  - c. May be used only for crossing of seismic joints, connection of recessed fixtures, controls and mechanical equipment, and devices mounted to T-bar ceilings. Use Liquid Tight Flexible Metal Conduit, as specified hereinafter, where exposed to weather or other wet or corrosive conditions.
  - d. Length shall be a practical minimum but to allow for movement of equipment connected without restricting flexibility of conduit.
5. Liquid Tight Flexible Metal Conduit:
  - a. Minimum trade size, 1/2".
  - b. Connectors - Appleton STB Series, insulated. Appleton, Crouse-Hinds, or equal may be used.
  - c. Length shall be a practical minimum but to allow for movement of equipment connected without restricting flexibility of conduit.
6. PVC Conduit, Type EB: U.L. listed and labeled for encased burial.
  - a. Minimum trade size, 3/4".
  - b. Use only as underground feeder duct for power and signal with minimum of 3" concrete envelope with #4 rebar in each corner of duct bank. Concrete shall be two sack mix with 3/4" maximum aggregate.
  - c. A copper bonding conductor shall be pulled in each power, control, signal, and other raceway, except public telephone and data communications, and bonded to equipment at each end with approved lugs.
  - d. Continuation of run above grade, slab, or into building interior shall be with RSC, IMC, or EMT as per conduit specification.
  - e. Conduit separation shall be provided using plastic conduit spacers specifically designed for the purpose. Place spacers maximum 4'0" on center.
  - f. "Hot box" or field heated bends are elbows are not acceptable. Bends, elbows, and risers shall be made with rigid steel conduit using threaded adapters. At each end of conduit run, bond metallic portions of raceways to each other and to equipment connected. Protect underground metal portions from corrosion as specified for rigid steel conduit.

In lieu of providing RSC bends in PVC duct banks, contractor may provide long radius PVC elbows with a minimum radius of 24" for 3/4" to 2" conduits and a minimum radius of ten times the conduit trade size for conduits larger than 2". (Note: As an example, a 2-1/2" conduit will require an elbow with a minimum radius of 30".) Pull rope used when PVC elbows are provided must be of a material and diameter that will not cause damage to inside surface of elbow when wire is pulled. Contractor will be required to replace any underground elbow determined to be damaged (grooved, cracked,

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- etc.). Elbows under concrete floor slabs or rising up into footings must be RSC as specified hereinbefore.
- g. Provide bell ends on all conduits rising into pullboxes, switchgear, lighting poles, rooms and any location where raceway ends.
  - h. All joints and fittings shall be glued using appropriate PVC cement.
7. PVC Conduit, Schedule 40: U.L. listed and labeled for direct burial.
- a. Minimum trade size, 3/4".
  - b. Use only underground. All conduit shall be encased with 3" concrete envelope or clean sand. Concrete shall be two sack mix with 3/4" maximum aggregate. Conduit separation for concrete encased conduits shall be provided using plastic conduit spacers specifically designed for the purpose. Place spacers maximum of 4'0" on center. Sand encased conduits shall be installed in layers to maintain vertical separation and horizontal separation shall be maintained using rebar stakes. Drawings indicate depth of burial required for the options.
  - c. A copper bonding conductor shall be pulled in each power, control, signal, and other raceway, except public telephone and data communications, and bonded to equipment at each end with approved lugs.
  - d. Continuation of run above grade, slab, or into building interior shall be with RSC, IMC, or EMT as per conduit specification.
  - e. Power feeder and signal trunk conduit runs beneath building floor slabs shall be placed in trench and encased in sand evenly compacted on all sides, top, and bottom. Conduit shall be kept sufficient depth below slab fill material to provide adequate protection from damage by other trades and to permit use of specified rigid conduit elbows without additional offsets.
  - f. "Hot box" or field heated bends and elbows are not acceptable. Bends, elbows, and risers shall be made with rigid galvanized steel conduit using threaded adapters. At each end of conduit run, bond metallic portions of raceways to each other and to equipment connected at each end of conduit run. Protect metal portions from corrosion as specified for rigid steel conduit.  
In lieu of providing RSC bends in PVC duct banks, contractor may provide long radius PVC elbows with a minimum radius of 24" for 3/4" to 2" conduits and a minimum radius of ten times the conduit trade size for conduits larger than 2". (Note: As an example, a 2-1/2" conduit will require an elbow with a minimum radius of 30".) Pull rope used when PVC elbows are provided must be of a material and diameter that will not cause damage to inside surface of elbow when wire is pulled. Contractor will be required to replace any underground elbow determined to be damaged (grooved, cracked, etc.). Elbows under concrete floor slabs or rising up into footings must be RSC as specified hereinbefore.
  - g. Provide bell ends on all conduits rising into pullboxes, switchgear, lighting poles, rooms and any location where raceway ends.
  - h. All joints and fittings shall be glued using appropriate PVC cement.
8. Cable Tray:

- a. Provide cable tray raceways for low voltage signal cables at locations shown on drawings. Cable trays shall be Chatsworth Products, Inc. (CPI) "FastTrac" series with all accessories and hardware for a complete installation. Provide supports, bend radii protection, and earth grounding.
  - b. Minimum tray size shall be 2"H x 6"W and in 5' or 10' sections as determined by field conditions. Increase tray dimensions as necessary to conform to cable fill with a 50% margin for future cables.
9. Cable J-Hooks: Low voltage signal cable "J-Hooks" shall be Caddy "CableCat" CAT425 for main runs with capacity for up to 425 4-pair UTP cables. For runs from main runs, provide Caddy "CableCat" CAT21 or CAT32 J-Hooks with capacity for up to 50 or 80 4-pair UTP cables. Provide with support device for construction encountered.

## 2.2 BOXES AND ENCLOSURES

- A. All boxes and enclosures shall be suitable for the environment in which they are installed. This includes enclosures for switchboards, panels, control cabinets, terminal cabinets, disconnect switches, signal devices, and the like.
- B. Outlet Boxes:
  1. Outlet boxes shall be of welded construction or one piece deep-drawn steel, galvanized gang type. Octagon concrete rings may be folded type. Sectional boxes shall not be used. Boxes installed in any exterior location, where exposed to rain or where exposed to moisture laden atmosphere shall be cast screw hub type with gasketed weatherproof covers. Where installed in finished areas, exposed boxes shall be cast screw joint type or other type that does not have unused knockouts.
  2. Each box shall be large enough to accommodate the required number and sizes of conduits, wires, splices, and devices but not smaller than size shown or specified. Unless otherwise specified or shown on Drawings, boxes shall be flush mounted with front edge of box or ring flush with wall or ceiling finish. Use plaster ring in plastered or gypboard applications. Examine Architectural Drawings for wall construction and finishes, and set box with appropriate plaster ring as required for flush installation.
  3. Switch and receptacle boxes shall be not less than 4" square by 1-1/2" deep for single devices, 4-11/16" by 1-1/2" deep for two devices. Telephone and signal boxes shall be not less than 4-11/16" square x 2-1/8" deep.
  4. Outlet boxes mounted in cabinets, tile, concrete block, brick, stone, wood, or similar material shall be rectangular in shape with square corners and straight sides, and installed without plaster rings. Such boxes shall be 3-11/16" high x 2-1/4" wide x 3-1/2" deep for a single device, or shall have suitable tile or masonry ring for larger box.
  5. Lighting outlets shall be 4" octagon, minimum, fitted with 3/8" malleable iron fixture stud.

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6. Boxes for special devices such as clocks, speakers, fire alarm, television, and the like shall be particularly suited for intended use.
7. Provide blank cover plates on all outlet boxes which are installed as part of an empty conduit system. Refer to finish material.

C. Junction Boxes and Pullboxes:

1. Boxes having an internal volume less than 100 cubic inches shall be as specified for outlet boxes. Boxes having internal volume greater than 100 cubic inches shall be of panelboard type construction except that covers shall be secured by screws or bolts.
2. Boxes exposed to rain or installed in wet locations shall be specifically designed for the purpose.
3. All boxes shall be installed so that covers are accessible after completion of the installation.
4. Boxes shall not be installed in finished areas unless specific approval for such installation is granted by Architect.

D. Box Mounting: Boxes shall be independently and securely supported in place by wood blocking spanning stud space or manufactured adjustable channel type hanger, Steel City, Raco, or approved equal. Use wood screws to fasten to wood blocking or sheet metal screws to attach to metal channel. Side strap mounting shall not be used. Attach blocking or channel to studs using wood screws. Sheetrock screws or deck screws shall not be used. Boxes installed in masonry, tile, or concrete block shall be secured with auxiliary plate or bar and be grouted in place. Surface boxes shall be supported with expansion screws, bolts, or anchors. Suspended boxes shall be supported with threaded rods or strut assemblies attached directly to structural members by means of bolts or anchors.

E. Flush Multi Service Floor Boxes (4 Port): Floor boxes shall be cast iron, fully adjustable, Walker RFB4-CI-1 with two receptacle brackets and accessories as follows: CIHT-GFI for surge suppression receptacles, CIHT-D for duplex outlet modular mounting frame for data communications, telephone, and/or CATV, and FPBTCAL cover. Provide blank plates as required.

F. Precast Concrete Boxes and Vaults:

1. Boxes and Vaults: Precast high-density reinforced concrete, rated for H/20 vehicular traffic loading, unless shown otherwise on Drawings.
2. Extensions: At sectional type boxes, provide a minimum of two precast extensions. Provide additional extensions as required to provide space in box for code required cable bending.
3. Covers: Unless noted otherwise on drawings, covers shall be H/20 vehicular traffic rated, steel checker plate, galvanized, with hold-down bolts. Covers shall be factory marked as follows:

<u>SYSTEM</u>	<u>MARKING</u>
Power 600V or less	Electrical
Telephone	Telephone

Data Communications	Data
Clock, Signal, etc.	Signal
Fire Alarm	Fire Alarm
Lighting	Lighting
Grounding	Ground

Where two or more low voltage systems (such as clock, fire alarm, telephone, etc.) occupy same box or vault, cover shall be factory marked "Signal".

4. Size: Provide size shown on Drawings. If sizes are not shown, provide boxes sized per Codes. (Note: Minimum size may be indicated in Symbol List on Drawings.)

### 2.3 ELECTRICAL COMPONENTS ACCESS DOORS

- A. KARP, Milcor, Newman, or approved equal, with concealed hinges, prime coated with rust inhibitive paint, screwdriver locks at interior and key operated cylinder locks at exterior locations. Style of door shall suit ceiling or wall construction, including fire rating. Doors shall be 14 gauge C.R. steel minimum.

## PART 3 - EXECUTION

### 3.1 RACEWAY SYSTEMS

- A. Excavating and Trenching: Perform all excavations as required for the installation of the work included under this Section, including shoring of earth banks to prevent cave-ins and to protect workmen and equipment. Restore all surfaces, roadways, walks, curbs, walls, existing underground installation, etc., damaged or cut as a result of the excavations to their original condition in a manner approved by the Architect. Stop machine excavation for trenches, in solid ground, several inches above required grade line, then trim trench bottom by hand to accurate grade so that a firm and uniform bearing throughout entire length of duct is provided. In lieu of above hand excavation in bottom of trench, Contractor may excavate to depth no less than 6" below required grade line and place a bed of sand or granular soil, properly compacted to provide a uniform grade and to provide a firm support for duct throughout its entire length. Minimum conduit depth of pipe crown shall be 2'0" below finished or natural grade, unless detailed otherwise on Drawings. Conduits under parking lots, roadways, driveways, fire truck access routes, and other areas subject to vehicular traffic shall be installed a minimum of 24" below grade.
- B. Backfilling: No backfilling operations shall begin until the required tests and inspection has been made. Should any of the work be enclosed or covered up before it has been approved, Contractor shall, at his expense, uncover the work. After it has been inspected, tested, and approved, he shall make all repairs necessary to restore the work of other contractors to the condition in which it was found at the time of uncovering. Except under existing paved area,



walks, roads, or similar surfaces, and in cases where rock is encountered, backfill more than 12" above the top of the pipe shall be made using suitable excavated material placed in 6" layers measured before compaction, and tamped by machine. Surface work shall be replaced to match the existing. Entire backfill for bored excavations under existing pavement, walks, roads, or similar surfaces, shall be made with clean sand compacted by flooding.

The contractor shall install a marking tape 6" below grade and directly above all electrical conduits. The tape shall consist of a 4 mil insert plastic film specifically formulated for prolonged use underground. It shall be highly resistant to alkalis, acids and other destructive agents found in the soil. Tape shall have a minimum tensile strength of 20 lbs. per 3" with strips and a minimum elongation of 500%. Tape shall bear a continuous painted message repeated every 16" to 36" warning of the installation buried below. The message shall read "CAUTION – ELECTRICAL POWER LINE BURIED BELOW" or "CAUTION – ELECTRICAL SIGNAL LINES BURIED BELOW" as applies. Installation instruction for the tape shall be printed with each message along the entire length. The tape shall be as that manufactured by Reef Industries, Inc., or approved equal. For those installations involving non-metallic pipe, tape shall be aluminum foil encased in two layers of inert plastic film enabling the tape to be inductively located. Terre Tape "D" Warning Tapes are acceptable. When conduit below is plastic, tape shall have metallic content and shall respond to metal detectors. Do not exclude this. It will be required to verify the installation of this tape.

- C. Flashing and Sealing: Flash and counterflash roof and wall penetrations in manner described under other applicable sections of this Specification and as approved by the Architect. Conduits, ducts, etc., passing through finished walls and ceilings shall be fitted with steel escutcheon plates, chrome or paint finish as directed. Conduits which penetrate floor slabs and concrete or masonry walls shall be grouted and sealed watertight at penetration. Conduits penetrating exterior walls other than concrete or masonry shall be sealed watertight with Vulkem 116 polyurethane sealant. Underground conduits stubbing up into a room shall be sealed around cables or pullstring with foam sealant. All flashing and sealing shall be provided by this Contractor.
- D. Unless otherwise specified, all raceway shall be installed concealed. Raceway may be run exposed on unfinished walls, in attics and roof spaces, and in electrical rooms when run to surface cabinets, panels, or gutters. Conduit shall not be installed in concrete slabs.
- E. Individual horizontal raceways not larger than 1-1/2" size shall be supported by means of straps or individual hangers. Individual horizontal raceways larger than 1-1/2" size shall be supported by individual hangers. Above accessible ceilings, spring steel fasteners, clips, or clamps specifically designed for supporting exposed single conduits up to 1" size may be used in lieu of straps or hangers. Hanger rods used in connection with spring steel fasteners, clips, and clamps shall be either 1/4" diameter or larger galvanized steel rods.
- F. Where two or more horizontal raceways run parallel and at the same elevation, they shall be supported on multiple hangers. Each raceway shall be secured to the horizontal hanger member with a U-bolt, strap, or other specially designed

and approved bolted fastener. Hanger rods used in conjunction with multiple hangers shall be 3/8" diameter or larger, galvanized steel rods.

