

# Del Mar Union School District

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• UNION SCHOOL DISTRICT •

## **Bid No. 2324-01 Monument Signs**

**NOTICE SENT DATE:** October 30, 2023

**MANDATORY JOB WALK:** November 8, 2023 @ 09:00:00 AM

**RFI DUE DATE:** November 13, 2023 @ 09:00:00 AM

**DISTRICT RFI RESPONSE DATE:** November 15, 2023

**BID OPENING DATE:** November 27, 2023 @ 09:00:00 AM  
11232 El Camino Real, San Diego, CA 92130

**DMUSD CONTACT:**

Marley Nelms, Director of Business Support Services (858) 523-6191, FAX: (858) 755-4361

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**\*\* MUST BE COMPLETED AND RETURNED FOR BID OPENING. THE REST OF THE BID PACKAGE SHOULD BE KEPT FOR YOUR INFORMATION.**

**NOTICE INVITING BIDS**  
**BID 2324-01 Monument Signs**

**NOTICE IS HEREBY GIVEN** that the Del Mar Union School District of San Diego County, California (“District”), acting by and through its Board of Education (“Board”), will receive up to but not later than **09:00 AM, November 27, 2023**, sealed bids for the award of a contract(s) for:

**BID 2324-01 Monument Signs**

Each bid must conform and be responsive to the bid documents. All interested parties may obtain bid documents from Marley Nelms via email request to [mnelms@dmusd.org](mailto:mnelms@dmusd.org). Each bid shall be accompanied by a 10% bid bond, based on base bid amount, and other required contract documents as specified in the bid document.

Bids shall be received Attention Marley Nelms, Business Support Services department of the Del Mar Union School District located at 11232 El Camino Real, CA 92130. Responses must be sealed and clearly marked “**BID 2324-01 Monument Signs**” Facsimile or electronic copies of the bid will not be accepted. It is the bidder’s responsibility to ensure its bid is received by the date and time specified above. Any bid received in the Purchasing Department after this date and time shall be deemed non-responsive and returned to the proposer unopened.

The Contractor and any subcontractor(s) shall pay not less than the specified prevailing wage rates to all workers employed by them in the execution of this contract. See the Department of Industrial Relations website <http://www.dir.ca.gov> for prevailing wage rate information. The Contractor shall post a copy of the determination of prevailing rate of wages at each job site.

Each bidder shall possess at the time of bid opening the following valid and active California Contractors licenses: Class B- General Building Contractor license, pursuant to Public Contract Code §3300. The successful bidder must maintain the licenses throughout the duration of this contract and its renewals, if any. Lack of valid licenses will result in disqualification and termination.

No bidder may withdraw its bid for a period of sixty (60) days after the date set for the opening of bids.

The District shall award to the lowest bidder and act as the sole judge as to the merit and qualifications of the services offered. The District reserves the right to reject any and all bids or to waive irregularities in any bid.

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Notice Sent: October 30, 2023 and November 6, 2023; Project is within CUCCAA Informal Bid Limits

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## INSTRUCTIONS FOR BIDDERS

- The District will conduct one (1) **mandatory pre-bid job walk to begin at 09:00:00 AM on Wednesday, November 8, 2023, at Sycamore Ridge School, 5333 Old Carmel Valley Road, San Diego, CA 92130, at the front office, followed by visits to all site work locations.** The purposes of the job walk is to view the site and verify measurements. All Attendees shall be required to sign-in. Attendance sign-in sheet will be provided. There will be no exceptions. Pre-bid Job walk includes the following locations in sequential order:

	Site	Address
1	Sycamore Ridge School	5333 Old Carmel Valley Road, San Diego, CA 92130
2	Ashley Falls School	13030 Ashley Falls Drive, San Diego, CA 92130
3	Carmel Del Mar School	12345 Carmel Park Drive, San Diego, CA 92130
4	Sage Canyon School	5290 Harvest Run Drive, San Diego, CA 92130
5	Ocean Air School	11444 Canter Heights Drive, San Diego, CA 92130
6	Torrey Hills School	10830 Calle Mar De Mariposa, San Diego, CA 92130

- Preparation of Bid Form.** The District invites bids on the bid form to be submitted at such time and place as is stated in the Notice to Contractors Calling for Bids. All blanks in the bid form must be appropriately filled in, and all prices must be stated in both words and figures. All bids must be submitted in sealed envelopes bearing on the outside the name of the bidder, his address, and the name of the project for which the bid is submitted. It is the sole responsibility of the bidder to see that his bid is received in proper time. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened.
- Bid Security.** Each bid shall be accompanied by a certified or cashier's check payable to the District, or a satisfactory bid bond in favor of the District executed by the bidder as principal and an admitted surety approved to conduct business in the State of California as surety, in an amount not less than ten percent (10%) of the maximum amount of the bid. The check or bid bond shall be given as a guarantee that the bidder shall execute the contract if it be awarded to him in conformity with the contract documents and shall provide the surety bond or bonds as specified therein within five (5) days after notification of the award of the contract to the bidder
- Review of Plans and Specifications.** Each bidder, at its own expense and prior to submitting its bid, shall thoroughly review and become familiar with all of the plans and specifications for the Project. A bidder is required to review the plans and specifications only in its capacity as a contractor, not as a licensed design professional. Each bidder must report to the District any errors or omissions in the plans and specifications revealed through such review.
- Examination of Project Site and Contract Documents.** These Instructions for Bidders do not constitute a comprehensive statement of all requirements applicable to the Project; therefore, each bidder shall thoroughly examine and become familiar with the drawings, specifications, form of agreement, forms of the required bonds, insurance endorsements and other "Contract Documents" defined in the Form of Agreement. A bidder's failure to obtain and/or thoroughly examine any drawing, specification, form, instrument, addendum or other contract document, or to visit the site and become acquainted with conditions there- existing, shall not relieve the bidder from any obligations with respect to its bid or the contract. The submission of a bid shall be taken as a representation and warranty by the bidder that it has complied with the requirements of this Section. At no time after submitting a bid may the bidder dispute, complain, or assert that there were any misunderstandings with regard to the nature or amount of work to be done in connection with the Project.

6. **Interpretation of Contract Documents.** If a bidder is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in or omissions from the drawings and specifications, the bidder may submit to the District a written request for an interpretation or correction thereof. The bidder submitting the request shall be responsible for its prompt delivery. Prior to the opening of bids, interpretations or corrections of the Contract Documents will be made only by addendum duly issued by the architect. Copies of each addendum will be mailed or delivered to each contractor that has obtained a copy of the bid documents. No person is authorized to provide any oral interpretation of any provision in the Contract Documents, and no oral interpretation shall be binding on the District. If discrepancies in or conflicts between the drawings and specifications are not addressed in any addenda, the bidder shall include in its bid the methods of construction and/or materials resulting in the higher bid amount.
7. **Agreements and Bonds.** The Agreement form which the successful bidder, as Contractor, will be required to execute, and the forms and amounts of surety bonds which he will be required to furnish at the time of execution of the Agreement, are included in the contract documents and should be carefully examined by the bidder. The required number of executed copies of the Agreement, the Performance Bond, and the Payment Bond for Public Works is as specified in the Special Conditions. The Performance Bond must be executed by an admitted Surety approved to conduct business in the State of California which meets the highest standards the District is legally permitted to establish.

The Payment Bond must be in the amount of 100 percent of the total amount payable, if it does not equal or exceed five million dollars (\$5,000,000) or more; 50% of the total amount payable, if it is \$5,000,000 or more and does not exceed ten million dollars (\$10,000,000); and 25% of the total amount payable if it exceeds ten million dollars. The Payment Bond must be executed by an admitted Surety approved to conduct business in the State of California which meets the highest standards the District is legally permitted to establish. The Payment Bond must be accompanied by the original or a certified copy of the unrevoked power of attorney or other appropriate instrument entitling or authorizing the person who executed the bond to do so.
8. **Ethics in Bidding.** The District expects each bidder to maintain high ethical standards with respect to bidding on the Project. Prior to the award of a contract for the Project, no bidder shall disclose the amount of any prospective subcontractor's bid or proposal, or any element thereof, to any other prospective subcontractor. Bidders shall not engage in or permit the unethical and unfair practices commonly referred to as bid shopping (e.g., the bidder uses a subcontractor's proposal in attempts to obtain a lower-cost proposal from another subcontractor) and bid peddling (e.g., a subcontractor attempts to obtain a job by offering to work for less than the amount specified in another subcontractor's proposal). If the District determines prior to opening of bids that any bidder has violated any of the foregoing requirements or any other prohibitions set forth in the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100 *et seq.*), the District may reject the bidder's bid as non-responsive and report the bidder's actions to the Contractors State License Board.
9. **Contractor Licensing & Experience.** Each bidder must be properly licensed in the State of California and "in good standing" at the time of submitting its bid to the District. Failure to satisfy this requirement shall result in the bidder being deemed non-responsive and the bidder will be disqualified from work on the Project. Each bidder must clearly specify its California contractor's license number where indicated in the bid form. The bidder to which the District awards a contract for the Project must maintain the required license(s) specified in the Notice Inviting Bids throughout the duration of the Project. Each bidder shall have been in business in the appropriate fields for the past (3) three years.
10. **Listing Subcontractors.** As required pursuant to the Subletting and Subcontracting Fair Practices Act, each bidder shall submit with its bid a list of the names, license numbers, DIR registration numbers, and locations of the places of business of each subcontractor that will perform work or labor or render service to the bidder in or about the Project, or that, under subcontract to the bidder, will specially fabricate and install a portion of the work, in an amount in excess of one-half of 1 percent of the total amount of the bidder's bid. A bidder may not list more than one subcontractor for any one portion of the work. A bidder that fails to list a subcontractor for any portion of the work represents that it is fully qualified to and shall perform such work using its own forces. If the bid documents require the bidder to submit alternate bids and the bidder intends to use different or additional subcontractors for the alternates, the bidder must submit a separate list of subcontractors for each such alternate. A bidder shall submit the lists of subcontractors only on the form included in the bid documents.

11. **Use of Bid Form is Mandatory.** Each bid must be submitted on the Bid Form included in the bid documents. Changes in or additions to the Bid Form, recaptulations of the work for which the bid is submitted, alternative proposals, and other modifications of the Bid Form or any of the documents to be submitted with the bid are prohibited unless specifically called for in the Contract Documents.
12. **Preparing the Bid.** Bidders must fully and properly complete all information required to be included on the Bid Form. Amounts must be stated in both words and numerals where indicated. Prices, wording and notations must be in ink or typewritten. The signatures and/or initials of each person signing the bid and other documents to be submitted with the bid must be in permanent, preferably blue, ink.
13. **Correcting the Bid.** Bids may contain an erasure, interlineation, or other correction only if the correction does not result in any inconsistency or ambiguity and the correction is authenticated by affixing in the margin immediately opposite the correction the initials of the person or persons signing the bid. In the event of inconsistency between words and numerals, words shall govern over numerals.
  - (a) **Mandatory Forms to Include in Bid.** Each bidder shall complete and submit with its Bid Form each of the forms specified on the bid form, which are included in the bid documents. A bidder's failure to properly complete and submit any such mandatory form may render the bidder's bid non-responsive to the Notice Inviting Bids.
14. **Signing the Bid and Other Required Forms.** The Bid Form, bonds, subcontractors lists, contractor's certificates, attachments to the Agreement Form, guarantees and other documents requiring an original signature of the bidder must be signed in permanent, preferably blue, ink by a person or persons duly authorized to sign the document. The District may reject as non-responsive any Bid Form containing a stamped or mechanically-printed signature. Depending on whether the bidder is an individual or the type of business entity, signatures must comply with the following:
  - a) **Corporations:** If bidder is a corporation, each document shall set forth the legal name of the corporation and shall be signed by both the bidder's President and the bidder's Secretary or Assistant Secretary. Alternatively, the signature of other authorized officers or agents may be affixed to the document if the bidder has included with its bid a certified copy of the resolution of the corporate board of directors authorizing such officers or agents to sign the document. Such documents shall include the title of each such signatory below the signature and shall bear the corporate seal.
  - b) **Limited Liability Companies:** If bidder is a limited liability company, each document shall set forth the true name of the company and the names of all members of the company, and all such members shall sign the document. Alternatively, the document may be signed by a managing member of the company if the bidder has included in its bid a certified copy of a statement of the limited liability company acknowledging the signatory as a managing member with authority to sign the document.
  - c) **Partnerships:** If bidder is a partnership of any type, each document shall set forth the true name of the partnership and the names of all persons comprising the partnership, and all such persons shall sign the document. Alternatively, the document may be signed by a general partner of the partnership if the bidder has included in its bid a certified copy of a statement of the partnership acknowledging the signatory as a general partner with authority to sign the document.
  - d) **Sole Proprietorships:** If the bidder is a sole proprietorship, each document must set forth the true name of the sole proprietorship and its owner, and such owner must sign the document. Alternatively, an agent of the owner may sign a document if the bidder has included in the bid a certified copy of a current and valid power-of-attorney authorizing the agent to sign the document.
  - e) **Fictitious Names and Joint Ventures:** If the bidder is an entity using a fictitious business name or a joint venture of two or more other parties, documents must satisfy the requirements set forth above for signatures on behalf of corporations and partnerships, as applicable. The signature on any document signed on behalf of any entity using a fictitious business name must so indicate in the signature block. Documents submitted by parties acting as joint venturers must so indicate in the signature block and must be signed by or on behalf of each and every joint venturer.
15. **Sealing and Marking the Bid.** The completed Bid Form and all additional documents and other materials to be

submitted with the bid in accordance with the Contract Documents shall be enclosed in a sealed envelope. The bidder shall plainly and clearly mark the outside of the envelope with the bidder's name, address, telephone number, bidder's contractor's license number and the bid package for which the bid is submitted. No other information shall be apparent on the outside of the envelope. The District may reject any bid if the outside of the envelope is improperly or incompletely marked.

16. **Faxed and Electronic Mail Bids.** All bids must be under sealed cover. District will not accept any bid or bid modification submitted by facsimile or electronic mail transmission.
17. **Delivering the Bid.** For purposes of the Notice Inviting Bids and these Instructions for Bidders, any reference to the "Bid Deadline" shall mean the date and time specified as the Bid Deadline in the Notice Inviting Bids and any authorized extension thereto. Bids shall be received **Attention Marley Nelms, Business Support Services department of the Del Mar Union School District located at 11232 El Camino Real, CA 92130**. Responses must be sealed and clearly marked "**BID 2324-01 Monument Signs**" Facsimile or electronic copies of the bid will not be accepted. It is the bidder's responsibility to ensure its bid is received by the date and time specified above. Any bid received in the Purchasing Department after this date and time shall be deemed non-responsive and returned to the proposer unopened.
18. Bids must be delivered to and received by the District at: **Del Mar Union School District, 11232 El Camino Real, San Diego, CA 92130** by the Bid Deadline. The clock located in the District Office is designated as the official clock for bidding purposes shall be used in determining whether bids have been timely delivered and received by the District. Each bidder is solely responsible for ensuring that its bid is timely delivered to and received by the District. Any bid received by the District after the Bid Deadline will be returned to the bidder unopened.
19. **Submitting Bids for Multiple Bid Categories.** If the District is seeking bids for other bid categories related to the Project, bidders may submit bids for more than one bid category. However, the bid for each bid category must be complete unto itself and shall not be dependent on the award, price or some other conditional provision relative to any other separate bid category. No combination bids of any type will be accepted unless expressly permitted in the bid documents.
20. **Interest in More Than One Bid and Unqualified Bidders.** No person or entity shall submit or have any interest in more than one prime bid for the same work except to the extent the bid documents expressly call for alternate bids. The District will not accept more than one bid for the same work from any person or entity, under the same or different names. A reasonable belief by the District that any person or entity has an interest in more than one bid or has submitted more than one bid for the same work on the Project may result in the District rejecting all bids in which the bidder has an interest. A person or entity that has submitted a sub-bid or proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-bid or proposal to other bidders, but the person, firm or corporation is prohibited from submitting a prime bid for the same bid category. The District will not accept any combination bids unless expressly permitted in the bid documents. No person or business entity that has participated in the preparation of any contract specifications shall be permitted to bid on the Project, and any such bid received by the District shall be deemed non-responsive.
21. **Modifying a Bid.** Prior to the Bid Deadline, a bidder may modify its bid by submitting the written modification to the District, in a sealed envelope, which must be received by the District not later than the Bid Deadline. The envelope shall be marked in the same manner as provided in these Instructions For Bidders for the original bid, but shall also include the words "Bid Modification" on the outside of the envelope. The District may reject any modified bid if the modification is not received by the District prior to the Bid Deadline or if it creates an ambiguity or inconsistency, including, without limitation, if the modified bid is unintelligible. In lieu of submitting a modification, a bidder may withdraw its original bid in accordance with these Instructions For Bidders and submit a new bid for the Project, in which case the outside of the sealed envelope shall be marked with the words "Superseding Bid" in addition to the other required information. The bidder must submit any modification or superseding bid in writing to the District via personal or other delivery. The District will not accept oral modifications or superseding bids, and will not accept any modifications or superseding bids sent via facsimile or electronic transmission. Any modification or superseding bid must be delivered to and received by the District prior to the Bid Deadline.

22. **Withdrawing a Bid.** A bidder may withdraw its bid at any time prior to the Bid Deadline, either personally or by written request received by the District prior to the Bid Deadline. In such event, the District shall return the withdrawing bidder's bid security upon request. Except as provided in Public Contract Code Section 5100 *et seq.*, in no event may a bidder withdraw its bid during the period after opening of bids that is specified in the Notice Inviting Bids.
23. **Requesting Substitution of Specified Item.** Unless the Contract Documents provide in any particular case that substitution is not permitted, if the Contract Documents call for any specific concern, material, product, thing or service, such specification shall be interpreted as if followed by the words "or equal." Unless provided otherwise in the Contract Documents, a bidder may offer in place of any item specified in the plans, drawings or other Contract Documents ("Specified Item") any material, process, article, *et cetera* that the bidder can demonstrate is materially equal or better in every respect to the Specified Item and that will completely accomplish the purpose of the Contract Documents. Requests for substitution must be made in writing on the Substitution Request form included in the bid documents or available from the District ("Request Form"). Each substitution request is subject to and must conform to the requirements of Sections 3.10.4.3, 3.10.4.4, and 3.10.4.5 of the General Conditions, including, without limitation, requirements for submitting documentation in support of the request. Substitution requests must be submitted to the District not later than the date that is eight (8) days prior to the Bid Deadline specified in the Notice Inviting Bids. The District will not consider any substitution requests received after such date except to the extent provided in Section 3.10.4.2 of the General Conditions.

The bidder is solely responsible for establishing that a proposed substitution satisfies all requirements of the Contract Documents, including, without limitation, that the proposed substitute item is equal to or better than the Specified Item in all material respects. The bidder must provide with the Request Form, at a minimum, all information required in accordance with Section 3.10.4.4 of the General Conditions to substantiate the request. The District may at any time request any additional information regarding the proposed substitute item. The District, in consultation with the Architect and the Construction Manager as applicable, will decide whether to approve a substitution based on the information provided by the bidder. The District has the sole discretion to determine whether a proposed substitute item is equal to or better than a Specified Item. Any request for substitution that is granted by the District shall be documented and processed by means of a Change Order after execution of the contract. The District may condition its approval of any substitution upon delivery to the District of an extended warranty or other assurances of adequate performance of the substitution. The bidder shall be responsible for and shall bear any and all risks, expenses and costs of delay arising from review or approval of a substitution by the DSA or other governmental agency.

SUBMISSION OF A SUBSTITUTION REQUEST AND SUBSTANTIATING DATA SHALL IN NO WAY OBLIGATE THE DISTRICT TO REVIEW THE REQUEST OR DATA PRIOR TO AWARD OF A CONTRACT FOR THE PROJECT. IF THE DISTRICT AWARDS A CONTRACT FOR THE PROJECT TO A BIDDER AND SUBSEQUENTLY REJECTS A SUBSTITUTION PROPOSED BY SUCH BIDDER, THE BIDDER MUST PROVIDE THE SPECIFIED ITEM IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AT NO ADDITIONAL COST TO THE DISTRICT.