- G. Vertical raceways not larger than 1-1/2" shall be supported by riser clamps at each floor or by straps not over 8' apart. Vertical raceways, conduits, and EMT larger than 1-1/2" shall be supported by riser clamps at each floor. Short vertical drops larger than 1-1/2" shall be supported by hangers close to the elbows at the tops and additionally secured to walls, columns, etc. by straps spaced not over 8' apart.
- H. Multiple conduit hangers shall consist of two or more steel hanger rods, a steel horizontal member, and all U-bolts, clamps, and other attachments necessary for securing hanger rods and conduits. Hanger rods shall be threaded either full length or for a sufficient distance at each end to permit at least 1-1/2" of adjustment. Horizontal members shall be standard structural steel shapes such as angles or channels or 1-1/2" x 1-1/2", No. 12 gauge, cold formed, lipped channels designed to accept special spring-held hardened steel nuts for securing hanger rods and other attachments. Two or more channels may be welded together to form horizontal members of greater strength than single channels.
- I. Straps and hanger rods shall be fastened to concrete by means of inserts or expansion bolts, to brickwork by means of expansion bolts, to hollow masonry by means of toggle bolts, to metal surfaces with machine screws, and to wood construction with wood screws. Expanders and shields shall be steel or malleable iron. Sizes of shields and bolts shall be such that the proof test load will not be less than four times the actual working load. Deck screws or sheetrock screws shall not be used. Wooden plugs and lead shields shall not be used for fastening. Perforated strap iron or nail straps shall not be used. Straps shall be screw fastened.
- J. Raceways above suspended ceilings shall be supported from floor or roof structure above, except that conduits 3/4" and smaller serving equipment installed in the ceiling may be supported from hanger wires (separate from ceiling hanger wires) by use of approved spring steel clips or fasteners. Hanger wires must be attached to roof structure above and clips mounted to T-bar for a positive means of support. Clips shall be Caddy Series 528P or equal. Outlet boxes with devices shall not be supported from hanger wires or from conduit supported from hanger wires. Boxes with devices shall be mounted directly to structure or blocking as described in Part 2.
- K. In any raceway run, the number of 1/4 bends, or the equivalent, between terminations at cabinets, outlet boxes, junction boxes, and pullboxes, shall not exceed the number of 1/4 bends indicated below, and the total length of run shall not exceed 150'. Straight runs of conduit shall not exceed 250' in length between terminations at cabinets, outlet boxes, junction boxes, and pullboxes.

<u>Conduit Size - Inches</u>	<u>Number of 1/4 Bends</u>
1/2 to 1-1/4	4
1-1/2 to 2-1/2	3
3 to 4	2

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- L. The size of each run of raceway shall be largest of the following:
  - 1. Minimum size to be 1/2".
  - 2. Underground conduits to be 3/4" minimum.
  - 3. Telephone and data communications conduits to be 2" minimum.
  - 4. The size required by code fill table for THHN/THWN to accommodate the number, size, and type of wires shown or specified or recommended by the manufacturer of the equipment served and also ground conductor.
  - 5. The size noted on the Drawings.
  
- M. The Contractor's attention is directed to check the size of all raceways to determine that the green equipment ground conductor, specified, shown or required, can be installed in the same raceway with phase and neutral conductors in accordance with the percentage of fill requirements of codes. If necessary, the Contractor shall increase the raceway sizes shown or specified to accommodate all conductors without additional cost to the Owner.
  
- N. Conduit caps shall be installed during construction.
  
- O. Pull ropes shall be provided in all empty conduits and shall be 3/16" diameter polypropylene. (Note: This pull rope is not for pulling cable but for pulling in pull rope for cable pulling.)
  
- P. Data communications conduit bends shall have a minimum radius of 18".
  
- Q. Interior conduit for data and telephone cables must be run in ceilings and walls unless specifically shown on plans to be run underground. All data and telephone outlets shall be connected with overhead conduits, except when run to outlets in freestanding casework, to floor boxes, etc.
  
- R. Plates and Grouting: Conduits, ducts, etc., passing through finished walls shall be fitted with steel escutcheon plates, chrome or paint finish as directed. Conduits which penetrate floor slabs and concrete or masonry walls shall be grouted and sealed watertight at penetration.
  
- S. All joints of RSC and IMC raceways shall be coated with conductive anti-seize compound, as specified hereinbefore, unless conduit is run in permanently dry locations. Remove couplings of factory joined conduit and coupling assemblies and coat joints.
  
- T. Flexible conduit shall be used to cross seismic joints.
  
- U. Expansion Joints:
  - 1. Attention is called to the expansion joints which occur at intervals in the construction.
  - 2. Where crossings are unavoidable, conduits shall cross at right angles with an expansion sleeve fitting.

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3. The expansion fitting shall be of a type designed to compensate for expansion and contraction in a line of conduit.
  4. The expansion end shall be sealed by a high grade packing which will prevent the entrance of water or moisture.
  5. End of conduits shall be provided with insulated bushings.
  6. Copper grounding rings or an auxiliary flexible bonding jumper, carefully installed to insure proper operations, shall be provided to secure a continuous ground between conduit and fitting.
  7. A conduit expansion fitting shall be installed in each conduit run wherever it crosses an expansion joint in the concrete structure. The expansion fitting shall be installed on one side of the joint with its sliding sleeve end flush with the joint and with a length of bonding jumper in the expansion joint equal to at least 3 times the nominal width of the joint.
  8. These fittings shall also be provided where expansion and contraction are a consideration in long runs of conduits.
- V. Plastic Conduit Expansion and Contraction: Contractor shall take precautions to allow for expansion and contraction of plastic conduit due to temperature changes. Exercise care in storing materials to avoid warping and deterioration. Protect from direct exposure to sunlight.
- W. Conduit penetrations through fire rated assemblies shall be protected as required by CBC Chapter 7.
- X. Underground Conduits and Duct Banks:
1. Conduit runs shown on site plan are shown for general routing. Conduit installation shall comply with applicable codes, specifications, and details on the drawings. Exact location of runs shall be coordinated to comply with structural details at and near building footings.
  2. Where conduits run under or through building foundations, crossings shall conform to details shown on structural drawings. Where conduits run parallel to foundations, conform to structural requirements.
  3. Prior to any excavation, layout duct routing. Routing shown on drawings is diagrammatic (not pictorial). Coordinate closely with underground work of other trades. Adjust routing and excavation to avoid conflict with other trades and utilities.
  4. At existing sites, underground utilities, services, circuits, piping, irrigation systems, etc. are present, but their exact locations are not known. Contractor shall locate and protect before trenching or excavating in any area. Consult utility companies, "as-built drawings", and Owner's maintenance personnel for location of existing underground work. If existing piping or utilities are damaged during construction, contractor shall repair immediately at own expense. New underground shall be modified as necessary to conform to existing conditions.
- Y. Cable J-Hooks: Provide J-hooks 4'0" O.C. Max. for runs of signal cables. All cable to be run parallel and perpendicular to building lines. Provide mounting hardware as required. Provide Unistrut channels between structural members where necessary. Provide 24" long 2" conduit sleeves through shear walls, draft

stops, etc. Provide as many as necessary to accommodate all signal cables in contract plus two extra capped at each end for future. All conduits shall be provided with bushed ends.

### 3.2 BOXES

- A. Boxes shall be accurately placed as shown on Drawings or as close thereto as possible. Contractor shall refer to Drawings, specifications, and submittals covering work of the other trades to coordinate outlet location. In the event of conflict between planned locations of outlet and other equipment or furnishing, Contractor shall not proceed until direction has been given by Architect.
- B. Unless otherwise specified or shown on Drawings, boxes shall be flush mounted with front edge of box or ring flush with wall or ceiling finish where finish material is combustible. At non-combustible finish materials, front edge of box or plaster ring shall not be set back more than 1/4". Use plaster ring of appropriate depth in plastered or gypboard applications. Contractor shall review architectural drawings and note wall and ceiling construction and finishes for each wall. Boxes/rings set too far back shall be equipped with plastic, non-combustible, non-conductive extenders, Arlington BE Series or equal.
- C. Boxes shall not be installed back-to-back in walls. To prevent sound transfer, outlets, switches, etc. shown on opposing sides of the same wall shall be installed in separate stud spaces, except that outlets installed at different elevations may occupy the same stud space when box separation exceeds 18". Where these requirements cannot be met, Contractor shall provide insulation material between boxes.
  - 1. Outlet Boxes at Fire Rated Walls:
    - a. Outlet boxes on opposite sides of fire rated walls shall be separated by horizontal distance of not less than 24".
    - b. Total area of outlet boxes in fire rated walls shall not exceed 100 square inches for any 100 square feet of wall area.
    - c. If a. and/or b. are not met, penetrations in fire rated walls shall be protected by an approved penetration firestop system per CBC 714.3.1.2, installed and tested in accordance with ASTM E119 or UL 263 and shall have F rating of not less than the required rating of the wall penetrated.
- D. Mounting height of wall mounted outlet means height from finished floor to horizontal centerline of outlet or cover plate or top of box as indicated below. Heights shall be as follows unless specifically noted otherwise on Drawings:
  - 1. Receptacles: +1'6" except as noted. Outlets in wall above counter or backsplash shall be arranged for horizontal device installation. Outlet shall be located such that device plate will be 4" above counter (or backsplash where provided).
  - 2. Switches: +4'0", to top of box.
  - 3. Desk Telephone: +1'6", except as noted.

4. Wall Telephone: +4'0", to top of box.
  5. Fire Alarm Manual Station: +4'0", to top of box.
  6. Wall Mounted Lighting, Clocks, and Speakers: As shown on Architectural elevations. If not shown on elevations, coordinate with Architect prior to rough-in.
- E. Where receptacles or outlets are shown in cabinetry, coordinate location of boxes and routing of raceway with cabinetry contractor. Route raceway concealed (limited use of flex is permissible).
- F. Blank covers of all junction boxes shall be marked to show use, such as Fire Alarm, Telephone, Intrusion Alarm, Signal, etc. Power box covers shall be marked to show circuit numbers contained in box. Use permanent black marker.
- G. Outlet and device boxes mounted in fire rated assemblies shall be protected as required by CBC.
- H. Where floor boxes are shown on drawings, contractor shall review approximate locations with Owner and Project Inspector prior to rough-in and obtain exact locations for proper placement.
- I. Precast Concrete Boxes:
1. Sectional Boxes without Precast Floor: Unless detailed otherwise on drawings, provide poured concrete footing formed inside with 6" gravel in bottom of box to facilitate drainage. Conduits shall rise in bottom of box. Provide box extensions to allow ample clearance in box between conduit and box cover for cable bending radius.
  2. Where boxes are installed at concrete or paved areas, box lid shall be flush with finish grade.
  3. Size: Provide size shown on Drawings. If sizes are not shown, provide boxes sized per Codes. (Note: Minimum size may be indicated in Symbol List on Drawings.)

### 3.3 ACCESS DOORS

- A. Furnish and install access doors wherever required whether shown or not for easy maintenance of electrical systems; for example, at fire alarm detectors above ceilings, etc. Access doors shall be sized to allow access to equipment for complete removal and replacement of equipment or device.

END OF SECTION



**VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.

1.2 REQUIREMENTS

- A. Seismic Restraint Requirements: All electrical equipment and materials shall be braced against seismic forces in accordance with California Building Code, Chapter 16A. Provide lateral bracing as required. The field installation shall be subject to the review and approval of the DSA Structural Safety engineer.
- B. Light Fixture Seismic Bracing: All lighting fixtures suspended from ceiling or structure shall be braced to comply with California Building Code Part 2.
  - 1. Suggested bracings and attachments are detailed on drawings. Bracing methods shown are general and may need to be modified to suit a particular location and other differing conditions.
- C. Electrical Distribution System Bracing: Electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3, as defined in ASCE 7-10 Section 13.6.4, 13.6.6 and 13.6.5.6, and 2016 CBC Section 1616A.1.23.
  - 1. The bracing and attachments to the structure shall be detailed on the approved drawings or they shall comply with one of the OSHPD pre-approvals (OPA#) as modified to satisfy anchorage requirements of ACI 318, Appendix D.
  - 2. Copies of the manual shall be available on the jobsite prior to the start of hanging and bracing of the electrical distribution system.
  - 3. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.
- D. Equipment Anchorage:
  - 1. All electrical equipment components shall be anchored and installed per the details on the DSA approved construction documents. Where detail is not indicated, the following components shall be anchored or braced to



meet the force and displacement requirements prescribed in the 2016 CBC, Section 1616A.1.23 and ASCE 7-10 Chapters 13, 26 and 29.

- a. All permanent equipment and components.
  - b. All temporary or moveable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, etc.
  - c. Moveable equipment which is stationed in one place for more than eight hours and heavier than 400 pounds is required to be anchored with temporary attachments.
2. The attachment of the following electrical components shall be positively attached to the structure but will not be detailed on the plans. The components shall have flexible connections provided between the component and associated conduit.
- a. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly supports the component.
  - b. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the Structural Engineer of Record and the DSA District Structural Engineer. The Project Inspector will verify that all components and equipment have been anchored in accordance with the above requirements.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

Document 26 24 00

**SWITCHBOARDS AND PANELBOARDS**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.

1.2 REQUIREMENTS

- A. Other Divisions: Requirements of other divisions shall apply to this division as if repeated herein, and should work under this division require any carpentry, backfill, masonry, etc., the appropriate division requirements shall apply. This includes work required for construction of proper stands, bases, and supports for electrical materials and equipment.
- B. Rules and Regulations: All work and materials shall be in full accordance with the latest rules and regulations of the following:
  - 1. California Electrical Code, 2016 edition
  - 2. California Building Code, 2016 edition
  - 3. Applicable regulations of local utility companies
  - 4. California Code of Regulations, Title 8, Electrical Safety Orders
  - 5. Equipment Utility Service Requirements Committee Standards
  - 6. General Order 95 of the Public Utilities Commission

Nothing in these drawings or specifications is to be construed to permit work not conforming to the above codes, rules, and regulations.

- C. Refer to Section 26 05 00 for detailed submittal requirements.

PART 2 - PRODUCTS

2.1 PANELBOARDS, SWITCHBOARDS, CONTROL CABINETS, TERMINAL CABINETS, ETC.

- A. All circuit breakers shall be equipped with padlocking devices for locking handle in off position. Devices shall be factory installed or furnished by factory and installed by Contractor.

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- B. Multiple pole circuit breakers shall have internal common trip connection. Single pole breakers shall not be tied at handles to form multiple pole breaker.
- C. All circuit breakers shall be bolt-on type.
- D. Handle "Lock On" devices shall be furnished for 10% of circuit breakers provided. Furnish in factory packaging unless noted to be installed on Drawings. (Note: These devices have different function than those specified in paragraph A. above.)
- E. Circuit breaker numbers shall be adhesive backed engraved or embossed micarta or stamped into dead front. Snap-in plastic numbers are not acceptable.
- F. Busses shall be copper with a current density of 1000A per square inch, maximum.
- G. Exterior of surface mounted enclosures shall be factory finished to match fronts.
- H. Where panels or cabinets are indicated to be flush mounted, but wall construction will not allow flush installation, enclosures shall be semi-recessed. Semi-recessed enclosures shall be fitted with a wood or metal escutcheon providing neat return to wall finish, flush with edge of trim. Finish escutcheon to match surrounding wall.
- I. Wall mounted enclosures shall be mounted with top of enclosure 6'6" above finished floor except as otherwise noted.
- J. Enclosures shall be finished in ASA 61 or Standard Factory gray enamel.
- K. Enclosures shall be fitted with copper ground bus, similar to neutral bus, not insulated from enclosure. Bus shall be complete with lugs.
- L. Directory holder shall be metal with clear acetate directory cover. Holder shall be welded to inside of door or epoxied in place by contractor.
- M. Nameplates shall be as hereinbefore specified.
- N. Busses shall extend full length of usable space of distribution sections.
- O. Fronts shall have concealed trim fasteners and a hinged door with concealed hinges and flush locking latch.
- P. All locks on project shall be keyed alike. New equipment, installed as part of addition, shall have locks keyed to match existing.
- Q. Modifications to existing panelboards and switchboards shall be as indicated on the Drawings. New equipment shall match existing where possible and in all cases be compatible with existing. Where new breakers are installed in existing equipment, provide all hardware and trim pieces as required for a complete closed installation. Provide new nameplates at equipment where existing

breakers are identified by nameplates and provide new breaker identification in directory where existing breakers are identified in a directory.