24. **District Waiver of Bid Irregularities.** The District, in accordance with applicable law, may waive any minor irregularity or informality in any bid or in the bidding.
25. **District Rejection of Irregular Bids.** The District will reject as non-responsive to the Notice Inviting Bids any bids containing irregularities that are not minor irregularities, including, by way of example and not as a limitation, bids that are materially incomplete, bids submitted on forms that have been materially altered, and bids that include any additions or conditional or alternate bids not called for or permitted in the bid documents. In addition, the District may reject as non-responsive to the Notice Inviting Bids any bid in which the bid amounts are obviously unbalanced or inconsistent. The District may, but is not required to, seek information from any bidder that may resolve an ambiguity in the bidder's bid.
26. **District Rejection of Non-Responsive Bids.** If a bid fails to conform to requirements set forth in the Notice Inviting Bids, these Instructions For Bidders, or any of the other Contract Documents (including, without limitation, if the District determines that the bid is unintelligible, internally inconsistent, or ambiguous), the



District may reject the bid as not responsive to the Notice Inviting Bids. The District may, but is not required to, seek information from any bidder that may resolve an ambiguity in the bidder's bid.

27. **Bidder Evidence of Responsibility.** In determining whether a bidder is a "responsible" bidder, the District will consider, among other possible factors, the financial standing and general competency of the bidder with respect to the work being bid. If the District is considering awarding a contract for the Project to a bidder, the bidder, within two business days of the District's request, shall provide reasonable evidence of the bidder's construction experience, current and anticipated workload, organization available for the performance of the contract, any terminations from projects prior to completion, references for public works, financial resources, surety and insurance claims experience, stop notice and other legal proceedings, and other factors pertinent to determining
28. **District Award of Contract.** In its discretion, the Governing Board may award a contract for the Project to a responsive bidder, or the Governing Board may reject all bids and may (but is not required to) rebid the Project. If the Governing Board awards a contract for the Project, the award will be to the responsible and responsive bidder with the lowest bid from among the bidders responsive to the Notice Inviting Bids. If two or more responsive and responsible bidders have submitted the same low bid, the District shall determine the lowest bidder by means of a coin toss or some other random method. The District reserves the right to award any one or more items of the bid to one or more contractors as deemed to be in the best interest of the district. The District may reject any Bid which, in its opinion when compared to other bids received or to the District's internal estimates, does not accurately reflect the cost to perform the Work. The District may reject as non-responsive any bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular bid items. The District reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding. The award of the contract, if made by the District, will be to the lowest responsible bidder(s).
29. **Award Process.** Once all Bids are opened and reviewed to determine the lowest responsive and responsible Bidder, the District Board may award the contract. The apparent successful Bidder should begin to prepare the following documents: (1) the Performance Bond; (2) the Payment Bond; and (3) the required insurance certificates and endorsements. Once the District notifies the Bidder of the award, the Bidder will have five (5) business days from the date of this notification to execute the Contract and supply the District with all of the required documents and certifications. Once the District receives all of the properly drafted and executed documents and certifications from the Bidder, the District shall issue a Notice to Proceed to that Bidder.
30. **Bidder Execution of Contract.** The bidder to which the District awards a contract for the Project shall be sent a Preliminary Notice of Award and shall have ten (10) calendar days after notification of the award to execute and deliver to the District the contract and all other documents required in accordance with the Contract Documents. If the bidder fails to execute and provide all such documents within that period, the bidder will forfeit the bid security submitted with its bid in accordance with the Notice Inviting Bids. In such event, the District may award the contract to the next lowest responsible and responsive bidder or release all bidders.
31. **Filing Bid Protests.** A bidder may protest the bidding process, another bid and/or the intended award of a contract for the Project only by filing a written protest with the District's Deputy Superintendent of Business Services in accordance with the procedures set forth in this Section. The District will not consider any verbal protests (e.g., by telephone) or any protests sent by electronic mail (e-mail). In order for a protest to be valid and be considered by the District the protest must:
  - (a) be filed not later than 4:00 p.m. on the fifth business day following the opening of bids
  - (b) clearly identify the bidder on whose behalf the protest is being filed, together with the name, address and telephone number of the person representing the bidder for purposes of the protest;
  - (c) clearly identify the specific bidding process, bid, or award of contract being protested;
  - (d) clearly identify and describe in detail the specific basis or bases for the protest and all facts relevant thereto and in support thereof;
  - (e) clearly identify all references to the specific portions of all documents relevant to the protest;
  - (f) clearly identify and describe in detail all arguments in support of the protest, including, not as a limitation, citations to all legal authorities; and

- (g) be submitted with all documentation that is relevant to and supports the basis or bases underlying the protest.

If a protest filed by a bidder does not comply with each and every one of the foregoing requirements, the District will reject the protest as invalid. If a bidder files a valid protest, the District shall review the protest and all relevant information and documents and will provide written decision to the protesting bidder. In response to a protest, the Governing Board may decline to award a contract, may award a contract to a bidder other than as previously intended, or may award a contract to a bidder as previously intended despite the protest. Such action by the Governing Board shall be a condition precedent to the filing of any claim or demand and to the initiation of any action (legal or equitable) or other proceeding arising from the matter(s) protested.

COMPLIANCE WITH THE FOREGOING REQUIREMENTS IS MANDATORY. Each bidder that desires to protest must file a protest in accordance with the foregoing requirements, and no bidder may rely on a protest by another bidder as a means of satisfying such requirements. Compliance with the foregoing requirements is the sole and exclusive means of protesting the bidding process, any bid, and/or the intended award of a contract for the Project, and failure to so comply shall be deemed and construed as a waiver of any and all rights the bidder may have to pursue a claim, demand or action based on the bidding, any bids, and/or any contract awarded for the Project.

32. **Public Works Project.** The Project is a “public work” and “public project” within the meaning of, and, therefore, is subject to, various provisions of the Public Contract Code, Labor Code, Civil Code, and other legal requirements applicable to public works and public projects. The Contract Documents include various provisions relating to public works and public projects as provided by law, and each bidder must thoroughly review and become familiar with the Contract Documents as described above in these Instructions for Bidders. However, the provisions of the Contract Documents are not comprehensive statements of all requirements of law applicable to public works and public projects, and each bidder so acknowledges by submitting a bid for the Project. In addition, by submitting a bid for the Project, each bidder represents and warrants that it is familiar and knowledgeable with respect to all requirements of law applicable to public works and public projects generally and to the Project specifically.
33. **Subcontractor Eligibility and Licensing.** The bidder to which the District awards a contract for the Project shall in no event permit a subcontractor to perform any work in connection with the Project if that subcontractor is ineligible to work on a public works or public project. Each subcontractor that the bidder intends shall perform any work in connection with the Project must be licensed in accordance with law prior to commencing any work on the Project.
34. **Workers' Compensation** In accordance with the provisions of section 3700 of the Labor Code, Contractor shall secure the payment of compensation to his employees. Contractor shall sign and file with District the following certificate prior to performing the work under this contract:

***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.***

The form of such certificate is included as part of the contract documents.

35. **Substitution of Security** Monies withheld by the District to ensure performance under the contract may be released in accordance with Public Contract Code section 22300 and the contract documents.
36. **Prevailing Wages.** The bidder to which the District awards a contract for the Project, and each of that bidder’s subcontractors of any tier, shall be required to pay not less than the general prevailing rates of per-diem wages in the locality in which the work is to be performed for each craft or type of worker needed to execute the contract (“Prevailing Wages”). The successful bidder must retain copies of certified payrolls for a minimum of five years from the date of completion and submit upon the request of the District or its authorized agent. A copy of the per-diem rates of Prevailing Wages shall be posted at the site of the Project. Rates are available at <http://www.dir.ca.gov/dlsr/pwd/index.htm>

37. **Public Works Contractor Registration Certification.** If the bids for this Project are due on or after March 1, 2015, then pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted, nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project. To this end, Bidder shall sign and submit with its Bid the Public Works Contractor Registration Certification on the form provided, attesting to the facts contained therein. Failure to submit this form may render the Bid non-responsive. In addition, each Bidder shall provide the registration number for each listed subcontractor in the space provided in the Designation of Subcontractors Form.
38. **Apprenticeable Trades and Crafts.** Not later than two calendar days after receiving notice of the award of the contract for the Project, the bidder to which the District awards the contract must provide written notice to the District in regard to whether, as described in Labor Code Section 1777.5, workers in any apprenticeable trade or craft will be employed on the Project.
39. **Criminal-History Background Checks.** The Contractor shall require and be responsible for ensuring that each person who will be at, on, or in the vicinity of the Project Site on account of the Work, and/or each person who interacts with pupils on account of the Work, has a valid criminal records summary as required by Education Code Section 45125.1. The Contractor must complete, execute, and submit to the District a "Certification of Employee Background" form included in the Required Project Forms, to thereby certify that no person assigned to the Work or who otherwise will be present at or on the Project Site, and/or each person who might interact with pupils, has been convicted of any felony as described in Education Code Section 45122.1. The Contractor must attach to the executed certification a list of all persons to whom the certification applies. The Contractor shall prohibit and prevent each and every person who will be at, on or in the vicinity of the Project Site on account of the Work (including not only all persons assigned to the Work directly by the Contractor, but also all persons assigned to the Work by any Subcontractor, materialman, or other person or entity that furnishes any labor, materials, services, goods or other things in connection with the Work), and/or each person who might interact with pupils, from being present at, on or in the vicinity of the Project Site unless and until the Contractor provides the required certification including such person to the District. Moreover, Contractor shall immediately provide any applicable subsequent arrest and conviction information it receives to the District. If the Contractor is a sole proprietor, the District shall prepare and submit the Contractors fingerprints per Education Code section 45125.1. Any Contractor that is a sole proprietor shall have an immediate and affirmative duty to inform the District of such status so as to allow the District to comply with Education Code section 45125.1. Notwithstanding the foregoing, compliance with Education Code Section 45125.1 shall be subject to the District's sole discretion to grant alternative compliance requirements per Education Code section 45125.2, subdivision (a).
40. **Anti-Discrimination Policy.** It is a policy of the District that, in connection with any work performed under contract, there shall be no discrimination against any prospective or active employee engaged in the work because of race, color, ancestry, national origin, religious creed, sex, age, or marital status. No bidder shall discriminate in violation of applicable law in preparing and submitting its bid for the Project. The bidder to which the District awards a contract for the Project will be required to comply with applicable federal and California laws prohibiting such discrimination and to require like compliance by any subcontractors employed on the Project by such bidder.
41. **Project Duration and Liquidated Damages.** The bidder to which the District awards a contract for the Project must complete the Project in accordance with the Contract Documents and within the time period specified in the Special Conditions. Failure of such bidder to fully complete the Project within such time period, or to complete any portion thereof in accordance with any applicable schedule for the Project, may result in the District assessing liquidated damages against the Contractor as provided in the General Conditions.
42. **Execution of Contract.** As required herein the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. The District may require appropriate evidence that the persons executing the Contract are duly empowered to do so.

43. **Gratuities.** Bidders shall not provide, offer, imply, or otherwise extend any gratuities, including cash gifts, services, allowances, or enticements in any manner or form, to officers, employees, students, agents, or representatives of the District.
44. **IRS Requirements.** The District shall view the legal position of the bidder as an “independent contractor” and that all persons employed to furnish services are employees of the bidder and not of the District.
- a) The District shall not be liable for any of the contractor’s acts or omissions performed under the contract to which the bidder party.
  - b) The bidder will complete IRS form W-9 providing tax payer identification number and also indicate whether bidder is a corporation, sole-proprietor, partnership, individual, etc. This form will be sent to the successful bidder with the Agreement, Performance and Payment Bond and is to be returned with same.

**END OF INSTRUCTIONS FOR BIDDERS///**

# BID FORM

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

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

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

\_\_\_\_\_

Place of Residence: \_\_\_\_\_

\_\_\_\_\_

Business Telephone: (\_\_\_\_) \_\_\_\_\_ Fax:(\_\_\_\_) \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

**Acknowledgement of Addenda** \_\_\_\_\_

TO: Del Mar Union School District, acting by and through its Governing Board, herein called the "Owner:"

1. Pursuant to and in compliance with your Notice to Contractors Calling for Bids and the other documents relating thereto, the undersigned bidder, having familiarized himself with the terms of the contract, the local conditions affecting the performance of the contract and the cost of the work at the place where the work is to be done, and with the specifications and other contract documents, hereby proposes and agrees to perform, within the time stipulated, the contract, including all of its component parts, and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment, and all utility and transportation services necessary to perform the contract and complete in a workmanlike manner all of the work required and with all in strict conformity with the specifications and other contract documents, including addenda, if any for the following project: **Bid No. 2324-01 Monument Signs.**

<i>Site</i>	<i>Amount</i>	<i>Amount in Words</i>
<i>Sycamore Ridge School</i>	\$	
<i>Ashley Falls School</i>	\$	
<i>Carmel Del Mar School</i>	\$	
<i>Sage Canyon School</i>	\$	
<i>Ocean Air School</i>	\$	
<i>Torrey Hills School</i>	\$	
<b>Grand Total:</b>	<b>\$</b>	

2. **District reserves the right to award as deemed to be in the best interest of the district. The District shall award to the lowest grand total, responsive, responsible bidder, and act as the sole judge as to the merit and qualifications of materials or services offered.**
3. It is understood that the District reserves the right to reject this bid and that this bid shall remain open and not be withdrawn for the period specified in the Notice to Contractors Calling for Bids.
4. The required list of References is hereto attached.
5. The required Bid Security is hereto attached.
6. The Designation of Subcontractors is hereto attached.
7. The Contractor's Statement for Maintaining a Drug-Free Workplace is hereto attached.
8. The Contractor's Certificate Regarding Worker's Compensation is hereto attached.
9. The Noncollusion Affidavit is hereto attached.
10. It is understood and agreed that if written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned after the opening of the bid, and within the time this bid is required to remain open, or at any time thereafter before this bid is withdrawn, the undersigned will execute and deliver to the District a contract in the form attached hereto in accordance with the bid as accepted, and that he will also furnish and deliver to the District the Performance Bond and Payment Bond for Public Works as specified, all within five (5) days after receipt of notification of award, and that the work under the contract shall be commenced by the undersigned bidder, if awarded the contract, on the date to be stated in the Owner's notice to the Contractor to proceed, and shall be completed by the Contractor in the time specified in the contract documents.
11. Notice of acceptance or requests for additional information should be addressed to the undersigned at the address stated below:  
\_\_\_\_\_
12. The names of all persons interested in the foregoing proposal as principals are as follows:  
\_\_\_\_\_

(IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.)

13. Bidder certifies that he is licensed in accordance with the law providing for the registration of Contractors, License No. \_\_\_\_\_, Expiration Date \_\_\_\_\_, class of license \_\_\_\_\_.  
List all other classifications for this license number:  
\_\_\_\_\_

I, \_\_\_\_\_, the \_\_\_\_\_ of the bidder, hereby certify under penalty of perjury under the laws of the State of California, that all of the information submitted by the bidder in connection with this bid and all of the representations made herein are true and correct.

Executed on this \_\_\_\_\_ day of \_\_\_\_\_ at San Diego County, California.

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

By: \_\_\_\_\_  
Signature of Bidder

**NOTE:** If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signatures of authorized officers or agents and the document shall bear the corporate seal; if bidder is a partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership; and if bidder is an individual, his signature shall be placed above.

# LOCAL SAN DIEGO COUNTY SCHOOL REFERENCES

Bid No. 2324-01

1) Company: \_\_\_\_\_ Phone: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Fax: \_\_\_\_\_  
Job/Project: \_\_\_\_\_ Date: \_\_\_\_\_  
Size of Job/Project: \_\_\_\_\_  
Job/Project Contract Amount: \_\_\_\_\_  
Comments: \_\_\_\_\_  
\_\_\_\_\_

2) Company: \_\_\_\_\_ Phone: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Fax: \_\_\_\_\_  
Job/Project: \_\_\_\_\_ Date: \_\_\_\_\_  
Size of Job/Project: \_\_\_\_\_  
Job/Project Contract Amount: \_\_\_\_\_  
Comments: \_\_\_\_\_  
\_\_\_\_\_

3) Company: \_\_\_\_\_ Phone: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Fax: \_\_\_\_\_  
Job/Project: \_\_\_\_\_ Date: \_\_\_\_\_  
Size of Job/Project: \_\_\_\_\_  
Job/Project Contract Amount: \_\_\_\_\_  
Comments: \_\_\_\_\_  
\_\_\_\_\_

# BID BOND

**Bid No. 2324-01**

KNOW ALL MEN BY THESE PRESENTS: THAT we, \_\_\_\_\_, as Principal, and \_\_\_\_\_ as Surety, are held and firmly bound unto the

Del Mar Union School District, hereinafter called the Owner, in the penal sum of **TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID** of the Principal submitted to the said District for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying bid dated \_\_\_\_\_, 20\_\_\_\_\_, for

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

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract on the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation under this bond, and it does hereby waive notice of such change, extension of time, alteration or addition to the terms of said contract or the call for bids, or to the work, or to the specifications.

In the event suit is brought upon this bond by the District and judgment is recovered, the Surety shall pay all litigation expenses incurred by the District in such suit, including reasonable attorney's fees, court costs, expert witness fees and investigation expenses.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, the name and corporate seal of each corporate party being hereto affixed and these presents duly assigned by its undersigned representative, pursuant to authority of its governing body.

Principal

By \_\_\_\_\_

Title \_\_\_\_\_

Surety

By \_\_\_\_\_

Attorney-in-Fact

(Attach Attorney-In-Fact Certificate)

Title \_\_\_\_\_

For District Informational Purpose:

Surety Company Name \_\_\_\_\_ Contact \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

City, State & Zip \_\_\_\_\_ Fax \_\_\_\_\_



# DESIGNATION OF SUBCONTRACTORS

**Bid No. 2324-01**

In compliance with the Subletting and Subcontracting Fair Practices Act (Chapter 4 (commencing at Section 4100), Part 1, Division 2 of the Public Contract Code of the State of California) and any amendments thereof, each bidder shall set forth below: (a) the name and the location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement to be performed under this contract or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent of the prime contractor's total bid and (b) the portion of the work which will be done by each subcontractor under this act. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in this bid.

If a prime contractor fails to specify a subcontractor or if a prime contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent of the prime contractor's total bid, he shall be deemed to have agreed that he is fully qualified to perform that portion himself, and that he shall perform that portion himself.

No prime contractor whose bid is accepted shall (a) substitute any subcontractor, (b) permit any subcontract to be voluntarily assigned or transferred or allow it to be performed by any one other than the original subcontractor listed in the original bid, or sublet or subcontract any portion of the work in excess of one-half of one percent of the prime contractor's total bid as to which his original bid did not designate a subcontractor, except as authorized in the Subletting and Subcontracting Fair Practices Act. Subletting or subcontracting of any portion of the work in excess of one-half of one percent of the prime contractor's total bid as to which no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the authority awarding this contract setting forth the facts constituting the emergency or necessity.

**In addition to providing the information required by this form prior to the bid opening, bidder shall be required to submit the addresses, telephone numbers, and license numbers of all listed subcontractors within one (1) business day of the bid opening. Failure to provide the foregoing information within the time limit specified may result in the rejection of the bid as nonresponsive.**

DIVISION OF WORK OR TRADE, LICENSE TYPE & LICENSE #		
1.		
2.		
3.		
4.		

# CERTIFICATION OF CONTRACTOR AND SUBCONTRACTOR DIVISION OF INDUSTRIAL RELATIONS REGISTRATION

Pursuant to Public Contract Code Section 1725.5, a contractor or subcontractor must be registered with the Department of Industrial relations in order to bid on, to be listed in a bid proposal or to engage in the performance of any defined public work contract.

I \_\_\_\_\_, \_\_\_\_\_ certify that \_\_\_\_\_  
(Name) (Title) (Contractor Name)

is currently registered as a contractor with the Department of Industrial Relations (DIR):

Contractor's DIR Registration Number \_\_\_\_\_

Expiration date June 30, 20\_\_\_\_\_

Contract further acknowledges:

1. Contractor shall maintain DIR registered status for the duration of the project without a gap in registration.
2. Contractor shall note in its invitation to bid the DIR's registration requirement for all subcontractors and their subcontractors.
3. Contractor shall ensure that all subcontractors are registered at time of bid opening and maintain registered status for the duration of the project.
4. Contractor is to furnish DIR Registration Number for all subcontractors on the project within 24 hours of the bid opening.
5. Contractor shall substitute any subcontractor with a DIR registered contractor if listed subcontractors unable to perform the work.