- R. Where new breakers are indicated to be installed in existing switchboard or panel, but insufficient space exists, provide enclosed circuit breakers externally and tap existing bussing. Tap conduit and wire sizes shall be same as breaker line side conduit and wire.
- S. Main breakers, where specified as part of a combination main and distribution section or panel, shall be located above or below distribution bussing and be connected such that normal load side of breaker is disconnected when breaker is in open position. Backward connections are prohibited.
- T. Where spaces are indicated on the Drawings, all required hardware and trim shall be provided to allow for future installation of breaker, switch, or combination starter of size shown.
- U. Bussing ampacity requirements indicated on drawings shall be applied to all bussing in equipment. Bussing ampacity at distribution sections of switchboards shall not be reduced.
- V. The available fault current shall be obtained from the serving utility. Overcurrent protective devices, busses, and other components shall be selected and coordinated to clear faults and protect the system and all elements. This requirement is a minimum requirement and supersedes equipment selections which do not meet this requirement, and which may be shown or specified elsewhere. The frame designations shown in schedules on drawings establish minimum AIC requirements. Proposed substitutions must meet or exceed the AIC rating of the specified frame. Series rating of components is not acceptable.
- W. Panelboards: Shall be Square D, Eaton Electrical, or equal, of type and arrangement as indicated on Drawings. Layout of equipment on Drawings is based on Square D unless indicated otherwise in details on drawings. Manufacturers who cannot meet the requirements specified or shown will not be acceptable.
- X. All access covers, plates, dead front panels, etc., of motor control centers shall be hinged and fitted with captive knurled fasteners and alignment tabs.
- Y. All multi-wire circuits must have multiple pole breakers per CEC.

2.2 CONTACTORS AND RELAYS

- A. Shall be Zenith, Square D, Asco, or equal, as indicated on Drawings.

2.3 DISCONNECT SWITCHES

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- A. For 208V, 277V and 480V Equipment: Square D, GE, or equal, safety switches, heavy duty with cover/handle interlock, fused or non-fused as required. Furnish with enclosure suitable for application.
- B. For 120V Equipment: Square D, GE, or equal, horsepower rated with manual starters with properly sized overloads, handle guard and lock-off, and suitable enclosure.
- C. Instantaneous Water Heater (IWH) Disconnects: Branch circuit breaker shall be provided with padlocking device.

2.4 TERMINAL AND CONTROL EQUIPMENT CABINETS

- A. Shall be of panelboard type construction and finish.
- B. Trim shall be fitted with hinged door and flush metallic latch (National Cabinet Lock #C8070 or equal).
- C. Doors shall provide maximum size openings to cabinet interior.
- D. Signal and telephone shall be provided with 5/8" backboard having a three-coat fire retardant white paint finish.
- E. Top of cabinet shall be 6'6" above finished floor.
- F. Control equipment cabinets shall be provided with suitable barriers to isolate devices in accordance with Codes.
- G. Provide ground bus at each backboard similar to panelboard ground bus, attached with screws.

2.5 SIGNAL TERMINAL BACKBOARDS

- A. Backboards for Signal, Telephone, TV, Data, etc. shall be 3/4" Architectural Grade, APA Type A-C, Group 1, exposure 1 plywood, 8' high, and width shown on plans. Install with sanded side exposed.
- B. Each backboard shall be painted with three coats of white fire-retardant paint.
- C. Provide ground bus at each backboard. Where two or more backboards are located in same room, provide one ground bus in room. Ground bus shall be Storm Copper Components Co. #SCGB-8KT (4" x 16" with mounting) unless detailed otherwise on drawings. From bus, provide 1"C-1#1/0 bare copper cable to building ground.

PART 3 - EXECUTION

3.1 EQUIPMENT AND MATERIALS

- A. General Requirements for Panelboards, Switchboards, Control Cabinets, Terminal Cabinets, Etc.:
1. Wall mounted enclosures shall be mounted with top of enclosure 6'6" above finished floor except as otherwise noted.
  2. Directories shall be typewritten and conform to circuit assignment at time of occupancy.
  3. Recessed enclosures shall be provided with a minimum of three 3/4" empty conduits stubbed into accessible space. Drawings may require additional conduits.
  4. Conduits shall enter cabinet through neat hole and perpendicular to entrance face.
  5. Conduits shall be fitted with insulated grounding bushing and bonded to ground bus.
  6. Only circuit wiring which originates in a panel may be run in the wireway of that same panel. Contractor may not use a panel wireway to run conductors to or from another panel.
  7. At adjustable trip breakers, all adjustments shall be set at maximum settings unless instructed otherwise on drawings or elsewhere in these specifications. Where breakers are programmable, contractor shall furnish any equipment required to perform programming per manufacturer's instructions. If manufacturer requires factory authorized service technician to make adjustments or perform programming, include all costs for such in bid.

END OF SECTION



Document 27 10 00

**DATA COMMUNICATIONS**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Drawings and requirements of Division 01 and Section 26 05 00 apply to all work of this Section.
- B. Furnish and install extensions to existing Data Communications System including all wiring and connections and other materials as shown on Plans and specified herein.
  - 1. Report percentage of work complete on a weekly basis.
  - 2. Completely coordinate with work of all other trades.
  - 3. Provide all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation, whether specifically indicated in the Contract Documents or not.
- C. The work covered by the Contract Drawings and the specifications covers a complete installation, including both basic and channel links, for a Data Communications Network utilizing copper and optical fiber transmission media, including but not limited to:
  - 1. Category 6 horizontal cabling.
  - 2. Category 6a horizontal cabling.
  - 3. Optical fiber cables for data network backbones.
  - 4. Telecommunications outlets and connectors.
  - 5. Equipment mounting racks and cabinets.
  - 6. Category 6 modular patch panels.
  - 7. Category 6a modular patch panels.
  - 8. Optical fiber cabinets.
  - 9. Optical fiber connectors.
  - 10. Category 6 patch cables.
  - 11. Category 6a patch cables.
  - 12. Category 6 station cables.
  - 13. Optical fiber jumpers.
  - 14. Optical fiber and copper cable installation, testing and documentation.
  - 15. One Cat 6 and one Cat 6a data jack at each wireless access point location.
  - 16. All wireless access points will be furnished by the District and installed by the contractor.

1.2 RELATED DOCUMENTS



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- A. Code Requirements: Components and installation to meet latest rules and regulations for telecommunications cable systems of the California Building Code and California Code of Regulations, Title 24, Part 3, California Electrical Code.
  
- B. Applicable Standards (including all addenda, errata, amendments, etc.):
  - 1. TIA-455-78-B, FOTP-78 IEC 60793-1-40 Optical Fibers - Part 1-40: Measurement Methods and Test Procedures – Attenuation
  - 2. ANSI/TIA-568-I.D, Commercial Building Telecommunications Cabling Standard
  - 3. ANSI/TIA-568-C.2, Balanced Twisted-Pair Telecommunication Cabling and Components Standards
  - 4. ANSI/TIA-568-3.D, Optical Fiber Cabling Components Standard
  - 5. ANSITIA-569-D, Telecommunications Pathways and Spaces
  - 6. ANSI/TIA-606-C, Administration Standard for Telecommunications Infrastructure
  - 7. BICSI/NECA-607, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings
  - 8. ANSI/TIA-758, Customer-Owned Outside Plant Telecommunications Infrastructure Standard
  - 9. IEEE 802.3, Ethernet
  - 10. TIA TSB 62, Informative Test Methods (ITMS) for Fiber-Optic Fibers, Cables Opto-Electronic Sources and Detectors, Sensors, Connecting and Terminating Devices and Other Fiber-Optic Components
  - 11. EIA TSB 63, Reference Guide for Fiber Optic Test Procedures
  - 12. BISCI ITSIMM, Information Technology Systems Installation Methods Manual
  - 13. BICSI TDMM, Telecommunications Distribution Methods Manual

1.3 GENERAL REQUIREMENTS

- A. The owner reserves the right to require the Contractor to remove from the project any such employee the Owner deems to be incompetent, careless or insubordinate.
  
- B. All clean up activity related to work performed will be the responsibility of the Low Voltage Contractor and must be completed daily before leaving the site.

1.4 CONTRACTOR QUALIFICATIONS

- A. To qualify for installation of the data communications extensions, the Contractor must possess the required license classification, trade certifications, a performance history, experience in the installation and termination of fiber optics cable systems, and proof of time in business.
  
- B. License Classification: Contractor must possess a valid C-7 or C-10 California State Contractor's License. This license must have been issued two years prior to the date of this bid. No other license classification is acceptable.

- C. BICSI Certifications: Contractor will use personnel certified by the trade organization BICSI. The vendor must have a Registered Communications Distribution Designer (RCDD) on staff which will be ultimately responsible for this project. The RCDD must have sufficient experience in this type of project as to be able to lend adequate technical support to the field forces during installation, during the warranty period, and during any extended warranty periods or maintenance contracts. The vendor must attach a resume of the responsible RCDD to the vendor's submittal for evaluation. Should the RCDD assigned to this project change during the installation, the new RCDD assigned must also submit a resume for review by the District. The vendor must also have BICSI registered installer and technicians on staff and assign them to this project. The project shall be staffed with installers and technicians, who, in the role of lead craftsman, will be able to provide leadership and technical resources for the remaining crafts persons on the project. A minimum of 30% of personnel shall be BICSI registered telecommunications installers.

A factory authorized Leviton Network Installer: The contractor shall have successfully completed the program certification requirements. A copy of the Authorized Network Installer Certificate shall be included in contractor's submittal.

- D. Performance History: Contractor must have successfully performed at least three projects of similar scope, within two years of the date of this bid. Proof of performance shall be in the form of reference sheets which shall include a brief description of the project, the beginning and ending contract price, the project foreman or superintendent's name, and the name, address, and telephone number of a project contact.
- E. Fiber Optics Experience: Contractor must be able to prove to the satisfaction of Owner that they have had significant experience in the installation of fiber optics cable systems. Installation must include installation of fiber optics cable in innerduct, fiber breakout systems, fiber termination, a knowledge of interconnect equipment, and a thorough knowledge of testing procedures. Contractor must provide a minimum of three references supporting its claim of experience for similar projects within the two years prior to this bid. Documentation must be included with the submittal documents.
- F. Time in Business: Contractor must have been in business, and in the business of installing telecommunications/data communications systems, continuously, for a period of at least three years, prior to the date of this bid. Contractor must submit at least one project reference for each of the three years prior to the date of this bid. The contractor must also maintain a full time staff at an established business location having appropriate parts and service facilities and the ability to provide a one-hour response time to Folsom Cordova Unified School District. Any contractor that is not able to meet these requirements will not be considered as an acceptable contractor for this project.

## 1.5 DEFINITIONS

- A. Main Distribution Facility (MDF): The MDF is the location, within a building or complex of buildings, where the entire data communications system originates. It may include the physical location, enclosure, wire and cable management hardware, termination hardware, distribution hardware, and equipment racks. The MDF exists where shown on plans.
- B. Intermediate Distribution Facility (IDF): The IDF is the location in a building where a transition between the backbone or vertical riser system and the horizontal distribution system occurs. It may include the physical location, enclosure, wire and cable management hardware, termination hardware, distribution hardware, and equipment racks. In this case, the IDFs are collocated with the CTBs (Computer Terminal Backboards) and provide the interface location between fiber distribution cable (backbone) and station cable (horizontal distribution).
- C. Backbone Pathway: The backbone pathway consists of a series of conduits of chases, which connect the MDF to IDFs or IDFs to IDFs. It generally houses the vertical or backbone system.
- D. Backboard: Backboard generally refers to the plywood sheeting lining the walls of data communications facilities. Backboard may also refer to the entire wall-mounted assembly, including wire management, wiring blocks, and equipment racks. In this case, the term Backboard is fully interchangeable with CTB and the equipment required to fulfill the scope of work below.

#### 1.6 SYSTEM DESCRIPTION

- A. The data and telephone structured cabling communications system shall consist of three components: termination equipment, a fiber optics backbone, and copper twisted-pair Category 6 workstation cabling (voice and data). The central location houses the MDF and each of the other locations shall house an IDF. Each fiber optics cable shall originate in the MDF and shall be terminated in its respective IDF. All fiber optic cables shall be enclosed in innerduct. The combination of innerduct with fiber optic cable shall be routed through a system of conduits and raceway installed by the responsible contractor for that discipline, in accordance with the drawings. The drawings depict a typical conduit layout and fiber cable routing. From each IDF, one or more twisted-pair copper cables shall be routed to each data and telephone outlet location, either via routing established by the installing contractor or provided by Owner, within its respective building or buildings. These cables shall originate in an IDF and terminate in its respective data outlet location.

#### 1.7 SCOPE OF WORK

- A. Contractor shall provide materials for and install complete wiring/cabling and conduit extensions in accordance with this specification and the drawings and include all necessary components, whether included in this specification or not.

- B. The installation shall include cable (fiber optic and twisted-pair copper), innerduct, fiber interconnect equipment, connectors (fiber and copper), jumpers, patch cables, station cables, wiring blocks, and data communications outlets. The necessary material and equipment are depicted throughout the specifications and applicable drawings. Contractor is responsible to supply Owner with all necessary components, whether included in the specifications and drawings or not.
- C. The work performed under this specification shall be of good quality and performed in a workmanlike manner. In this context, "good quality" means the work shall meet industry technical standards and quality of appearance. The Owner reserves the right to reject all or a portion of the work performed, either on technical or aesthetic grounds.

1.8 MANUFACTURER

- A. Contractor shall furnish and install all equipment, accessories, and materials necessary for a complete, functional fiber optics data distribution system in accordance with these Specifications and Drawings.
- B. Throughout this specification, Leviton and other manufacturers are cited, along with specific part numbers. These products are District standards. Contractor may not provide alternates.
- C. Unless specified otherwise in the following, the equipment furnished shall fall into five classes. Exceptions are annotated [CLASS EXEMPT]. The five classes are as follows:
  - 1. Class One: Fiber optics cable, copper cable (both station and backbone), fiber optic jumpers, copper patch cables, blocking kits, interconnection devices, wiring blocks, connectors (fiber and copper), and telecommunications outlets. Leviton, Optical Cable Corp., Superior Essex.
  - 2. Class Two: Fiber innerduct. Carlon.
  - 3. Class Three: Equipment racks and cabinets. CPI, Great Lakes.
  - 4. Class Four: Wire management panels. Leviton, Panduit.
  - 5. Class Five: Wire ties, printed labels, "D" rings, nuts, bolts, screws, and other miscellaneous hardware [CLASS EXEMPT].