Failure to comply with any of the above may result in a determination of non-responsiveness. I declare under penalty of perjury under California law that the foregoing is true and correct.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

# CONTRACTOR'S STATEMENT REGARDING MAINTAINING A DRUG FREE WORKPLACE

Bid No. 2324-01

***Del Mar Union School District Policy 4004 in relevant part provides:***

This Board Policy is adopted pursuant to the federal Drug-Free Workplace Act of 1988, the federal Drug-Free Schools and Communities Act Amendments of 1989, and the California Drug-Free Workplace Act of 1990. It is the policy of the District that all its workplaces and facilities be drug and alcohol free.

The unlawful manufacture, distribution, dispensation, possession, or use of any alcohol beverage, drug or controlled substance in any workplace or facility of the District is strictly prohibited. All employees are prohibited from the unlawful manufacture, distribution, dispensation, possession, or use of alcohol or a controlled substance in any workplace or facility of the District. All employees will abide by this prohibition as a condition of employment. Any employee who violates this prohibition will be disciplined up to and including dismissal, and/or required to satisfactorily complete a drug abuse assistance or rehabilitation program selected by the District in conformance with law.

All employees must notify the Superintendent in writing within five (5) days of any drug or alcohol statute conviction for a violation occurring in any workplace or facility of the District. A conviction includes any finding of guilt, including a no contest pleas, or imposition of a sentence. Any employee who is convicted of such a violation will be disciplined up to and including dismissal, and/or required to satisfactorily complete a drug abuse assistance or rehabilitation program selected by the District in conformance with law.

Each District consultant, contractor and vendor shall, moreover, advise the District whether they have a policy or procedure for maintaining a drug free workplace at the consultant's, contractor's, or vendor's own place of business and if so, shall briefly describe it in writing to District officials.

If awarded contract for above referenced bid, contractor agrees to comply with Del Mar Union School District Board Policy 4020 as detailed above.

---

**In accordance with the above, the following must be signed  
and filed with the awarding body as part of the bid package.**

---

Business name: \_\_\_\_\_

Does \_\_\_\_\_ Does not \_\_\_\_\_ Have a policy or procedure for maintaining a drug free workplace at their own place of business.

\_\_\_\_\_ Attached is a copy of such policy or procedure or

\_\_\_\_\_ Following is a brief description of such policy or procedure:

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

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

Legal Reference: the Drug Free Workplace Act of 1988 and Public Law 100-690 Section 5151-5160

**CONTRACTOR'S CERTIFICATE REGARDING  
WORKERS' COMPENSATION**

**Bid No. 2324-01**

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 in one or more insurers duly authorized to write compensation insurance in this State.
  
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, 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.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(In accordance with Article 5 (commencing at section 1860), chapter 1, part 7, division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this contract.)

# NONCOLLUSION DECLARATION

Bid No. 2324-01

State of California )  
 )  
County of \_\_\_\_\_)

I, \_\_\_\_\_ declare as follows:

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

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

\_\_\_\_\_  
Proper Name of Bidder / Company Name

\_\_\_\_\_  
*Signature of Authorized Agent/Officer*

\_\_\_\_\_  
Date

**DEL MAR UNION SCHOOL DISTRICT  
BID NO. 2324-01 Monument Signs  
AGREEMENT FORM**

This Agreement is made this \_\_\_\_\_ day of, \_\_\_\_\_ 2023, by and between the Del Mar Union School District (“District”), a California public school district, and \_\_\_\_\_ (“Contractor”). The District and the Contractor may be referred to herein individually as a “Party” and collectively as the “Parties.”

In consideration of the rights and obligations attendant to this Agreement, the Parties agree as follows:

**Section 1. Scope of Work:** As previously indicated, the bid contract will be for Playground Demolition, Site Preparation and Installation at Ocean Air School only. Detailed specifications are included in the plans which will be incorporated herein by reference.

**Section 2. Time for Completion:** As indicated in the Specifications Section (Exhibit A): All work shall be performed between **December 14, 2023 and April 5, 2024**, any changes must be approved by a District Representative of the Del Mar Union School District.

The District will be the sole judge of the successful bidder. The District reserves the right to reject any or all bids, or to waive any informality or technical defect in a bid.

**Section 3. Contract Price:** As full consideration for the full and faithful performance of the Agreement by the Contractor, the District shall pay to the Contractor the total amount stipulated in the Contractor’s bid for the Project of:

Project Cost: \_\_\_\_\_ Dollars and \_\_\_\_\_ Cents

\$ \_\_\_\_\_

**Section 4. Component Parts of the Contract:** The Contract is composed of all of the documents specified below in the Section (“Contract Documents”), each of which is hereby incorporated as an operative and effective part of the Contract. The Parties intend that the Contract Documents are and shall be complementary and an integrated whole. Any requirement set forth in one Contract Document, but not in one or more of the others, shall be interpreted as if set forth in or applicable to all. The Contract consists of the following Contract Documents:

- Notice to Contractors Calling for Bid
- Information for Bidders
- Bid Form
- References
- Bid Bond
- Designation of Subcontractors
- Contractor’s Statement for Maintaining A Drug-Free Workplace
- Workers’ Compensation Certificate
- Noncollusion Declaration
- Agreement
- Certification of Employee Background
- Performance Bond (if applicable)
- Payment Bond for Public Works
- Special Conditions
- General Conditions (Articles)
- Addendum(s) as Issued

**Section 5. Provisions Required by Law:** Each and every provision required by law to be included in the Contract is hereby deemed to be so included, and the Contract shall be construed and enforced as if all such provisions are so included. If, for any reason, any provision is not included or incorporated into the Contract Documents in accordance with law, or is

not correctly included or incorporated, then, upon request of either the District or the Contractor, they shall amend the Contract Documents to include or incorporate, or to correctly include or incorporate, such provision.

**Section 6. Third Party Beneficiaries:** Except to the extent provided by law (e.g., requirements for payment of prevailing wages to workers on the Project), no party other than the Parties may claim or assert any right or benefit arising from this Agreement or the Contract of which this Agreement is a part. Each provision of the Contract Documents shall be deemed and construed to benefit only the District and/or the Contractor unless and only to the extent the provision is included in the Contract specifically as a result of any law intended to benefit that third party ("Required Provision"). Provisions included in the Contract Documents that relate to or permissibly expand on any Required Provision, but are not necessary for compliance with the law providing for the Required Provision, are to be construed as being included in the Contract for the convenience of the Parties, and shall in no event be construed as benefiting any third party or as providing a basis for any claim, demand, action or other proceeding by a third party relating to the Contract.

**Section 7. Governing Law and Venue:** The Contract of which this Agreement is a part shall be governed by the laws of the State of California. Any action, arbitration or other proceeding arising from the Contract shall be initiated and conducted only in the County of San Diego, California.

**Section 8. Entire Agreement:** The Contract as defined in Section 1 of this Agreement, and as may be amended in accordance with the Contract Documents, constitutes the entire understanding and agreement of the Parties with respect to the Scope of Work described in Section 1 of this Agreement. The Contract supersedes and replaces all other oral or written agreements, understandings, negotiations, or discussions.

**Section 9. Due Authority of Signatories:** Each person signing this Agreement on behalf of a Party represents and warrants that he or she has been duly authorized by such Party to sign, and thereby bind such Party to, this Agreement.

**END OF PAGE///**

In witness whereof, each Party has executed this Agreement by and through signature of its duly-authorized representative as set forth below.

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

License No. \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

DISTRICT:  
Del Mar Union School District

By \_\_\_\_\_

Holly McClurg

Title Superintendent

Date \_\_\_\_\_

Governing Board Date: \_\_\_\_\_

(Corporate Seal)

Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the registrar of the board whose address is:

Contractors' State License Board  
9821 Business Park Drive  
Sacramento, CA 95827



## CERTIFICATION OF EMPLOYEE BACKGROUND

Concerning Department of Justice (DOJ) Fingerprint and Criminal Background  
Investigation Requirements of Education Code (EC) Section 45125.1 *et seq.*

To: Del Mar Union School District  
Attn: Marley Nelms  
11232 El Camino Real  
San Diego, California 92130  
Email: \_\_\_\_\_

Vendor: \_\_\_\_\_  
Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State, Zip Code: \_\_\_\_\_  
Email: \_\_\_\_\_

With respect to the  Agreement  Proposal dated \_\_\_\_\_ between the **Del Mar Union School District ("District")** and the individual, company, or contractor named above ("**Vendor**") for provision of \_\_\_\_\_ services.

*Please check all appropriate boxes and sign below:*

### REQUIREMENTS SATISFIED

- A) The Vendor certifies to the District that it has completed the criminal background check requirements of EC 45125.1 and that none of its employees that may come into contact with, or interact with, District students have been convicted of a felony.  
**ORI #** \_\_\_\_\_

*List or attach names of all employees that have successfully completed the fingerprinting and criminal background check clearance in accordance with the law.*

Employee	Employee	Employee

### WAIVER REQUEST

- B) **FOR CONSTRUCTION OR REPAIR CONTRACTS ONLY.** The Vendor seeks a waiver of the DOJ fingerprint & criminal background investigation permitted by EC section 45125.1. Vendor acknowledges that the District may approve or reject any waiver request in its sole discretion. Vendor and its employees will have more than LIMITED CONTACT with pupils but will ensure that one (1) or more of the following are utilized to protect pupil safety. [EC 45125.2(a)].

**Check all methods to be used:**

- 1) Installation of a physical barrier at the worksite to limit contact with students.
- 2) Continual supervision and monitoring of all employees of the Vendor by an employee of the Vendor, who has complied with EC section 45125.1: \_\_\_\_\_ (employee name).

- C) **FOR ANY CONTRACT INCLUDING CONSTRUCTION OR REPAIR CONTRACTS.**

- 1) Surveillance of employees of the Vendor by school personnel: \_\_\_\_\_  
(District employee name to be filled in by District).
- 2) The services provided by the Vendor are for an "emergency or exceptional situation" per EC 45125.1(b) or EC 45125.2(d).