1.9 SUBMITTALS AND SUBSTITUTIONS

- A. Within 14 calendar days after the date of the award of the contract, the Contractor shall submit to the Owner for review one electronic copy in pdf format of a complete submission. The submission shall consist of six major sections with each section separated with sheet showing title of section.
  - 1. The first section shall be the "Index" which shall include the project title and address, name of the firm submitting the proposal, and name of the Architect. Each page in the submission shall be numbered chronologically and shall be summarized in the index.

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2. The second section shall include a copy of the Contractor's valid C-7 California State Contractor's License, the contractor qualifications information required in Section 1.4 above, and a list of instrumentation to be used for system testing.
  3. The third section shall contain the comparative specification listing of any substitutions and a complete listing of the characteristics of the equipment in the specifications.
  4. The fourth section shall contain samples of proposed cable markers and labeling.
  5. The fifth section shall contain a complete, detailed satellite closet count, proposed floor plan and backboard plan, workstation count, and bill-of-materials.
  6. The sixth section shall contain shop drawings showing front and side elevations of backboard and rack mounted equipment and interconnections. Drawings shall be computer drafted and shall be part of submittals. Drawings shall show layout of all equipment at each location.
- B. Refer also to Section 26 05 00 for other submittal requirements. Any contractor failing to include all required information shall be deemed non-responsive and may be disqualified, at the discretion of the Owner.
- C. For purposes of determining conformity, technical and general information set forth on the respective data sheets by manufacturers named in Section 1.8 for each specified item shall be considered as part of these specifications and binding herein.
- D. Two submittal reviews will be made by the Architect. Subsequent reviews will be charged to the Contractor. A rejection of a submittal or review of a partially presented submittal constitutes one submittal review.
- 1.10 RECORD DRAWINGS
- A. Refer to General Conditions. Final Inspection will not be made until drawings are received and approved. Record Drawings shall include as-built one-line and wiring diagrams, with terminations identified, wire color coding schedule, pull box locations, and conduit routing plans.
- 1.11 PRE-INSTALLATION CONFERENCE
- A. Schedule a conference a minimum of five calendar days prior to beginning work of this Section.
- B. Agenda: Clarify questions related to work to be performed, scheduling, coordination, etc.
- C. Attendance: Communications system installer foreperson, Owner's Representatives, and other parties affected by the work of this Section.

1.12 GUARANTEE

- A. One firm to assume full responsibility for performance on all work of this section. Guarantee all equipment against defects in material and workmanship for two years, and provide on-the-premises service during normal working hours for two years, at no cost to purchaser if trouble is not caused by misuse, abuse, or accident, or at current labor rates if so caused. Provide manufacturer's written guarantee for equipment and parts to Owner.
- B. Service shall normally be available within 24 hours from service department of authorized distributor of manufacturer by factory trained servicemen.
- C. On-the-premises service at other than normal working hours to also be available, but labor charges for such calls to be paid by purchaser at current labor rates.

1.13 FUNCTION AND OPERATION

- A. Upon completion of the work outlined in this specification, the system shall be capable of transmitting data at a rate of 1gb/s (Category 6).
- B. The fiber optics cable system shall be capable of transmitting signals with a bandwidth of up to 600 MHz at either 850 or 1300 nm. The cumulative signal loss through connectors, jumpers, couplers, and fiber cable shall be less than 10dB.
- C. Work station cable, commencing at the wiring blocks, shall be installed in accordance with ANSI/EIA/TIA TSB standards and shall be capable of transmitting a signal at Category 6 level with acceptable attenuation losses and cross-talk attenuation. The entire workstation cable system, including wiring blocks, cable, and telecommunications outlets shall be tested for Category 6 compliance. The cabling system shall be channel tested to the standard for Cat 6.

PART 2 - PRODUCT AND INSTALLATION SPECIFICATIONS

2.1 GENERAL

- A. Throughout this Part 2, material quantities and minimum installation practices are given. These quantities and instructions are given for reference purposes only. It is the responsibility of the Contractor to provide appropriate quantities of materials and install them to manufacturer specifications as to provide a complete, functional system.

2.2 FIBER INNERDUCT

- A. Description: From the MDF to each IDF, segments of fiber optics innerduct shall be installed in the conduit system.
  - 1. Product: Carlon Riser-Guard DG4X1C-500, 1-1/4" Outside Plant Fiber Optics Innerduct with pull tape.

## 2.3 FIBER DISTRIBUTION

- A. Description: From the MDF to each IDF, a continuous segment of fiber cable(s) shall be installed. Routing shall be via conduit in accordance with electrical drawings. The cable shall not be extended more than 50' into the building interior unless enclosed in conduit.
  - 1. Products:
    - a. Single Mode: Optical Cable Corp., DX012DSLS9YR, 12-strand single mode.
  - 2. All fibers shall be terminated and connected at each computer rack location.
  - 3. All fibers shall be terminated in type SC connectors (one SC connector for each end of fiber.):
    - a. Single Mode: Leviton SC Fusion Splice Connector, Single Mode, SPSCS-12A.

## 2.4 COPPER BACKBONE CABLE (EXCHANGE CABLE)

- A. Description: From the MDF to each IDF, a continuous segment 25 or 50 pair (or as required) outside plant cable shall be installed. This cable shall be routed along with the fiber optics cable. The cable shall be suitable for underground installation. Each end of each cable shall be "dammed", at the breakout point, to halt the flow of gel. Refer to Signal Cable Schedule on construction drawings for specified cable.

## 2.5 WORK STATION CABLE

- A. Description: From each IDF, 4-pair, Category 6 or 6a cables shall be routed to each work station (data outlets) served by the IDF. Cables shall be routed from the MDF to each workstation located in its building. Data outlet locations are depicted on the drawings and in the Outlet Summary.
  - 1. Product:
    - a. Cat 6: Superior Essex NextGain Category 6+ cable, 54-246-2A (riser/blue) and 54-246-9B (plenum/red). Where cable is to be installed in "wet" environments (underground conduit, conduit installed in or under concrete slabs, etc.), utilize Superior Essex OSP Broadband Category-6 BBD6, 04-001-68.
    - b. Cat 6a: Superior Essex 10Gain Category 6a cable, 6A-272-4A (riser/white) and 6A-272-3B (plenum/gray). Where cable is to be installed in "wet" environments (underground conduit, conduit

installed in or under concrete slabs, etc.), utilize Superior Essex OSP Broadband Category 6a BBDN6A, 04-001-A4.

- c. All cables shall be Cat 6 except for wireless access points or where specifically called out as Cat 6a.

## 2.6 WALL PLATE

- A. Leviton QuickPort 2, 4, or 6-port wall plate with Designation ID Window, Stainless Steel, single-gang faceplate, 43080-1L2, 43080-1L4, or 43080-1L6. Provide blank filler for all unused ports.

## 2.7 MODULAR OUTLETS

- A. Cat 6: Leviton Category-6 eXtreme 6+ Connector, Crimson, 61110-RC6.
- B. Cat 6a: Leviton Category 6a eXtreme Connector, Green, 6110G-RG6.

## 2.8 WIRELESS ACCESS POINT (WAP) OUTLET

- A. At each wireless access point outlet, provide a 2-port outlet. One port shall be Cat 6 and one shall be Cat 6a.

## 2.9 MAIN DISTRIBUTION FACILITY (MDF)

- A. Description: The MDF exists. Contractor shall provide the following at the MDF:
  - 1. Products and Quantities:
    - a. Fiber Interconnect: Fiber Interconnect: Leviton Rack-Mount Fiber Optic Patch Panel, 4RU, with a transparent door, #5R4UH-S12. One unit is required for each 96 fibers entering the MDF.
    - b. Single Mode Coupling Panels/Couplers: Leviton SDX Precision Molded Plate (BLUE), single mode OS2, duplex SC, six fibers, zirconia ceramic sleeve, 5F100-6LC.
    - c. Fiber Jumpers: One 3-meter SC/SC single mode fiber jumpers is required for each IDF (i.e., if the MDF serves five IDFs, five jumpers are required). Provide two spare jumpers in addition to the required count (total of seven, using the example above). CP Technologies, SC/SC laser-optimized fiber jumper, SC2-SMD-03; or Leviton SC-SC laser-optimized OS2 fiber jumper, UPDSC-S03. Contact owner prior to purchase of fiber jumpers for exact connector requirements (i.e., SC vs. LC).
    - d. "D" Rings: Provide and install sufficient quantities of 2", 3", and 4" metallic "D" rings to conform to the drawings. Allen Tel GB13a (2"), GB13b (3"), and GB13c (4").

## 2.10 INTERMEDIATE DISTRIBUTION FACILITY (IDF)



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- A. Description: An IDF shall consist of a "fire-rated" plywood backboard, equipment rack or cabinet, fiber interconnect equipment, wire management, and wiring blocks. Contractor shall submit a floor plan and backboard/cabinet plan to Technology Services for approval prior to installation.

1. Products:

- a. Dependent upon the amount of equipment necessary in a particular IDF cabinet, the District has three standard sized cabinets:

- 1) Equipment Cabinets: Great Lakes, GL24WD, 24"H x 24"W x 32.13"D (24-48 data ports).
- 2) Equipment Cabinets: Great Lakes, GL36WD, 36"H x 24"W x 32.13"D (48-96 data ports).
- 3) Equipment Cabinets: Great Lakes, GL48WD, 48"H x 24"W x 32.13"D (96-above data ports).

- b. Fiber Interconnect: Leviton 1000i SDX 1RU Distribution and Splice Enclosure, empty, with sliding tray; accepts up to three SDX adapter plates or three SDX MTP cassettes and accepts up to three splice trays. 5R1UM-S03. One interconnect unit is required for each IDF.

- c. Modular Patch Panels:

- 1) Cat 6: Leviton QuickPort Patch Panel, 48-port, 49255-H48. All patch panels shall be fully populated with Cat 6 modular outlets. One port for each Cat 6 workstation served from the IDF with a minimum of 12 spare ports required. If the number of workstation cables, plus required spare count (12) is greater than 48, then an additional 48-port patch panel is required. Supply and install as many patch panels in the IDF as necessary to service all workstation cables plus the required spare count. Supply and install sufficient modular outlets (see "Workstation Outlets" below) to meet required data outlet count plus six spare.
- 2) Cat 6a: Leviton QuickPort Patch Panel, 24-port, 49255-H24. All patch panels shall be fully populated with Cat 6a modular outlets. One port for each Cat 6a workstation served from the IDF with a minimum of 12 spare ports required. If the number of workstation cables, plus required spare count (12) is greater than 48, then an additional 48-port patch panel is required. Supply and install as many patch panels in the IDF as necessary to service all workstation cables plus the required spare count. Supply and install sufficient modular outlets (see "Workstation Outlets" below) to meet required data outlet count plus six spare.

- d. Patch Cables:

- 1) Cat 6: Cat 6 Patch Cables: Leviton Atlas-X1 Cat 6 SlimLine boot patch cable, 5', orange, 6D560-050.
- 2) Cat 6a Patch Cables: Allen Tel snagless boot patch cable, 7', blue, ATG1007-BU.
- 3) Contractor shall purchase patch cables. (One patch cable is required for each patch panel termination.)

2. Required Accessories and Quantities:

- a. Coupling Panels/Couplers:

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- 1) Single Mode Coupling Panels/Couplers: Leviton SDX Precision Molded Plate (BLUE), single mode OS2, duplex SC, six fibers, zirconia ceramic sleeve, 5F100-6LC. Two single mode coupling panels are required for each IDF fiber interconnect unit installed.
- b. Fiber Jumpers: One 2-meter SC/SC duplex single mode fiber jumpers is required for each IDF. CP Technologies, SC/SC laser-optimized OS2 fiber jumper, SC2-SMD-02; or Leviton SC-SC laser-optimized OS2 fiber jumper, UPDSC-S02.  
Contact owner prior to purchase of fiber jumpers for exact connector requirements (i.e., SC vs. LC).
- c. Horizontal Wire Management: Panduit WMPH2E Closed Cover Wire Management Panel (19" covers). (One unit is required for each fiber interconnection).
- d. "D" Rings: Provide and install sufficient quantities of 2", 3", and 4" metallic "D" rings to conform to the drawings. Allen Tel GB13a (2"), GB13b (3"), and GB13c (4").

2.11 MISCELLANEOUS PRODUCTS

- A. Station Cables: Contractor shall purchase station cables. Station cables shall be 7' in length, blue in color, conforming to Category 6 protocol. (One station cable is required for each patch panel termination.) Leviton eXtreme Cat 6 SlimLine boot patch cable, 6D460-07L.
- B. Data Terminal Backboard: Architectural grade, APA type A-C, Group 1, Exposure 1, with sanded side exposed, and shall be painted with three coats of fire-retardant white paint. It shall be 3/4" in thickness, height/width determined by location and/or scope of work. Backboards shall be installed at MDF and IDF locations.
- C. Fire Pathways: Specified Technologies Inc. (STI) EZ-Path Fire Rated Pathway, EZDP33FWS.
- D. Cable Pathways: CPI OnTrac Cable Tray and accessories required for complete installation as specified by the manufacturer. Such accessories include, but are not limited to, underfloor, trapeze, or wall-mount supports as well as bend radii protection and earth grounding. Minimum tray size shall be 2"H x 6"W and in 5' or 10' sections as determined by field conditions. Increase tray dimensions as necessary to conform to cable fill with a 50% margin for future additions.
- E. Cable Supports: B-Line BCH12: <16 cables, B-Line BCH21: 17-50 cables. Utilize variant of above part numbers to conform to specific installation requirements (e.g., for an I-Beam, use the cable-to-beam variant, BCHxx-C2; for steel rod, use BCHxx-W2, etc.).
- F. Hook and Loop Cable Ties: Panduit Tak-Tape hook and loop cable ties, .75", TTS-20R0.

- G. Miscellaneous Hardware: Furnish and install all wire ties, D-rings, cable hangers, labels, nuts, bolts, screws, cable ties, etc. for a complete and functioning system.

### PART 3 - EXECUTION

#### 3.1 DIVISION OF WORK

- A. Contractor shall install the data communications system as described in this section. Installation shall result in a functional system pursuant to Section 3.3 below. The scope of work includes: (1) All necessary data components; (2) Repair of damage to structures incidental to installation; (3) Supply and install all material discussed in this specification; (4) Test and document system, upon completion; (5) Supply and install all material necessary, whether or not discussed in this specification, to result in a complete and functional system (except for electronic components, unless otherwise specified).

#### 3.2 GENERAL

- A. Equipment shall be installed in accordance with drawings. General installation provisions are as follows:
  - 1. Fiber Innerduct:
    - a. Quantities Required: Innerduct runs do not have to be continuous throughout, breaks are expected at the pullboxes. Contractor is responsible for determination of actual lengths of innerduct required. Enough innerduct shall be provided and installed to extend from the fiber service loop in the MDF to the fiber service loop in each IDF. If the route passes through a pullbox, the segments of innerduct shall extend 12" into the pullbox. If the route passes through an in-route IDF, each segment of innerduct shall extend at least 12" beyond the end of the service conduit. Seal all ends of the innerduct after the installation of the fiber is complete.
    - b. Fiber innerduct shall be installed in conduit in accordance with manufacturer's instructions and industry standards. Within the equipment rooms, the innerduct shall extend from the end of conduit to 4' above the floor or 2' from the ceiling and shall be affixed to the backboard by means of clamps designed for that purpose or 4" D-rings. Care shall be taken to avoid kinking the innerduct or applying excessive tension during the installation process.
  - 2. Fiber Distribution: Installation shall be conducted following guidelines established by the product manufacturer and industry standards. Installation includes complete assembly.
    - a. Fiber Optic Cable:
      - 1) All fiber optic cable shall be installed in innerduct.

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- 2) Installation shall be conducted following guidelines established by the product manufacturer and industry standards. Installation includes complete assembly.
  - 3) The optical fiber backbone shall be installed in a single, unbroken run, without splices or breaks. If splices are required, fusion splicing must be used. District must approve use of splices.
  - 4) There shall be no more than two 90° bends in any run of conduit for a single pull.
    - a) Conduits shall enter into pullboxes at 45° (no 90° bends).
    - b) Provide a 10' service loop at each pullbox.
    - c) Cable shall be pulled independently down each conduit segment between pullboxes.
  - 5) During installation of the fiber optic cable segments into the conduit system, special care shall be taken to avoid damage to the cable. While under pulling tension, the cable shall not be bent into a curve with a radius of less than 20 times the cable diameter. Pulling tension shall not exceed manufacturer's recommended maximum tensile load.
  - 6) Contractor shall utilize a winch with tension control or a "break-away" link designed to break away at or below the recommended maximum tension.
  - 7) The fiber optic cable shall be routed through the conduit and innerduct and onto the appropriate IDF backboard. Routing on the backboard shall be straight and plumb. A minimum 15' service loop shall be provided at each terminal location. Cable shall be routed on the backboard D-rings and secured to D-rings with cable ties. All cable shall be neatly bundled, combed, and tied.
3. Wiring Blocks and Wire Management Components: Should copper exchange cable be required by the drawings, it shall be terminated on rack mounted patch panels located on a dedicated equipment rack in such a manner that allows for neat and orderly cross connections. Standard 568 will be used for all terminations.
  4. Fiber Optics Interconnect Equipment: Interconnect equipment shall be mounted in the equipment racks. Interconnect equipment mounted in racks shall be affixed to the rack by at least four screws. The screws shall be of the correct size and thread configuration for the holes in the rack. They shall be tightened to the extent that they hold the equipment firmly to the rack, without distorting the equipment or stripping the threads. All fiber optics interconnect devices shall be assembled and installed in accordance with the manufacturer's instructions and recommendations.
  5. Patch Panels and Wire Management Components: Patch panels and wire management components shall be mounted on the equipment rack. Each device shall be mounted such that its horizontal dimension is level. Each device shall be affixed by means of screws suitable for fastening to the rack. The screws shall be of the correct size and thread configuration for the holes in the rack. A minimum of four of the mounting holes provided shall be utilized for fastening. Screws shall be tightened to the extent that they hold the device snug to the rack, but not so tight as to distort or

damage the device. Patch panels shall be terminated in accordance with the manufacturer's instructions and recommendations. Installation of accessories shall also be conducted in accordance with the manufacturer's instructions and recommendations.

6. Labeling:
  - a. Patch panel terminations shall be labeled sequentially (i.e. First patch panel shall be numbered 1-48, second panel shall be numbered 49-96, etc.).
  - b. With the exception of work station cables, hand written labels are not acceptable. All labels shall be machine printed on clear or opaque tape, stenciled onto adhesive labels, or typewritten onto adhesive labels. The font shall be at least 1/8" in height, block characters, and legible. The text shall be of a color contrasting with the label such that it may be easily read. If labeling tape is utilized, the font color shall contrast with the background. Patch panels shall exhibit workstation numbers, per District labeling scheme, for all workstations served by the MDF or IDF.
  - c. Each fiber optics cable segment shall be labeled at each end with its respective IDF identifier on both the cable ends and interconnect device coupling panel. Each fiber interconnect device shall be labeled with its respective IDF identifier as well as fiber optic cable type (62.5µm or 50µm). Fiber-optic interconnects shall be labeled utilizing template provided by owner.
  - d. Each data communications outlet shall be labeled with its respective workstation number (machine labels only). Workstation numbers shall be comprised of the IDF designator-station number (e.g., 1.3-12). Communication outlet labels shall be applied using pressure-sensitive adhesive under the faceplate ID window. Labels shall not be affixed on top of the window.
  - e. Each workstation cable shall be neatly hand labeled, using permanent ink or other permanent labeling medium, at each end with its respective workstation number. Each copper backbone cable shall be machine labeled at each end with its respective IDF number. Each binder group shall be tied off with its respective identifying ribbon at each break out point.
  - f. Data outlets terminated in an accessible ceiling space for wireless access points shall have a label affixed to both the data outlet box as well as the T-bar grid proximal to the data outlet.
  - g. There is to be no difference in the designation of data outlets used for wireless access, video surveillance systems, or voice over IP applications.
7. Warning Tags: At each location where the fiber cable is exposed to human intrusion, it shall be marked with warning tags. These tags shall be yellow or orange in color, and shall contain the warning: "CAUTION FIBER OPTIC CABLE." The text shall be permanent, black, block characters, and at least 3/16" high. A warning tag shall be permanently affixed to each exposed cable or bundle of cables, at intervals of not less than 5'. Any section of exposed cable which is less than 5' in length shall have at least one warning tag affixed to it. In pullboxes, affix tag to innerduct. All tags should be labeled noting type of cable (i.e. 12-strand 62.5µm) and end points (i.e. MDF 1.1 to IDF 1.2).

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8. In-ground Pullboxes and Vaults: All low-voltage cabling shall be neatly bundled, coiled, labeled, and affixed to the sides of in-ground pullboxes and vaults. Services should be separated and labeled as such (e.g., CATV, fire, clock/speaker, etc.) Attach J-hooks, spaced every 2' below the inside rim of the box such that the cable is protected from damage by the box cover. Hooks should be fastened with appropriately-sized concrete lag bolts or anchors. Bend radii precautions shall be observed for cables entering and existing boxes as well as for service loops. No cable should touch the bottom of the box or vault.
9. Workstation Cable and Outlets: Installation shall be conducted in accordance with guidelines established by the product manufacturer and industry standards. Category-6 compliant cable hangers shall be utilized for accessible ceiling space installations. Wall plates shall be mounted such that their vertical dimension is plumb. Each wall plate shall be labeled with its respective workstation number. Each modular mounting frame shall be labeled with its respective workstation number. Workstation cable shall be terminated to the patch panel in accordance with manufacturer's recommendations and EIA TSB-40.
  - a. Install cables in consistent consecutive order. Arrangement of cables on patch panels shall be in ascending order of outlet numbers. This includes cables installed for video surveillance, digital message boards, wireless access, etc. They should be installed on the patch panel at the next available termination point.
  - b. Do not bind cables tightly together with wraps. Wraps shall slip loosely around cable. The Contractor shall replace or rework cables showing evidence of improper handling including stretches, kinks, short radius bends, over-tightened bindings, loosely twisted and over twisted pairs at terminals, and sheath removed too far (> 1").
  - c. Do not crimp or bend cables into a tighter radius than recommended by the manufacturer.
  - d. Do not support cables from ceiling suspension system.
  - e. Provide 36" service loop for cables at each IDF. Locate loop at ceiling or on wall above IDF cabinet.
  - f. Provide 12" service loop at each telecommunications outlet/connector, above drop location.
  - g. Label each cable on both ends using a Sharpie Ultra-Point Series 37000 marker pen, on a self-laminating cable labels. Labels shall match the outlet and patch panel identification labels, and shall be located on the jacket not less than 3" nor more than 10" back from the point where the jacket is cut and stripped for cable termination.
  - h. Vertical runs of cable in the MDF/IDF should be routed on the backboard via D-rings and secured to D-rings with cable ties. D-rings should be placed 12" O.C. Cable should be neatly bundled, combed, and tied.
  - i. When utilizing new or existing conduit, do not exceed 40% fill. If new conduit is required, provide minimum 1" EMT, bushings, and all necessary appurtenances. Pull string or rope shall be installed/re-installed in all conduits utilized for this project.
  - j. Data outlets identified for wireless access points and located above the T-bar ceiling grid shall be terminated and installed in a two-port surface-mount block and mounted such that the outlet is no more

than 2' above the T-bar grid. Data outlets identified for wireless access and located in inaccessible, hard ceilings shall be terminated in a single-gang backbox and standard 2-port faceplate.

- k. The trade contractor shall make every effort possible to avoid running cables in "wet" environments. Should be limited to floor boxes and other locations where overhead routing is not practical. "Wet" environment is defined as cable routed through underground conduit, conduit installed in or under concrete slabs (on grade slabs, above the first floor, are not to be considered "wet," etc.).
10. Fiber optic and workstation cable shall be continuous without splices, breaks, or connectors, between equipment racks (MDF and IDF) and equipment rack to outlets.
11. Pull string or rope shall be installed/re-installed in all conduits utilized for this project, excluding intra-building conduit sleeves, 3' to 4' in length installed in accessible ceiling spaces.
12. Open Cable/Free-Air Support and Installation Pathways:
  - a. For purposes of this section, an "accessible ceiling" open-air pathway is defined being accessible from the finished floor directly below the cable pathway. This includes T-bar ceilings, provided the cable pathway doesn't run above HVAC ducting or other large obstructions. It excludes all attic-type spaces in which access is provided above a "hard" ceiling through a hatch. Cable runs through inaccessible ceilings (e.g. attic spaces) shall be in minimum 3/4" EMT conduit, sized such that the fill does not exceed 40%.
  - b. Where cables are indicated to be installed as 'Open Cabling' or 'Free-Air,' cable supports shall be installed to allow cabling to be grouped and run along a common path. Cables shall run parallel or at right angles to the building structure, and shall not be looped diagonally across the ceiling space. Cables shall be loosely bundled with cable ties at 30" on center. Provide Panduit Tak-Tape hook and loop cable ties at workstation and closet. No cable ties are to be use in the closet, or at the workstation. Provide plenum rated Panduit Tak-Tape hook and loop cable ties in spaces used to handle environmental air.
  - c. Where new cable shares a common path with existing cable, route both new and existing through cable supports. All workstation cable should be combined to provide a "clean" installation above accessible ceiling spaces. This includes replacing non-compliant hangers (e.g., D-rings) with appropriately sized and rated cable supports.
  - d. Do not support cables from ductwork, ceiling grids, sprinkler piping, water piping, waste piping, electrical conduit, etc. Do not utilize D-rings or other non-compliant supports for horizontal runs of Category 6 cable. D-rings may be used for vertical runs of cable (i.e., in the MDF between conduit and cable runway). Cable supports shall be permanently anchored to building structure or substrates. Provide attachment hardware and anchors designed for the structure to which attached, and that are suitably sized to carry the weight of the cables to be supported.
  - e. All cable installed under this section shall have dedicated supports. No other low-voltage cabling may share cable supports with data cabling.

- f. Maximum size cable bundles shall be 50 cables per J-Hook.
  - g. Maximum spacing for supports for open cable runs shall be 48".
  - h. Where MDF or IDF cable count exceeds 50 cables, provide cable pathway tray through center of buildings or hallways, or as shown on plans. Pathway supports shall be attached to building structure (wall or ceiling) using manufacturer-recommended bracket and spacing. Cut and bend pathway per manufacturer's instructions to avoid obstructions. Workstation cable will exit tray and be supported by J-hooks to conduit feeding workstation outlets.
  - i. All data, video, communication cable bundles shall utilize an enclosed fire-rated pathway device wherever cables penetrate fire-rated walls. Install the devices in strict accordance with the approved shop drawings and the equipment manufacturer's recommendations. Apply the factory supplied gasketing material prior to the installation of the wall plates. Secure wall plates to devices per the equipment manufacturer's recommendations.
  - j. Fire seal around all conduits running through rated floors and walls in accordance with Section 26 05 00. Does not apply to free-air installations, utilized fire-rated pathway for such installations.
13. Active Distribution Equipment (hubs, switches, etc.): Contractor shall install owner-provided active distribution equipment at MDF and IDF locations. Contractor will be responsible for mounting equipment on relay rack or in communications cabinet and providing necessary power. Owner shall be responsible for purchasing, configuring, and providing equipment to contractor as needed.
- In addition, contractor shall be responsible for patching in all active patch panel drops and fiber connections (one pair per IDF) to active distribution equipment. Connections to be sequential (i.e., patch panel port #1 to switch port #1), dressed, and routed through horizontal and vertical wire management units. Neatly bundle cable at the MDF/IDF utilizing Panduit Tak-Tape hook and loop cable ties. No cable zip ties are to be used in the IDF. Patch cables, fiber jumpers, and wire management units provided by contractor, as specified under Part 2 of this document.

### 3.3 TESTING AND DOCUMENTATION

- A. After all equipment specified herein has been installed and is in operating condition, performance tests shall be conducted to determine that installation and components comply with these specifications. Contractor shall furnish competent personnel for these tests. Tests shall be conducted through the entire copper pathway, including workstation cable and data outlets.
- B. Testing: Contractor shall test each fiber strand and each pair of each twisted pair copper cable. The Owner reserves the right to have a representative present during all or a portion of the testing process. If the Owner elects to be present during testing, test results will only be acceptable when conducted in the presence of the Owner.
- C. Testing UTP Cable and Links:



1. All UTP cabling will be certified to meet and or exceed the specifications as set forth in ANSI/TIA-568-C.2, for permanent links. Certifications shall include the following parameters for each pair of each cable installed:
  - a. Wire map (pin to pin connectivity)
  - b. Length (in feet)
  - c. Attenuation
  - d. Near End Crosstalk (NEXT)
  - e. Far End Crosstalk (FEXT)
  - f. Equal-Length Far End Crosstalk (ELFEXT)
  - g. PowerSum Equal-Length Far End Cross Talk (PSELFEXT)
  - h. Attenuation/Crosstalk Ratio (ACR)
  - i. Return Loss
  - j. Propagation Delay
  - k. Delay Skew

Owner reserves the right to spot check the test results (either by owner or by hiring an independent testing company). If the results vary more than 10% from the results provided by the Contractor, the Contractor will be required to prove his results are correct or retest the entire system.

D. Optical Fiber Testing:

1. Acceptance Testing: Test each strand of every optical fiber cable on the reel with an OTDR, to verify length and continuity. Fiber cables that have been damaged in transit must be replaced. Contractor-installed fiber cable that proves to be defective will be replaced at the contractor's expense.
2. Final Testing: After terminating optical fiber cables one of the individual fibers of each cable segment will be tested using an OTDR, both to determine the installed length and continuity. All individual fibers of each cable segment will be tested using a power meter to determine the actual loss. These readings will be taken at the 850 nm and 1300 nm windows for multimode and 1310 nm and 1550 nm windows for single mode (if applicable). Testing will be in both directions. The final readings will be listed on the Optical Fiber Test Form. These readings must not be higher than the "Optimal Attenuation Loss". The OAL will be calculated using the manufacturer's factory certified test results, (dB/km) converted to the actual installed lengths plus the manufacturer's best published attenuation losses for the connector and/or splice installed on this project. (0.20 for connectors and 0.10 for splices.) The OAL shall be used for comparison with the end to end power loss test results prior to acceptance by the Owner.