**I certify under penalty of perjury that the information contained in this Certification and any attachment is true and correct. I understand that it is Vendor's sole responsibility to provide the District with any subsequent arrest and conviction information it receives throughout the duration of the contract between the District and Vendor.**

Print or type name and title of CERTIFYING AUTHORITY: \_\_\_\_\_

Signature of CERTIFYING AUTHORITY: \_\_\_\_\_ Date: \_\_\_\_\_

# PERFORMANCE BOND

(If Required)

KNOW ALL MEN BY THESE PRESENTS: that

WHEREAS, the **Del Mar Union School District** (hereinafter designated as "Public Entity"), by action taken on this \_\_\_\_ day of \_\_\_\_\_, 2023, has awarded to \_\_\_\_\_, hereinafter designated as the "Principal," a contract for the work described as follows: **Bid No. 2324-01 Monument Signs.**

(The "Project"); and

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

NOW THEREFORE, we, the Principal and \_\_\_\_\_, as Surety, are held and firmly bound unto the Public Entity in the penal sum of \$\_\_\_\_\_ (**100% of contract price**) lawful money of the United States of America, 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.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the above bounded Principal, his or 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 said contract and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Public Entity, its 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.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration of addition to the terms of the contract or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation on this bond, it does hereby waive notice of such change, extension of time, alteration, or addition to the terms of the contract, or to the work, or to the specifications.

In the event suit is brought upon this bond by the District and judgment is recovered, the Surety shall pay all litigation expenses incurred by the District in such suit, including attorneys' fees, court costs, expert witness fees and investigation expenses.

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

Principal \_\_\_\_\_

By \_\_\_\_\_

[Attach required acknowledgments]

Surety \_\_\_\_\_

By \_\_\_\_\_

Attorney-in-Fact

For District Informational Purpose:

Surety Company Name \_\_\_\_\_

Contact \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

# PAYMENT BOND FOR PUBLIC WORKS

(Required for contracts of \$25,000 or more)

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_

WHEREAS, the **Del Mar Union School District** (hereinafter designated as "Public Entity"), by action taken on this \_\_\_\_ day of \_\_\_\_\_, 2023, has awarded \_\_\_\_\_ hereinafter designated as the "Principal," a contract for the work described as follows: **Bid No. 2324-01 Monument Signs.**

(The Project:), and

WHEREAS, said Principal is required by Chapter 5 (commencing at section 3225) and Chapter 7 (commencing at Section 3247), Title 15, Part 4, Division 3 of the California Civil Code to furnish a bond in connection with said contract;

NOW THEREFORE, we, the Principal and \_\_\_\_\_, as Surety, are held and firmly bound unto the Public entity in the penal sum of \$\_\_\_\_\_ (**100% of contract price**) lawful money of the United States of America, 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.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in section 30181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to section 18663 of the California Revenue and Taxation Code, with respect to such work and labor the surety or sureties will pay for the same, in an amount not exceeding the sum hereinabove specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the Public Entity in such suit, including reasonable attorney's fees court costs, expert witness fees and investigation expenses.

This bond shall insure to the benefit of any of the persons named in Section 30181 of the California Civil Code so as to give a right of action to such persons of their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement hereinabove described, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the District of Public Entity and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 30110 or 30112 of the California Civil Code, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

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

Principal \_\_\_\_\_

By \_\_\_\_\_

[Attach required acknowledgments]

Surety \_\_\_\_\_

By \_\_\_\_\_

Attorney-in-Fact

For District Informational Purpose:

Surety Company Name \_\_\_\_\_ Contact \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

City, State & Zip \_\_\_\_\_ Fax \_\_\_\_\_

# SPECIAL CONDITIONS

## Bid No. 2324-01

- A. Time of Performance.** The work shall be commenced on the date stated in the Owner’s Notice to the Contractor to Proceed. District and Contractor each hereby stipulate that the stated performance period is accepted as reasonable and that no other performance period shall be acceptable unless accepted in writing (See Article 2 of Agreement and Article 6 of General Conditions.)

Work under this contract shall be scheduled and coordinated in compliance with the following:

1. The anticipated award of contract is **December 13, 2023**, to be awarded by the Board of Governors
2. Anticipated commencement of work will be December 14, 2023.  
All work to be completed **no later than April 5, 2024**.

- B. Specifications.** Referenced in Exhibit “A”

- C. Liquidated Damages.** If work under this contract is not ready for the intended use within the specified time period, the agreed liquidated damages provision established in Article 6 of the General Conditions is five hundred dollars (\$500.00) per day for each calendar date completion is delayed.

- D. Documents Furnished.** The number of copies of specifications to be furnished to Contractor free of charge, per Article 3 of the General Conditions, is one (1).

- E. Bonds.** Contractor shall provide (I) a bid bond in the amount of ten (10%) of the contract price; (II) a payment bond in the amount of one hundred percent (100%) of the contract price; and (III) a performance bond in the amount of one hundred percent (100%) of the contract price.

- F. Insurance.** As provided in General Conditions, Contractor procures and maintains and shall require all subcontractors, if any, whether primary or secondary, to procure and maintain either:

**Comprehensive General Liability Insurance.**

with a combined single limit per occurrence of not less than..... \$1,000,000

OR

**Commercial General Liability and Property Damage Insurance**

(Including automobile insurance) which provides limits of not less than:

- |     |   |             |
|-----|---|-------------|
| (A) | Per Occurrence (combined single limit).....             | \$1,000,000 |
| (B) | Project Specific Aggregate (for this project only)..... | \$2,000,000 |
| (C) | Products/Completed Operations.....                      | \$1,000,000 |
| (D) | Personal & Advertising Injury limit.....                | \$1,000,000 |

**Insurance Covering Special Hazards:** Following special hazards shall be covered by riders or riders to above-mentioned commercial liability insurance or public liability insurance or property damage insurance policy or policies of insurance, or by special policies of insurance, in amounts as follows:

- |     |   |             |
|-----|---|-------------|
| (A) | Automotive and truck where operated in amounts.....     | \$1,000,000 |
| (B) | Material hoist where used in amounts.....               | \$1,000,000 |
| (C) | Explosion, Collapse & Underground (XCU) coverage....    | \$1,000,000 |
| (D) | Excess Liability Insurance coverage in the amount of... | \$1,000,000 |

**Additional Insurance Endorsement:** Any general liability policy provided by Contractor hereunder shall contain an endorsement which applies its coverage to Owner, members of Owner’s board of trustees, and the officers, agents, employees and volunteers of Owner, the State Allocation Board, if applicable, the architect, and the architect’s consultants, individually and collectively, as additional insured’s.

**Executed Copies:** The number of executed copies of the Agreement, the Performance Bond, and the Payment Bond for Public Works required is one (1).

**G. License Classification:** Each bidder shall be a licensed Contractor pursuant to the Business and Professions Code and shall be licensed in one of the following classifications: Class B- General Building Contractor License

**H. Criminal-History Background Checks.** The Contractor shall require and be responsible for ensuring that each person who will be at, on, or in the vicinity of the Project Site on account of the Work, and/or each person who interacts with pupils on account of the Work, has a valid criminal records summary as required by Education Code Section 45125.1. The Contractor must complete, execute, and submit to the District a "Certification of Employee Background" form included in the Required Project Forms, to thereby certify that no person assigned to the Work or who otherwise will be present at or on the Project Site, and/or each person who might interact with pupils, has been convicted of any felony as described in Education Code Section 45122.1. The Contractor must attach to the executed certification a list of all persons to whom the certification applies. The Contractor shall prohibit and prevent each and every person who will be at, on or in the vicinity of the Project Site on account of the Work (including not only all persons assigned to the Work directly by the Contractor, but also all persons assigned to the Work by any Subcontractor, materialman, or other person or entity that furnishes any labor, materials, services, goods or other things in connection with the Work), and/or each person who might interact with pupils, from being present at, on or in the vicinity of the Project Site unless and until the Contractor provides the required certification including such person to the District. Moreover, Contractor shall immediately provide any applicable subsequent arrest and conviction information it receives to the District. If the Contractor is a sole proprietor, the District shall prepare and submit the Contractors fingerprints per Education Code section 45125.1. Any Contractor that is a sole proprietor shall have an immediate and affirmative duty to inform the District of such status so as to allow the District to comply with Education Code section 45125.1. Notwithstanding the foregoing, compliance with Education Code Section 45125.1 shall be subject to the District's sole discretion to grant alternative compliance requirements per Education Code section 45125.2, subdivision (a).

**Certification of Employee Background** will be required to be submitted with the AGREEMENT and the PERFORMANCE and PAYMENT BONDS at the time of award of contract. This form will require verification that prior to commencement of work all supervisors on this project will have received fingerprint clearance from the California Department of Justice and will provide continuous supervision and monitoring of the contractor's employees. Failure to provide this verification will cause the Contractor to be non-responsive and the project to be re-awarded to the next lowest, responsive bidder.

**I. Award of Bid:** The District reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding. The award of the contract, if made by the Owner, will be to the lowest responsible, responsive bidder(s).

**J. Work Schedule:** A work schedule is to be reviewed and approved by the Owner's Representative, Carlos Avalos, Director of Maintenance, Operations & Facilities, prior to any work being done. He can be reached at (858) 523-6185.

**K. Safety:** The contractor shall be responsible for the safety of his workers and his subcontractors, the public, school staff, and students within his area of work. The contractor shall provide substantial barricades around his area of work. At the end of each workday the area shall be left reasonably free of debris and secured.