E. Documentation: Contractor shall provide documentation to include test results and as-built drawings. All test results shall be submitted via CD-ROM, formatted as PDF files from the test equipment. Summary reports are not acceptable.

1. Fiber Test Results: The results of the fiber optic cable tests shall be provided in the form of print-outs from the test equipment. Only original signed copies will be acceptable. Test results to include at least: date/time of test, test type, number of connectors, number of splices, fiber type, fiber length (feet), loss (in dB for both fiber and connectors) at all tested windows (see above), and margins (dB and/or percentages).

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2. Workstation Cable: The results of the workstation cable tests shall be provided in the form of print-outs from the test equipment as PDF documents.
3. As-Built Drawings: As-Built one-line and wiring diagrams, with terminations identified, wire color coding schedule, pullbox locations, and full conduit/cable routing plans shall be provided as electronic AutoCAD .dwg file markups.
4. All documentation in this section must be provided to the Owner's IT department within 14 calendar days of substantial job completion. This timeline is independent of other contract sections.

3.4 OWNER FURNISHED CONTRACTOR INSTALLED (OFCI) ITEMS

- A. All wireless access points, MDF and IDF switches shall be furnished by the Owner and installed by the contractor.
- B. All classroom wireless access points shall be installed on the ceiling, in the center of the room, unless noted otherwise on the drawings.

3.5 ACCEPTANCE

- A. Acceptance of the Data Communications System, by Owner, shall be based on the results of testing, functionality, and the receipt of documentation. With regard to testing, all fiber segments and all work station data cables must meet the criteria established in Section 3.3 above. With regard to functionality, Contractor must demonstrate to Owner that 1 Gbps data signals can be successfully transmitted, bi-directionally, from the MDF to and from some number of individual data outlets. The number of outlet locations to be tested shall be determined by Owner. With regard to documentation, all required documentation shall be submitted to Owner.
- B. Owner will not consider system complete and ready for use until all backbone and horizontal cable is terminated and successfully tested, all patch cables have been provided and installed, and all station cables turned over to owner.

END OF SECTION



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**FIRE ALARM SYSTEM**

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Furnish and install a new smoke detectors to the existing addressable fire alarm system including all wiring and connections and other materials as shown on Plans and specified herein. It is the intent that a complete operating system conforming to all applicable codes be installed and that any power supplies, relays, resistors, cards, modules, programming, or other items required to achieve this end result shall be furnished whether or not such item or items are specified herein.
- C. Site and System Investigation: Fire Alarm System bidder shall visit site prior to bid and become thoroughly knowledgeable about existing system and work required to perform work of this section. Failure to discover the equipment, materials, and labor required to complete the extensions will not relieve the contractor from completing the work at no additional cost.

1.2 GENERAL REQUIREMENTS

- A. Code Requirements: System and all its components to meet requirements for local alarm system of National Fire Protection Association Standard 72, 2016 Edition, Americans with Disabilities Act (ADA), and Article 760, California Electrical Code, and to be approved by Division of the State Architect.
- B. System Requirements: All of various equipment components to be complete with all appurtenant accessories required to provide specified facilities and perform specified functions throughout presently planned construction and space; and provisions for expanding system to provide same facilities, and perform same functions in all future planned construction, including space and mountings in control panels and terminal cabinets.

1.3 ACTION SUBMITTALS

- A. Installation of the fire alarm system and equipment shall not be started until submittals, including State Fire Marshal listing numbers for each component of the system, have been submitted to and approved by the Architect. Fire alarm submittals must be provided.

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- B. Submittals: Engineer's drawings and specifications are presented to define the general scope of the work. Contractor's submittal shall not be a duplication of the engineer's drawings but shall be a result of site and system investigation and shall show all the work required to complete the requirements of this section. Submittals shall be complete and include 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 existing system and submittal shall include manufacturer's letter of confirmation. Proposed firm shall furnish all equipment and specialty cables, 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. The contractor installing the fire alarm system must have NICET Certified Technicians on staff. There shall be at least one NICET Level III or IV fire alarm systems certified technician on staff at the local office to review the submittals and plans prior to submission. In addition, the on-site job supervisor for the installing contractor must be a Level II (or higher) NICET certified in fire alarm systems. Certificates of all individuals must be included with the submittals. Failure to provide proof of certification will be cause for rejection of the submittals without further review. The rejection of the submittals for this reason will count as a submittal review/rejection.

Also, refer to requirement for shop drawings, substitutions, materials, and submittals in Section 26 05 00. 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. Incomplete submittals (such as product data submitted without shop drawings, etc.) will be returned without review.

1. Fire alarm system design and products have been reviewed and approved by DSA. Alterations to design and/or substitutions proposed by the contractor shall require the following to be included with the fire alarm submittal:
  - a. Riser diagram.
  - b. Point-to-point diagram.
  - c. Mounting detail showing elevations of wall mounted devices.
  - d. List of system components, equipment, and devices, including manufacturer's model number(s) and California State Fire Marshal listing numbers.
  - e. Copies of manufacturer's specification sheets for equipment and devices indicated.
  - f. Voltage drop calculations -- include the following information for the worst case:
    - 1) Point-to-Point or ohms law calculations.
    - 2) Zone used in calculations.
    - 3) Voltage drop percent [not to exceed manufacturer's requirements]. Note: If voltage drop exceeds 10%, indicate

- manufacturer's listed operating voltage range(s) for equipment and devices.
- g. Battery type(s), amp hours, and load calculations -- include the following information:
- 1) Normal Operation: 100% of applicable devices for 24 hours = control panel amps plus list of amps per device which draw power from the panel during standby power condition -- i.e.:
    - a) Zone modules.
    - b) Detectors.
    - c) Other devices [identify].
  - 2) Alarm Condition: 100% of applicable devices for 5 minutes (15 minutes for voice evacuation) = control panel amps plus list of amps per device which draw power from the panel during alarm condition -- i.e.:
    - a) Zone modules.
    - b) Signal modules.
    - c) Detectors.
    - d) Signal devices
    - e) Annunciator.
    - f) Other devices [identify].
  - 3) Normal Operation + Alarm Condition:
    - a) Total amp hours required.
    - b) Total amp hours provided.

#### 1.4 CLOSEOUT SUBMITTALS

##### A. Manuals:

1. Equipment supplier of systems to furnish Owner three wiring schematics for all items of equipment, installation instructions, and details of all routine maintenance and servicing which must be given systems by Owner. Manuals shall be provided in 3-ring binders, with title page, list of contents, and conspicuous label on cover and shall be delivered to District. Refer to Section 26 05 00 for additional requirements. Submit copy to Architect for approval before delivering to Owner.
2. Furnish to District a printed copy of the fire alarm control panel programming upon completion of final system programming.

#### 1.5 RECORD DOCUMENTATION

- ##### A. Record Drawings: Refer to General Conditions. Final Inspection will not be made until drawings are received and approved. Record Drawings shall include "As-Built" one-line and wiring diagrams, with terminations identified, wire color coding schedule, pullbox locations, and conduit routing plans. Record drawings shall include FINAL addresses for all devices.

#### 1.6 QUALIFICATIONS

A. Contractor Certification:

1. Fire alarm system installer shall be State certified as a Fire/Life Safety Technician by the Division of Apprenticeship Standards.
2. The contractor installing the fire alarm system must have NICET Certified Technicians on staff. There shall be at least one NICET Level III or IV fire alarm systems certified technician on staff at the local office to review the submittals and plans prior to submission. In addition, the on-site job supervisor for the installing contractor must be a Level II (or higher) NICET certified in fire alarm systems. A minimum of 30% of personnel on-site must be NICET certified.
3. Certificates of all individuals must be included with the submittals. Failure to provide proof of certification will be cause for rejection of the submittals without further review. The rejection of the submittals for this reason will count as a submittal review/rejection.

1.7 GUARANTEE

A. Guarantee:

1. One firm to assume full responsibility for performance on all work of this section. Guarantee all equipment against defects in material and workmanship for two years and provide on-the-premises service during normal working hours for two years, at no cost to Owner if trouble is not caused by misuse, abuse, or accident, or at current labor rates if so caused. Provide manufacturer's written guarantee for equipment and parts.
2. Service shall normally be available within 24 hours from service department of authorized distributor of manufacturer by factory trained servicemen.
3. On-the-premises service at other than normal working hours to also be available, but labor charges for such calls to be paid by purchaser at Owner labor rates.

PART 2 - PRODUCTS

2.1 SYSTEM OPERATION

- A. Activation of any manual station or automatic detector shall cause the operation of all audible and visual signals. In addition to sounding local alarm signals, operation of manual stations or automatic detectors shall activate a digital communicator for two (2) methods of communication reporting per NFPA 72, Section 26.6.4.1.4 to remote SB575 compliant supervisory station. Remote station monitoring shall be coordinated by the Contractor with the Owner.
- B. The system shall be electrically supervised against open circuits and grounds on the wiring to the alarm and initiating devices.

- C. Contractor shall ensure synchronization of visual devices where required by NFPA 72.

## 2.2 STANDARD PRODUCTS

- A. Equipment and accessories furnished under the terms of these specifications shall be the standard products of the manufacturers specified or required. All equipment shall be listed by U.L. and State Fire Marshal. New equipment shall be Gamewell FCI E3 system.
- B. Refer to drawings for devices used.
- C. Manual alarm-initiating devices shall be for semi-flush mounting, double action, non-break glass type, located as shown on plans. Each manual station shall have its own address. Manual stations shall conform to DSA Access Compliance requirements. Operation of the manual station shall not require grasping of the handle. See fire alarm equipment schedule on plans.
- D. Heat Detectors (Addressable): Shall be rate-of-rise type, 135°F. See fire alarm equipment schedule on plans.
- E. Heat Detectors (Addressable, 200°F): Shall be fixed temperature, 190°F. See fire alarm equipment schedule on plans.
- F. Smoke Detectors: Shall be addressable, photoelectric type with test switch, LED status indicator, and tamperproof locking base, See fire alarm equipment schedule on plans.
- G. Monitor Modules: Shall provide an address for a group of normally open initiating devices. See fire alarm equipment schedule on plans.
- H. Control Modules: Shall provide a single Form-C (SPDT) dry contact. See fire alarm equipment schedule on plans.
- I. Audible/Visual Devices: All fire alarm devices shall be UL listed and meet ADA requirements. All devices shall have a red finish. All fire alarm audible devices shall have the same basic sound and "temporal" pattern (ANSI S3.41). Piezo horns and mini-horns are not acceptable. Strobes shall be synchronized.
- J. Visual Fire Alarm Indicating Devices:
  - 1. Wall Mounted Strobe: Shall be semi-flush mounted, LED flasher type. See fire alarm equipment schedule on plans. Refer to drawings for Candela settings.
- K. Voice Evacuation Speakers:
  - 1. Exterior Speaker: Shall be surface mounted, See fire alarm equipment schedule on plans.



- L. Voice Evacuation Combination Speaker/Visual Alarm Indicating Devices:
  - 1. Wall Mounted Speaker/Strobe: Shall be semi-flush mounted. Speaker shall have field selectable 25V or 70V input and power taps from 1/8 watt to 2 watts. Strobe shall be LED flasher type. Refer to drawings for Candela settings. See fire alarm equipment schedule on plans.
  - 2. Ceiling Mounted Speaker/Strobe: Shall be semi-flush mounted. Speaker shall have field selectable 25V or 70V input and power taps from 1/8 watt to 2 watts. Strobe shall be LED flasher type. Refer to drawings for Candela settings. See fire alarm equipment schedule on plans.
- M. Sync Module: See fire alarm equipment schedule on plans.
- N. Signal Extender Panel Remote Power Supply (Field Charging Power Supply "FCPS"): Shall provide a minimum of four output notification appliance circuits and include 7.0 Ah batteries. Label all power supplies "FCPS" with number shown on plans. See fire alarm equipment schedule on plans.
- O. Voice Evacuation Audio Booster: See fire alarm equipment schedule on plans.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION REQUIREMENTS

- A. Electrical Contractor shall retain the services of the duly appointed representative as specified hereinbefore, who shall furnish all equipment, make all connections to same, and place system in operation. Technician and workman employed shall be particularly skilled in this type of work. Technicians and workmen must have NICET certification as required hereinbefore. Fire alarm system contractors shall possess a valid C10 California Electrical Contractors license. Only contractors holding a valid license may perform any fire alarm work.
- B. Detector locations shown on drawings are approximate only. Exact locations shall be coordinated with lighting and mechanical equipment and shall be placed in accordance with manufacturer's recommendations (with respect to supply air diffusers, etc.).
- C. Detectors, strobes, speakers, and speaker/strobes in student toilet rooms and multipurpose room shall be provided with wire guards.
- D. Fire alarm circuits shall be terminated on screw terminals. Terminal blocks shall be Allen-Bradley Bulletin 1492 with 600V screw terminals for #22 to #10 conductors, mounted to type N22 channel, or approved equal. Submittal shall show internal elevation of terminal cabinets or backboards with equipment laid out.

- E. All cables entering terminal cabinet shall be identified with Brady or E-Z Code wire markers. Upon completion of installation, six copies of one-line "as-built" wiring diagram shall be furnished to Architect.
- F. Each cable run on wiring diagram shall be identified with exact wire marker code (numerical or alphabetical) as appears in terminal cabinets.
- G. Station locations shall be identified by school's actual room numbers and system shall be programmed accordingly. Coordinate actual room numbers with District. Coordinate final programming with District. Contractor shall furnish a printed copy of final programming to District.
- H. End-of-line resistors shall be installed in terminal cabinets.
- I. Color code wiring for the system to match existing color coding scheme.
- J. No splices shall occur in underground pullboxes. Fire alarm system wiring shall be continuous, without splices, from terminal cabinet to signal cabinet and signal cabinet to devices. All interior pullboxes shall be accessible and locations shall be recorded on "As-Built" drawings.

### 3.2 CONSTRUCTION MEETINGS

- A. The Contractor shall schedule construction meetings at the jobsite as follows:
  - 1. Pre-rough-in meeting shall occur before installation of any boxes, raceways, etc. Exact locations of all detectors and strobes shall be established as recommended by Fire Alarm System subcontractor.
  - 2. Prewire meeting shall occur after raceways are installed and prior to pulling of any wire or cable.
  - 3. Pre-termination meeting shall occur after wire and cable has been installed and prior to termination.
- B. Meetings shall be scheduled by the Contractor on a building by building basis and shall include the Project Inspector, School's Representative, the electrical subcontractor, and the Fire Alarm System subcontractor as a minimum.

### 3.3 TESTS

- A. After all equipment specified herein has been installed and is in operating condition, performance tests shall be conducted by the Contractor in accordance with, but not limited to, Table 14.4.3.2, NFPA 72 to verify that installation and components comply with these specifications. Contractor shall furnish competent personnel for these tests. Testing shall be scheduled with the Owner and shall occur after receipt by Architect of Contractor's written certification of completion, record one-line diagram, wiring diagrams, maintenance and operation manuals, and other "As-Built" data required by these specifications.

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- B. Upon completion of the installation of the fire protective signaling equipment and after satisfactory performance tests have been conducted, a satisfactory demonstration of the entire system shall be made in the presence of the Project Inspector. Contractor shall coordinate with Project Inspector and School. Demonstration shall be completed prior to occupancy by School and prior to final testing with the Owner.
- C. After system has been completely tested, the Contractor shall take the following actions with the Owner:
  - 1. The Contractor will schedule a meeting with the Alarm Sub-contractors and Owner's Representatives to determine alarm zone and device nomenclature. The Contractor shall insure that the alarm zone and device nomenclature matches the actual building and room numbers used by the school. Architectural numbering shall not be used. Once confirmed, the Contractor shall demonstrate this to Owner's Representatives.
- D. The equipment and systems referenced in this section are to be formally commissioned per Division 01 Commissioning Section. The formal commissioning process requires the active participation and cooperation of all contractors performing work and/or supplying materials for this project. The contractor may have specific contract requirements for scheduling, coordination, startup, test development, testing, demonstration, training, and related documentation. The contractor shall review Division 01 of the bid documents to determine specific contract requirements related to commissioning. The contractor shall coordinate all commissioning activities with the Commissioning Authority.

3.4 FIRE ALARM SYSTEM CERTIFICATION

- A. Fire Alarm System Certification: Written certification on the forms found in Figures 7.8.2(a) through 7.8.2(l), NFPA 72 shall be submitted by the Contractor to Project Inspector stating for himself and the equipment manufacturer that component parts are as LISTED AND APPROVED BY State Fire Marshal, that the installation conforms in all respects to requirements as set forth in the California Electrical Code, that acceptance testing has been performed in the presence of the Project Inspector. Contractor shall complete and sign form and submit to Project Inspector.

3.5 DEMONSTRATION

- A. Equipment supplier of systems to demonstrate operation of systems to satisfaction of Owner.
- B. Supplier shall demonstrate operation of systems and provide training to all end users, administrative staff, and system administrator. Coordinate times of instruction with District, at District's convenience. Supplier shall provide a minimum of two hours of user instructions to clerical staff and four hours of user/maintenance instructions to District maintenance personnel. Instruction

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periods shall not coincide and shall be scheduled with District, not school staff.  
District shall provide list of authorized personnel for training sessions.

END OF SECTION



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**SITE CONCRETE**

PART 1 - GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 014500, Testing Lab Services.
- B. Section 310000, Earthwork.

1.03 QUALITY ASSURANCE

- A. Use only new materials and products.
- B. Use materials and products of one manufacturer whenever possible.
- C. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.
- D. Sieve analysis from testing laboratories identifying rock/sand percentages within the concrete mix; or class 2 aggregate base shall have the current project name and project location identified on the report. Outdated analytical reports greater than 90 days old will not be accepted

1.04 SUBMITTALS

- A. Refer to Section 133300.
- B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.
- C. Materials list: Submit to the Architect a complete list of all materials proposed to be used in this portion of the work. Submitted items should include but are not limited to sand, gravel, admixtures, surface treatments, coloring agents, sealers, fibers, cast-in-place accessories, forming and curing products and concrete mix designs.
- D. With concrete submittal, provide documented history of mix design performance.

1.05 WARRANTY

- A. Refer to General Conditions and Section 017836.

1.06 REFERENCES AND STANDARDS

- A. California Building Code, latest edition.
- B. ACI Standards, ACI 211.1, ACI 318-14, ACI 302, IR-04, ACI 301-16, ACI 305R-10, ACI 306R-16, ACI 308-16.
- C. ASTM C-94, Specification for Ready-Mixed Concrete.
- D. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice (latest edition).
- E. ASTM – American Society for Testing and Materials.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver undamaged products to job in manufacturer's sealed containers and/or original bundles with tags and labels intact.
- B. Store materials in protected, dry conditions off of ground and in areas so as to not interfere with the progress of the work.
- C. Transport, store and handle in strict accord with the manufacturer's written recommendations.
- D. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.
- E. Store cement in weather tight building, permitting easy inspection and identification. Protect from dampness. Lumpy or stale cement will be rejected.
- F. Aggregates: Prevent excessive segregation, or contamination with other materials or other sizes of aggregate. Use only one supply source for each aggregate stock pile.

1.08 TESTING

- A. General: Refer to Section 014000 – Quality Requirements.
- B. Cement and Reinforcing shall be tested in accordance with CBC Section 1910A. Testing of reinforcing may be waived in accordance with Section 1910A.2 when approved by the Structural Engineer and DSA.

1.09 ADEQUACY AND INSPECTION

- A. Design, erect, support, brace and maintain formwork and shoring to safely support all vertical and lateral loads that might be applied until such loads can be carried by concrete.

- B. Notify Inspector, Architect and DSA at least 48 hours prior to placing of concrete.

#### 1.10 PROTECTION

- A. Finish surfaces shall be protected at all times from concrete pour. Inspect forming against such work and establish tight leak-proof seal before concrete is poured. Finish work damaged, defaced or vandalized during the course of construction shall be replaced by contractor at contractor expense.

#### 1.11 FIELD MEASUREMENTS

- A. Make and be responsible for all field dimensions necessary for proper fitting, slopes and completion of work. Report discrepancies to Architect before proceeding.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. Cement: Portland cement, ASTM C150, Type II, per ACI 318-14 Section 26.4.
- B. Concrete Aggregates: Normal weight aggregates shall conform to ASTM C33, except as modified by this section. Combined grading shall meet limits of ASTM C33. Lightweight aggregate shall conform to ASTM C330, suitably processed, washed and screened, and shall consist of durable particles without adherent coatings.
- C. Water: Clean and free from deleterious amounts of acids, alkalis, scale, or organic materials and per ACI 318-14 Section 26.4.1.3.1.
- D. Fly Ash: Western Fly Ash, conforming to ASTM C618 for Class N or Class F materials (Class C is not permitted). Not more than 15% (by mass) may be substituted for portland cement.
- E. Water Reducing Admixture: Admixture to improve placing, reduce water cement ratio, and ultimate shrinkage may be used. Provide WRDA 64 by Grace Construction Products or approved equal. Admixture shall conform to ASTM C494 and ACI 318-14 Section 26.4.1.4.19(a). Such admixture must receive prior approval by the Architect, Structural Engineer, and the Testing Lab, and shall be included in original design mix.
- F. Air-entraining Admixture: Daravair 1000 by Grace Construction Products or approved equal. Admixture must conform to ASTM C260 and ACI 318-14, section 26.4.1.4.
- G. Exterior Flatwork Expansion Joint Sealant: 1-part polyurethane sealant, Sikaflex -1c SL or approved equal.
- H. Surface Retarder (for exposed aggregate finishes): Rugasol-S by Sika Corporation or approved equal.



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- I. Form Coating: Material which will leave no residue on concrete surface that will interfere with surface coating, as approved by the Architect.
- J. Expansion Joint Material: Preformed 3/8" fiber material, full depth of concrete section, with bituminous binder manufactured for use as concrete expansion joint material, as accepted by the Architect.
- K. Reinforcement Bars: New billet steel deformed bars conforming to requirements of ASTM A615 or ASTM A706; Grade 60. Dowels for installation through expansion joints or construction joints to existing sidewalks or concrete features shall be smooth or shall be sleeved on one end for slippage.
- L. [EDIT NOTE remove if wire not used] Wire Mesh: 6"x6" #10 W.W.F. in 5'x10' flat sheets. 6"x6" #10 wire rolls will not be accepted.
- M. Reinforcing supports: Galvanized metal chairs or spacers or metal hangers, accurately placed 3'-0" O.C.E.W. Staggered and each support securely fastened to steel reinforcement in place. Bottom bars in footings may be supported with 3" concrete blocks with embedded wire ties. Concrete supports without wire ties will not be allowed.
- N. Truncated Domes: Vitrified Polymer Composite (VPC), Cast-In-Place Detectable/Tactile Warning Surface Tiles; "Armor-Tile", "Access Tile Tactile Systems", or approved equal. Tiles shall comply with Americans with Disabilities Act and the California Code of Regulations (CCR) Title 24, Part 2, Chapter 11B. Install tiles as recommended by manufacturer.
  - 1. Color: As selected by the Architect.
- O. Curing Compound (for exterior slabs only): Burke Aqua Resin Cure by Burke by Edoco, 1100 Clear by W.R. Meadows or accepted equal. Water based membrane-forming concrete curing compound meeting ASTM C 309 and C1315.
- P. Concrete Bonding Agent: Weld-Crete by Larson Products Corp., Daraweld C by Grace Construction Products or accepted equal.
- Q. Patching Mortar: Meadow-Crete GPS, one-component, trowel applied, polymer enhanced, shrinkage-compensated, fiber reinforced, cementitious repair mortar for horizontal, vertical and overhead applications as manufactured by W.R. Meadows or accepted equal.
- R. Non-shrink Grout: Masterflow 713 Plus by Master Builders or approved equal. Premixed, non-metallic, no chlorides, non-staining and non-shrinking per CRD-C621, Corps of Engineers Specification and ASTM C 1107, Grades B and C.
- S. Aggregate Base: Class 2 AB per Caltrans specification section 26-1.02A.
- T. Joint sealant for expansion joints: Single component silicone sealant, Type S, ASTM D5893

- U. Pre- Formed plastic Expansion Joint; W.R. Meadows 3/8" "Snap Cap", Tex-Trude expansion joint cap, or an approved equal.
- V. Adhesive Anchoring (Epoxy): Hilty HIT-HY 200 Safe Set, or approved equal.

## 2.02 CONCRETE DESIGN AND CLASS

- A. Class "B": Concrete shall have 1" max. size aggregate, shall have 3000 psi min. at 28 day strength with a maximum water to cementitious ratio no greater than 0.50. Use for exterior slabs, including walks, vehicular paved surfaces, manhole bases, poured-in-place drop inlets, curbs, valley gutters, curb & gutter and other concrete of like nature.
- B. Slump Limits: Provide concrete, at point of final discharge, of proper consistency determined by Test Method ASTM C143 with a slumps of 4" plus or minus 1".
- C. Mix Design: All concrete used in this work will be designed for strength in accordance with provisions of ASI 318-14 Section 26.4. Should the Contractor desire to pump concrete, a modified mix design will need to be submitted for review. Fly ash may be used in concrete to improve workability in amounts up to 15% of the total cementitious weight.
- D. Air Entrainment; Per the Local Jurisdiction minimum requirements, or 3% minimum.

## 2.03 MIXING OF CONCRETE

- A. Conform to requirements of CBC, Chapter 19A.
- B. All concrete shall be mixed until there is uniform distribution of material and mass is uniform and homogenous; mixer must be discharged completely before the mixer is recharged.
- C. Concrete shall be Ready-mixed Concrete: Mix and deliver in accordance with the requirements set forth in ASTM C94 and ACI 301. Batch Plant inspection may be waived in accordance with CBC Section 1705A.3.3.1, when approved by Structural Engineer and DSA.
  - 1. Approved Testing Laboratory shall check the first batching at the start of the work and furnish mix proportions to the Licensed Weighmaster.
  - 2. Licensed Weighmaster to positively identify materials as to quantity and to certify to each load by ticket.
  - 3. Ticket shall be transmitted to Project Inspector by truck driver with load identified thereon. Project Inspector will not accept load without load ticket identifying mix and will keep daily record of pours, identifying each truck, its load and time of receipt and will transmit two copies of record to DSA.
  - 4. At end of project, Weighmaster shall furnish affidavit to DSA on form satisfactory to DSA, certifying that all concrete furnished conforms in every particular and to proportions established by mix designs.
  - 5. Placement of concrete shall occur as rapidly as possible after batching and in a manner which will assure that the required quality of the

concrete is maintained. In no case may concrete be placed more than 90 minutes from batch time.

6. Water may be added to the mix only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. In no case shall more than 10 gallons of water shall be added to a full 9 yard load, or 1 gal. per yard on remaining concrete within the drum providing load tag indicates at time of mixing at plant will allow for additional water.

#### 2.04 MATERIALS TESTING

- A. Materials testing of concrete and continuous batch plant inspection may be waived in accordance CBC Sections 1704A.4.4 when approved by Structural Engineer and DSA.
- B. Testing of concrete shall be performed per article 3.07 of this specification.

#### 2.05 EQUIPMENT

- A. Handling and mixing of concrete: Project Inspector may order removal of any equipment which in his opinion is insufficient or in any way unsuitable.

### PART 3 - EXECUTION

#### 3.01 APPROVAL OF FORMS AND REINFORCEMENTS

- A. Forms and reinforcements are subject to approval by the Project Inspector, and notice of readiness to place first pour shall be given to DSA, Architect and Structural Engineer 48 hours prior to placement of concrete. Before placing concrete, clean tools, equipment and remove all debris from areas to receive concrete. Clean all reinforcing and other embedded items off all coatings oil, and mud that may impair bond with concrete.
- B. All reinforcing steel and or W.W.F. shall be adequately supported by approved devices on centers close enough to prevent any sagging.
- C. All reinforcing bar lap splices shall be staggered a minimum of 5 ft.
- D. W.W.F. shall be lapped a minimum of 6" on each side of sheets and 12" on each end. Laps shall be wired together 2ft on center maximum spacing. End laps shall be staggered 2'-0" minimum from adjacent reinforcement.
- E. Additional reinforcing steel shall be placed around all utility boxes, valve boxes, manhole frames and covers that are located within the concrete placements.
  1. The bars shall be placed so that there will be a minimum of 1 ½" clearance and a maximum of 3" clearance. The reinforcing steel shall be placed mid-depth of concrete slab.
- F. At all right angles or intersections of concrete walks, additional 2'x2' #5, 90 degree bars shall be added at all inside corners for additional crack control. The bars shall be placed 2" from concrete forms and supports at mid-depth of

slab.

**3.02 PROTECTION**

- A. Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.
- B. In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.
- C. Sub-Grade in vehicular concrete paved areas: Subgrade shall be clean, shaped and compact to hard surface free from elevations or depressions exceeding 0.05' in 10' from true plan. Compact per Section 310000. Compaction and moisture content shall be verified immediately prior to placement of concrete. Proof roll subbase in presence of geotechnical engineer prior to placement of aggregate base.

**3.03 CLEANING**

- A. Reinforcement and all other embedded items at time of placing concrete to be free of rust, dirt oil or any other coatings that would impair bond to concrete.
- B. Remove all wood chips, sawdust, dirt, loose concrete and other debris just before concrete is to be poured. Use compressed air for inaccessible areas. Remove all standing water from excavations.