Exhibit "A"  
**SPECIFICATIONS**

**SPECIFICATIONS  
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Division	Section Title
----------	---------------

**DIVISION 01 - GENERAL REQUIREMENTS**

01 10 00	SUMMARY
01 25 00	SUBSTITUTION PROCEDURES
01 29 00	PAYMENT PROCEDURES
01 31 00	PROJECT MANAGEMENT AND COORDINATION
01 32 00	CONSTRUCTION PROGRESS DOCUMENTATION
01 32 33	PHOTOGRAPHIC DOCUMENTATION
01 33 00	SUBMITTAL PROCEDURES
01 40 00	QUALITY REQUIREMENTS
01 42 00	REFERENCES
01 50 00	TEMPORARY FACILITIES AND CONTROLS
01 56 39	TEMPORARY TREE AND PLANT PROTECTION
01 60 00	PRODUCT REQUIREMENTS
01 73 00	EXECUTION
01 74 19	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
01 77 00	CLOSEOUT PROCEDURES
01 78 39	PROJECT RECORD DOCUMENTS

**DIVISION 02 - EXISTING CONDITIONS**

02 41 16	STRUCTURE DEMOLITION
02 41 19	SELECTIVE DEMOLITION

**DIVISION 03 - CONCRETE**

03 30 30	CAST-IN-PLACE CONCRETE
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**DIVISION 04 - MASONRY**

04 22 00	CONCRETE UNIT MASONRY
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**DIVISION 05 - METALS**

NOT USED

**DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES**

NOT USED

**DIVISION 07 - THERMAL AND MOISTURE PROTECTION**

07 92 00	JOINT SEALANTS
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**DIVISION 08 - OPENINGS**

NOT USED

**DIVISION 09 - FINISHES**

09 24 00	CEMENT PLASTERING
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**DIVISION 10 - SPECIALTIES**

10 14 19	DIMENSIONAL LETTER SIGNAGE
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Division	Section Title
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**DIVISION 11 - EQUIPMENT**

NOT USED

**DIVISION 12 - FURNISHINGS**

NOT USED

**DIVISION 13 - SPECIAL CONSTRUCTION**

NOT USED

**DIVISION 14 - CONVEYING EQUIPMENT**

NOT USED

**DIVISION 21 - FIRE SUPPRESSION**

NOT USED

**DIVISION 22 - PLUMBING**

NOT USED

**DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)**

NOT USED

**DIVISION 26 - ELECTRICAL**

NOT USED

**DIVISION 27 - COMMUNICATIONS**

NOT USED

**DIVISION 28 - ELECTRONIC SAFETY AND SECURITY**

NOT USED

**DIVISION 31 - EARTHWORK**

31 10 00            SITE CLEARING

**DIVISION 32 - EXTERIOR IMPROVEMENTS**

NOT USED

**DIVISION 33 - UTILITIES**

NOT USED

END OF TABLE OF CONTENTS



SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and Drawing conventions.

- B. Related Requirements:

1. Section 01 50 00 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
2. Section 01 73 00 "Execution" for coordination of Owner-installed products.

1.3 DEFINITIONS

- A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.4 PROJECT INFORMATION

- A. Project Identification: Monument Signs at Seven Sites
- B. Project Description: Project includes demolition of existing monument signs at seven District sites and construction of new concrete masonry unit (CMU) monument signs with stucco finish at each site as indicated in Construction Documents.
- C. Project Location:
  1. Ashley Falls School  
13030 Ashley Falls Drive  
San Diego, CA 92130

2. Carmel Del Mar School  
12345 Carmel Park Drive  
San Diego, CA 92130
3. Ocean Air School  
11444 Canter Heights Drive  
San Diego, CA 92130
4. Sage Canyon School  
5290 Harvest Run Drive  
San Diego, CA 92130
5. Sycamore Ridge School  
5333 Old Carmel Valley Road  
San Diego, CA 92130
6. Torrey Hills School  
10830 Calle Mar De Mariposa  
San Diego, CA 92130

D. Owner: Del Mar Union School District .

1. Owner's Representative: Carlos Avalos, Director of Maintenance, Operations and Facilities.

E. Architect: OBR Architecture.

1. Architect's Representative: Garrick Oliver, Project Architect .

## 1.5 CONTRACT

A. Type of Contract:

1. Project will be constructed under a single prime contract.

## 1.6 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to District, District's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

- a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
  - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
- D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

#### 1.7 COORDINATION WITH OCCUPANTS

- A. Full District Occupancy: District will occupy site and existing building(s) during entire construction period. Cooperate with District during construction operations to minimize conflicts and facilitate District usage. Perform the Work so as not to interfere with District's day-to-day operations. Maintain existing exits unless otherwise indicated.
1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from District and approval of authorities having jurisdiction.
  2. Notify District not less than 72 hours in advance of activities that will affect District's operations.
- B. School Calendar and Bell Schedules: Coordinate with school staff to minimize disruption to school activities.
1. Campus school session is based on traditional school year calendar. Verify with District when school starts and ends.
  2. School Holidays and Non-Instructional Days: Verify with District the dates for school holidays, breaks and non-instructional days.
  3. Testing Dates: The school has designated dates throughout the year for testing. Verify dates with District prior to commencement of work.
  4. Bell Schedule: Verify bell schedule with District prior to commencement of work.
  5. After School Program Schedules: Work in all areas shall be done to avoid conflict and disruption with after-school activities and programs on site.

#### 1.8 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to hours as indicated below. Exceptions to these hours include utility shutdowns and noisy activity.

1. Summer Break hours shall be based on double shift schedules, 6:30am-2:45pm; 3:00pm-11:00pm. No construction equipment or loud noises permitted from 7pm-7am.
  2. School Calendar year hours shall be based on after-school hours only, 2:45pm-11:00pm. No construction equipment or loud noises permitted from 7pm-7am.
- C. Summer break will occur from 6/2/2023 through 08/14/2023. Work may be performed at any time during this period.
- D. Standard and Modified Work Week
1. A standard work week is defined as Monday through Friday. A standard work day is defined as eight (8) hours worked in between the hours of 7:00 a.m. and 7:00 p.m. during a standard work week, as defined in California Labor Code sections 1810 through 1815.
- In order to minimize disruption to the teaching environment, the Contractor may be required, at the District's discretion, to have their employees work a modified work week. A modified work week is defined as any forty (40) hour week *other than a standard work week*.
- If the Contractor is required to work a modified work week, the work will be performed at *straight time*. No overtime compensation will be authorized, or paid, by the District for a modified work week schedule.
- E. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by District or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
- F. Notify District not less than seven days in advance of proposed utility interruptions.
- G. Obtain District's written permission before proceeding with utility interruptions.
- H. Noise, Vibration, and Odors: Coordinate with District operations that may result in high levels of noise and vibration, odors, or other disruption to District occupancy or neighboring properties.
- I. Notify District not less than seven days in advance of proposed disruptive operations.
- J. Obtain District's written permission before proceeding with disruptive operations.
- K. Controlled Substances: Use of tobacco products and other controlled substances on District property is not permitted.

#### 1.9 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
  3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
  4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

## SECTION 01 25 00 - SUBSTITUTION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Section 01 23 00 "Alternates" for products selected under an alternate.
  - 2. Section 01 60 00 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

#### 1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.

#### 1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use form acceptable to Architect.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
    - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as

- performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. Certificates and qualification data, where applicable or requested.
  - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
  - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
  - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES .
  - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
  - k. Cost information, including a proposal of change, if any, in the Contract Sum.
  - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
  - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
  - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

## 1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 35 days prior to time required for preparation and review of related submittals.
1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
  - b. Substitution request is fully documented and properly submitted.
  - c. Requested substitution will not adversely affect Contractor's construction schedule.
  - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
  - e. Requested substitution is compatible with other portions of the Work.
  - f. Requested substitution has been coordinated with other portions of the Work.
  - g. Requested substitution provides specified warranty.
  - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00



SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
  - 1. Document 004373 "Proposed Schedule of Values Form" for requirements for furnishing proposed schedule of values with bid.
  - 2. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
  - 1. Identification: Include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Owner's name.

- c. Owner's Project number.
  - d. Name of Architect.
  - e. Architect's Project number.
  - f. Contractor's name and address.
  - g. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703 .
  3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
  4. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    - a. Differentiate between items stored on-site and items stored off-site.
  5. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
  6. Purchase Contracts: Provide a separate line item in the schedule of values for each Purchase contract. Show line-item value of Purchase contract. Indicate Owner payments or deposits, if any, and balance to be paid by Contractor.
  7. Overhead Costs, Proportional Distribution: Include total cost and proportionate share of general overhead and profit for each line item.
  8. Overhead Costs, Separate Line Items: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
  9. Temporary Facilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
  10. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
  11. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

#### 1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

1. Other Application for Payment forms proposed by the Contractor may be acceptable to Architect and Owner. Submit forms for approval with initial submittal of schedule of values.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
  2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
  2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
  2. Schedule of values.
  3. Contractor's construction schedule (preliminary if not final).

4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
  5. Products list (preliminary if not final).
  6. Sustainable design action plans, including preliminary project materials cost data.
  7. Schedule of unit prices.
  8. Submittal schedule (preliminary if not final).
  9. List of Contractor's staff assignments.
  10. List of Contractor's principal consultants.
  11. Copies of building permits.
  12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  13. Initial progress report.
  14. Report of preconstruction conference.
  15. Certificates of insurance and insurance policies.
  16. Performance and payment bonds.
  17. Data needed to acquire Owner's insurance.
- H. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
    - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 01 77 00 "Closeout Procedures."
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Certification of completion of final punch list items.
  3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  4. Updated final statement, accounting for final changes to the Contract Sum.
  5. AIA Document G706.
  6. AIA Document G706A.
  7. AIA Document G707.
  8. Evidence that claims have been settled.
  9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
  10. Final liquidated damages settlement statement.
  11. Proof that taxes, fees, and similar obligations are paid.
  12. Waivers and releases.

SPECIFICATIONS  
BID DOCUMENTS

Del Mar Union School District  
Monument Signs

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. RFIs.
4. Digital project management procedures.
5. Web-based Project management software package.
6. Project meetings.

- B. Related Requirements:

1. Section 01 32 00 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 01 73 00 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 01 77 00 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses, cellular telephone numbers, and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

## 1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
  2. Preparation of the schedule of values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Preinstallation conferences.
  7. Project closeout activities.
  8. Startup and adjustment of systems.

## 1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    - b. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    - c. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

- B. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. File Preparation Format:
    - a. Same digital data software program, version, and operating system as original Drawings.
    - b. DWG , Version AutoCAD 2013 , operating in Microsoft Windows operating system.
  2. File Submittal Format: Submit or post coordination drawing files using PDF format.
  3. BIM File Incorporation: Develop and incorporate coordination drawing files into BIM established for Project.
    - a. Contractor will perform three-dimensional component conflict analysis as part of preparation of coordination drawings. Resolve component conflicts prior to submittal. Indicate where conflict resolution requires modification of design requirements by Architect.
  4. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
    - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
    - b. Digital Data Software Program: Drawings are available in Revit 2019 and AutoCAD 2013 .
    - c. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.

#### 1.7 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
  2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Owner's Project number.
  3. Name of Architect.
  4. Date.
  5. Name of Contractor.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.



12. Contractor's signature.
  13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
1. Attachments shall be electronic files in PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.
    - e. Requests for adjustments in the Contract Time or the Contract Sum.
    - f. Requests for interpretation of Architect's actions on submittals.
    - g. Incomplete RFIs or inaccurately prepared RFIs.
  2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
  3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 26 00 "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use software log that is part of web-based Project management software. Software log with not less than the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect.
  4. RFI number, including RFIs that were returned without action or withdrawn.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

## 1.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Architect's Digital Data Files: Digital data files of Architect's BIM model and CAD drawings will be provided by Architect for Contractor's use during construction.
1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project Record Drawings.
  2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
  3. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.
- B. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
  2. Name file with submittal number or other unique identifier, including revision identifier.
  3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

## 1.9 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Responsibilities and personnel assignments.
    - b. Tentative construction schedule.
    - c. Phasing.
    - d. Critical work sequencing and long lead items.
    - e. Designation of key personnel and their duties.
    - f. Lines of communications.
    - g. Use of web-based Project software.
    - h. Procedures for processing field decisions and Change Orders.

- i. Procedures for RFIs.
  - j. Procedures for testing and inspecting.
  - k. Procedures for processing Applications for Payment.
  - l. Distribution of the Contract Documents.
  - m. Submittal procedures.
  - n. Sustainable design requirements.
  - o. Preparation of Record Documents.
  - p. Use of the premises.
  - q. Work restrictions.
  - r. Working hours.
  - s. Owner's occupancy requirements.
  - t. Responsibility for temporary facilities and controls.
  - u. Procedures for moisture and mold control.
  - v. Procedures for disruptions and shutdowns.
  - w. Construction waste management and recycling.
  - x. Parking availability.
  - y. Office, work, and storage areas.
  - z. Equipment deliveries and priorities.
  - aa. First aid.
  - bb. Security.
  - cc. Progress cleaning.
3. Minutes: Contractor will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, and Owner's Commissioning Authority of scheduled meeting dates.
  2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.
    - g. Submittals.
    - h. Sustainable design requirements.
    - i. Review of mockups.
    - j. Possible conflicts.
    - k. Compatibility requirements.
    - l. Time schedules.
    - m. Weather limitations.
    - n. Manufacturer's written instructions.
    - o. Warranty requirements.
    - p. Compatibility of materials.
    - q. Acceptability of substrates.

- r. Temporary facilities and controls.
  - s. Space and access limitations.
  - t. Regulations of authorities having jurisdiction.
  - u. Testing and inspecting requirements.
  - v. Installation procedures.
  - w. Coordination with other work.
  - x. Required performance results.
  - y. Protection of adjacent work.
  - z. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
  2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
    - a. Preparation of Record Documents.
    - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    - c. Procedures for completing and archiving web-based Project software site data files.
    - d. Submittal of written warranties.
    - e. Requirements for completing sustainable design documentation.
    - f. Requirements for preparing operations and maintenance data.
    - g. Requirements for delivery of material samples, attic stock, and spare parts.
    - h. Requirements for demonstration and training.
    - i. Preparation of Contractor's punch list.
    - j. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    - k. Submittal procedures.
    - l. Coordination of separate contracts.
    - m. Owner's partial occupancy requirements.
    - n. Installation of Owner's furniture, fixtures, and equipment.
    - o. Responsibility for removing temporary facilities and controls.
  4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at weekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner ,Owner's Commissioning Authority and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
  - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - 1) Review schedule for next period.
  - b. Review present and future needs of each entity present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Resolution of BIM component conflicts.
    - 4) Status of submittals.
    - 5) Status of sustainable design documentation.
    - 6) Deliveries.
    - 7) Off-site fabrication.
    - 8) Access.
    - 9) Site use.
    - 10) Temporary facilities and controls.
    - 11) Progress cleaning.
    - 12) Quality and work standards.
    - 13) Status of correction of deficient items.
    - 14) Field observations.
    - 15) Status of RFIs.
    - 16) Status of Proposal Requests.
    - 17) Pending changes.
    - 18) Status of Change Orders.
    - 19) Pending claims and disputes.
    - 20) Documentation of information for payment requests.
4. Minutes: Contractor will record and distribute the meeting minutes to each party present and to parties requiring information.
  - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

SPECIFICATIONS  
BID DOCUMENTS

Del Mar Union School District  
Monument Signs

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

## SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Startup construction schedule.
  - 2. Contractor's Construction Schedule.
  - 3. Construction schedule updating reports.
  - 4. Daily construction reports.
  - 5. Material location reports.
  - 6. Site condition reports.
  - 7. Unusual event reports.
  - 8. Special reports.
- B. Related Requirements:
  - 1. Section 01 40 00 "Quality Requirements" for schedule of tests and inspections.
  - 2. Section 01 29 00 "Payment Procedures" for schedule of values and requirements for use of cost-loaded schedule for Applications for Payment.

#### 1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
  - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
  - 2. Predecessor Activity: An activity that precedes another activity in the network.
  - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine the critical path of Project and when activities can be performed.

- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
  - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
  - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for completing an activity as scheduled.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. PDF file.
- B. Startup construction schedule.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- D. Construction Schedule Updating Reports: Submit with Applications for Payment.

#### 1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.
- B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 01 31 00 "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's Construction Schedule, including, but not limited to, the following:
  - 1. Review software limitations and content and format for reports.
  - 2. Verify availability of qualified personnel needed to develop and update schedule.
  - 3. Discuss constraints, including work stages area separations interim milestones and partial Owner occupancy.
  - 4. Review delivery dates for Owner-furnished products.
  - 5. Review submittal requirements and procedures.



6. Review time required for review of submittals and resubmittals.
7. Review requirements for tests and inspections by independent testing and inspecting agencies.
8. Review time required for Project closeout and Owner startup procedures , including commissioning activities.
9. Review and finalize list of construction activities to be included in schedule.
10. Review procedures for updating schedule.

#### 1.6 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
  1. Secure time commitments for performing critical elements of the Work from entities involved.
  2. Coordinate each construction activity in the network with other activities, and schedule them in proper sequence.

#### 1.7 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
  1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
  1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
  2. Procurement Activities: Include procurement process activities for the following long lead-time items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  3. Submittal Review Time: Include review and resubmittal times indicated in Section 01 33 00 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
  4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
  5. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and Final Completion.

- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
  2. Work under More Than One Contract: Include a separate activity for each contract.
  3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
  4. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 01 10 00 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
  5. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
    - a. Subcontract awards.
    - b. Submittals.
    - c. Purchases.
    - d. Mockups.
    - e. Fabrication.
    - f. Installation.
    - g. Tests and inspections.
    - h. Curing.
    - i. Building flush-out.
    - j. Startup and placement into final use and operation.
    - k. Commissioning.
  6. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
    - a. Structural completion.
    - b. Temporary enclosure and space conditioning.
    - c. Permanent space enclosure.
    - d. Completion of mechanical installation.
    - e. Completion of electrical installation.
    - f. Substantial Completion.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion .
- F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
  2. Pending modifications affecting the Work and the Contract Time.
- G. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  3. As the Work progresses, indicate Final Completion percentage for each activity.
- H. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- I. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

#### 1.8 STARTUP CONSTRUCTION SCHEDULE

- A. Gantt-Chart Schedule: Submit startup, horizontal, Gantt-chart-type construction schedule within 14 days of date established for the Notice to Proceed .
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

#### 1.9 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 14 days of date established for the Notice to Proceed .
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

#### 1.10 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Testing and inspection.
8. Accidents.
9. Meetings and significant decisions.
10. Unusual events.
11. Stoppages, delays, shortages, and losses.
12. Meter readings and similar recordings.
13. Emergency procedures.
14. Orders and requests of authorities having jurisdiction.
15. Change Orders received and implemented.
16. Construction Change Directives received and implemented.
17. Services connected and disconnected.
18. Equipment or system tests and startups.
19. Partial completions and occupancies.
20. Substantial Completions authorized.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 32 00

## SECTION 01 32 33 - PHOTOGRAPHIC DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
  - 1. Preconstruction photographs.
  - 2. Concealed Work photographs.
  - 3. Final Completion construction photographs.
- B. Related Requirements:
  - 1. Section 01 77 00 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
  - 2. Section 02 41 16 "Structure Demolition" for photographic documentation before building demolition operations commence.
  - 3. Section 02 41 19 "Selective Demolition" for photographic documentation before selective demolition operations commence.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph . Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within five days of taking photographs.
  - 1. Submit photos by uploading to web-based Project management software site. Include copy of key plan indicating each photograph's location and direction.
  - 2. Identification: Provide the following information with each image description in web-based Project management software site:
    - a. Name of Project.
    - b. Name of Contractor.
    - c. Date photograph was taken.
    - d. Description of location, vantage point, and direction.
    - e. Unique sequential identifier keyed to accompanying key plan.

1.4 FORMATS AND MEDIA

- A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than pixels. Use flash in low light levels or backlit conditions.

1.5 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs with maximum depth of field and in focus.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect .
  - 1. Flag excavation areas before taking construction photographs.
  - 2. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- C. Concealed Work Photographs: Before proceeding with installing work that will conceal other work, take photographs sufficient in number, with annotated descriptions, to record nature and location of concealed Work, including, but not limited to, the following:
  - 1. Underground utilities.
  - 2. Underslab services.
  - 3. Piping.
  - 4. Electrical conduit.
  - 5. Waterproofing and weather-resistant barriers.
- D. Final Completion Construction Photographs: Take photographs after date of Substantial Completion for submission as Project Record Documents. Architect will inform photographer of desired vantage points.
- E. Additional Photographs: Architect may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum.
  - 1. Three days' notice will be given, where feasible.
  - 2. In emergency situations, take additional photographs within 24 hours of request.
  - 3. Circumstances that could require additional photographs include, but are not limited to, the following:
    - a. Photographs shall be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
    - b. Extra record photographs at time of final acceptance.
    - c. Owner's request for special publicity photographs.

SPECIFICATIONS  
BID DOCUMENTS

Del Mar Union School District  
Monument Signs

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 32 33

## SECTION 01 33 00 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Submittal schedule requirements.