**3.04 FORMING**

- A. Form material shall be straight, true, sound and able to withstand deformation due to loading and effects of moist curing. Materials which have warped or delaminated, or require more than minor patching of contact surfaces, shall not be reused.
- B. Build forms to shapes, lines, grades and dimensions indicated. Construct form work to maintain tolerances required by ACI 301. Forms shall be substantial, tight to prevent leakage of concrete, and properly braced and tied together to maintain position and shape. Butt joints tightly and locate on solid backing. Chamfer corners where indicated. Form bevels, grooves and recesses to neat, straight lines. Construct forms for easy removal without hammering, wedging or prying against concrete.
- C. Space clamps, ties, hangers and other form accessories so that working capacities are not exceeded by loads imposed from concrete or concreting operations.
- D. Build openings into vertical forms at regular intervals if necessary to facilitate concrete placement, and at bottoms of forms to permit cleaning and inspection.
- E. Build in securely braced temporary bulkheads, keyed as required, at planned locations of construction joints.

- F. Slope tie-wires downward to outside of wall.
- G. Brace, anchor and support all cast-in items to prevent displacement or distortion.
- H. During and immediately after concrete placing, tighten forms, posts and shores. Readjust to maintain grades, levels and camber.
- I. Concrete paving, Curbs, Curb and Gutters, Ramps:
  - 1. Expansion Joints: Install at locations indicated, and so that maximum distance between joints is 20' for exterior concrete unless otherwise shown. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant where required. Expansion joints shall not exceed ¼ inch depth measured from finish surface to top of felt or sealant, and ½ inch width.
  - 2. Curbs, Valley Gutter, and Curb & Gutter: Install expansion joints at 60' on center, except when placing adjacent to concrete walks, the expansion joints shall align with the expansion joints shown for the concrete walks. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant will be required.
  - 3. Isolation Joints: 3/8" felt between walls and exterior slabs or walks so that paved areas are isolated from all vertical features, unless specifically noted otherwise on plans.
  - 4. Exterior Concrete Paving: Install expansion joints at 20' on center maximum, both directions, unless shown otherwise on plans.
  - 5. Ramps; whether shown or not all ramps shall have control joints and expansion joints.
    - a. Control joints on ramps shall be aligned and be placed in between with the vertical posts for the handrails. The curbs, if required shall have control joints that align with the handrail posts.
    - b. Expansion joints shall be placed at the upper, intermediate, and bottom landings.

### 3.05 FORM COATING

- A. Before placement of reinforcing steel, coat faces of all forms to prevent absorption of moisture from concrete and to facilitate removal of forms. Apply specified material in conformance with manufacturer's written directions.
- B. Before re-using form material, inspect, clean thoroughly and recoat.
- C. Seal all cut edges.

### 3.06 INSTALLATION

- A. General: Reinforcement shall be accurately placed at locations indicated on the drawings within required tolerances and providing required clearances. Reinforcement shall be secured prior to placement of concrete such that tolerances and clearances are maintained. Coverage shall be in accordance with Section 1907A.7 of the CBC. Keep a person on the job to maintain

position of reinforcing as concrete is placed. Reinforcement must be in place before concreting is begun. Install dowels as shown on drawings. Give notice whenever pipes, conduits, sleeves, and other construction interferes with placement; obtain method of procedure to resolve interferences. All expansion and construction joints in concrete shall have dowels of size and spacing as shown, or as approved by Architect.

- B. Placing Tolerances:
  - 1. Per ACI 301 or CRSI/WCRSI Recommended Practice for Placing Reinforcing Bars, unless otherwise shown.
  - 2. Clear distance between parallel bars in a layer shall be no less than 1", the maximum bar diameter not 1 ½ times the maximum size of coarse aggregate.
  
- C. Splices:
  - 1. General: Unless otherwise shown on drawings, splice top reinforcing at midspan between supports, splice bottom reinforcing at supports and stagger splices at adjacent splices 5 foot minimum. Bar laps shall be wired together. Reinforcing steel laps shall be as follows:
    - a. Lap splices in concrete: Lap splice lengths shall not be less than 62 bar diameter for No. 5 bar, 56" minimum for No. 6 bars. No. 4 bar shall have a minimum of 24" splice. 93 bar diameters for No. 7 bars and larger.
    - b. All splices shall be staggered at 5 feet minimum.

### 3.07 INSPECTION

- A. Approval of reinforcing steel, after installation, must be received from Inspector. Architect, Structural Engineer and DSA must be notified 48 hrs. in advance of beginning of concrete placement operations.
  
- B. Slope of concrete forms and finish condition shall be checked with a two foot (2') digital level.

### 3.08 PLACING OF CONCRETE

- A. Adjacent finish surfaces shall be protected at all times during the concrete pour and finishing. Verify that all formwork is tight and leak-proof before concrete is poured. Finish work defaced during the concrete pour and finishing shall be replaced at no extra cost to the owner.
  
- B. Transport concrete from mixer to place of final deposit as rapidly as practicable by methods which will prevent separation or loss of ingredients. Deposit as close as practicable in final position to avoid re-handling or flowing. Partially hardened concrete must not be deposited in work. Concrete shall not be wheeled directly on top of reinforcing steel.
  
- C. Placing: Once started, continue concrete pour continuously until section is complete between predetermined construction joints. Prevent splashing of concrete onto adjacent forms or reinforcement and remove such accumulation of hardened or partially hardened concrete from forms or reinforcement before work proceeds in that area. Free fall of concrete shall not to exceed 4'-

0" in height. If necessary, provide lower openings in forms to inject concrete and to reduce fall height.

- D. Remove form spreaders as placing of concrete progresses.
- E. Place footings as monolithic and in one continuous pour.
- F. Keep excavations free of standing water, but moisture condition sub-grade before concrete placement.
- G. Compacting: All concrete shall be compacted by mechanical vibrators. Concrete shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms. Vibrating shall not be applied to concrete which has already begun to initially set nor shall it be continued so long as to cause segregation of materials.
- H. Grout under column bearing plates: Dry pack with specified Non-shrink Grout, as recommended by manufacturer. Use as little water as practicable. Ram grout solid into place.
- I. Concrete Flatwork:
  - 1. All flatwork shall be formed and finished to required line and grades. Flatwork shall be true and flat with a maximum tolerance of 1/8" in 10' for flatness. Flatwork which is not flat and are outside of the maximum specified tolerances shall be made level by the Contractor at no additional expense to the Owner.
  - 2. Thoroughly water and soak the flatwork subgrade as required to achieve required moisture content prior to the concrete pour. Provide damming as required to keep water within the formed area and to allow for proper saturation of the subgrade.
  - 3. Concrete vibrator shall be used to assist concrete placement. Contractor shall have spare concrete vibrator on site during concrete placement.
- J. Placing in hot weather: Comply with ACI 305R-10. Concrete shall not exceed 85 degrees F at time of placement. Concrete shall be delivered, placed and finished in a sufficiently short period of time to avoid surface dry checking. Concrete shall be kept wet continuously after tempering until implementation of curing compound procedure in accordance with this specification.
- K. Placing in cold weather: Comply with ACI 306R-16. Protect from frost or freezing. No antifreeze admixtures are permitted. When deposited concrete during freezing or near-freezing weather, mix shall have temperature of at least 50 degrees F but not more than 90 degrees F. Concrete shall be maintained at temperature of at least 50 degrees F for not less than 72 hours after placing or until it has thoroughly hardened. Provide necessary thermal coverings for any flat work exposed to freezing temperatures.
- L. Horizontal construction joint: Keep exposed concrete face of construction joints continuously moist from time of initial set until placing of concrete; thoroughly clean contact surface by chipping entire surface not earlier than 5 days after initial pour to expose clean hard aggregate solidly embedded, or by

approved method that will assure equal bond, such as green cutting. If contact surface becomes contaminated with soil, sawdust or other foreign matter, clean entire surface and re-chip entire surface to assure proper adhesion.

### 3.09 CONCRETE FINISHES

- A. Concrete Slab Finishing: Finish slab as required by ACI 302.1R. Use manual screeds, vibrating screeds to place concrete level and smooth. Use "jitterbugs" or other special tools designed for the purpose of forcing the course aggregate below the surface leaving a thick layer of mortar 1 inch in thickness. Surface shall be free from trowel marks, depressions, ridges or other blemishes. Tolerance for flatness shall be 1/8" in 10'. Provide final finish as follows:
  - 1. Flatwork, medium broom finish: Typical finish to be used at all exterior walks, stairs and ramps. Brooming direction shall run perpendicular to slope to form non-slip surface.
  - 2. Under no circumstances can water be added to the top surface of freshly placed concrete.
- B. Curb Finishing: Steel trowel.
- C. Joints and Edges: Mark-off exposed joints, where indicated, with 1/4" radius x 1" deep jointer or edging tool. Joints to be clean, cut straight, parallel or square with respect to concrete walk edge. Tool all edges of exposed expansion and contraction joints, walk edges, and wherever concrete walk adjoins other material or vertical surfaces.
  - 1. The expansion joints shall be full depth as shown in the plan details. Failure to do so will result in non-compliance and shall be immediately machine cut by the contractor at his expense.
- D. Exposed Concrete Surface Finishing (not including top surface of flatwork): Remove fins and rough spots immediately following removal of forms from concrete which is to be left exposed. Damaged and irregular surfaces and holes left by form clamps and sleeves shall be patched with grout. Tie wires are to be removed to below exposed surface and holes pointed up with neat cement paste similar to procedure noted under "Patching" below. Removal of tie wires shall extend to distance of 2" below established grade lines. Ends of tie wires shall be cut off flush at all other, unexposed locations. Care shall be taken to match adjacent finishes of exposed concrete surface. After patching, all concrete that is to remain exposed, shall be sacked with a grout mixture of 1-part cement, 1 1/2- parts fine sand and sufficient water to produce a consistency of thick paint. After first wetting the concrete surface, apply mixture with a brush and immediately float entire surface vigorously using a wood float. Keep damp during periods of hot weather. When set, excess grout shall be scraped from wall with edge of steel trowel, allowed to set for a time, then wiped or rubbed with dry burlap. Entire finishing operation of any area shall be completed on the same day. This treatment shall be carried to 4" below grade, and all patching and sacking shall be done immediately upon removal of the forms.
- E. Stair Treads and Risers: Tool exterior stair tread nosing per ADA requirements



and as detailed. Paint or stain tooled area at every stair tread nosing or as detailed. Stair tread nosing shall contain no pockets, voids or spalls. Patching is not allowed. Damaged nosing shall be replaced.

### 3.10 CURING

- A. Cured Concrete in Forms: Keep forms and top on concrete between forms continuously wet until removal of forms, 7 days minimum. Maintain exposed concrete in a continuous wet condition for 14 days following removal of forms.
- B. Flatwork/Variable Height Curbs, Curb and gutter, Valley Gutter: Cure utilizing Curing Compound. If applicable, the Contractor shall verify that the approved Curing Compound is compatible with the approved colorant system. Upon completion of job, wash clean per manufacturer's recommendations.
  - 1. Curing compound shall be applied in a wet puddling application. Spotty applications shall be reason for rejection and possibly concrete removal and replacement at the contractor's expense with no compensation from the owner.
- C. No Curing Compound shall be applied to areas scheduled to receive resilient track surface including, curbs, ramps, run ways, etc.

### 3.11 DEFECTIVE CONCRETE

- A. Determination of defective concrete shall be made by the Architect or Engineer. His opinion shall be final in identifying areas to be replaced, repaired or patched.
- B. The Owner reserves the right to survey the flatwork, if it is determined to be outside of the maximum tolerance for flatness. If the flatwork is found to be out of tolerance, then the Contractor will be required to replace concrete. The Contractor will be responsible for reimbursing the Owner for any surveying costs incurred. Determination of flatwork flatness, surveying and any remedial work must be completed far enough in advance so that the project schedule is maintained, delays are avoided and the new flatwork or flatwork repairs are properly cured.
- C. As directed by Architect, cut out and replace defective concrete. All defective concrete shall be removed from the site. No patching is to be done until surfaces have been examined by Architect and permission to begin patching has been provided.
- D. Permission to patch any area shall not be considered waiver of right, by the Owner, to require removal of defective work, if patching does not, in opinion of Architect, satisfactorily restore quality and appearance of surface.
- E. Defective concrete is:
  - 1. Concrete that does not match the approved mix design for the given installation type.
  - 2. Concrete not meeting specified 28-day strength.
  - 3. Concrete which contains rock pockets, voids, spalls, transverse cracks, exposed reinforcing, or other such defects which adversely affect

4. strength, durability or appearance.
  5. Concrete which is incorrectly formed, out of alignment or not plumb or level.
  6. Concrete containing embedded wood or debris.
  7. Concrete having large or excessive patched voids which were not completed under Architect's direction.
  8. Concrete not containing required embedded items.
  9. Excessive Shrinkage, Traverse cracking, Cracking, Curling; or Defective Finish. Remove and replace if repair to an acceptable condition is not feasible.
  10. Concrete that is unsuitable for placement or has set in truck drum for longer than 90 minutes from the time it was batched.
  11. Expansion joint felt that is not isolating the full depth of the concrete section, and recessed as required for backer rod and sealant where required.
  12. Concrete that is excessively wet or excessively dry and will not meet the minimum or maximum slump required per mix design.
  13. Finished concrete with oil stains from equipment use, and or rust spots that cannot be removed.
  14. Control joints (weakened planed joints) that do not meet the required minimum depth shown on the drawings.
- F. Patching: Install specified Patching Mortar per manufacturer's recommendations.  
REPAIRS TO DEFECTIVE CONCRETE WHICH AFFECT THE STRENGTH OF ANY STRUCTURAL CONCRETE MEMBER OR COMPONENT ARE SUBJECT TO APPROVAL BY THE ARCHITECT AND DSA.

### 3.12 CONCRETE TESTING

- A. Comply with CBC Section 1903A, 1905A.1.16, 1910A and 1705A.3 and as specified in B. below. Costs of tests will be borne by the Owner.
- B. Four identical cylinder samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. In addition, samples for strength tests for each class of concrete shall be taken for seven-day tests at the beginning of the concrete work or whenever the mix or aggregate is changed.
- C. Strength tests will be conducted by the Testing Lab on one cylinder at seven (7) days and two cylinders at twenty-eight (28) days. The fourth remaining cylinder will be available for testing at fifty-six (56) days if the 28-day cylinder test results do not meet the required design strength.
- D. On a given project, if the total volume of concrete is such that the frequency of testing required by paragraph B. above would provide less than five strength tests for a given class of concrete, tests shall be made from at least five randomly selected batches or from each batch if fewer than five batches are used.

- E. Cost of retests and coring due to low strength or defective concrete will be paid by Owner and back-charged to the Contractor.
- F. Each truck shall be tested for slump before concrete is placed.

3.13 REMOVAL OF FORMS

- A. Remove without damage to concrete surfaces.
- B. Sequence and timing of form removal shall insure complete safety of concrete structure.
- C. Forms shall remain in place for not less than the following periods of time. These periods represent cumulative number of days during which temperature of air in contact with concrete is 60 degrees F and above.
  - 1. Vertical forms of foundations, walls and all other forms not covered below: 5 days.
  - 2. Slab edge screeds or forms: 7 days.
  - 3. Concrete columns and beam soffits: 28 days.
- D. Concrete shall not be subjected to superimposed loads (structure or construction equipment) until it has attained its full design strength and not for a period of at least 21 days after placing. Concrete systems shall not be subjected to construction loads in excess of design loads.

3.14 CLEANING

- A. Refer to Section 017400.
- B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.
- C. Clean excess material from surface of all concrete walks and utility structures.
- D. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION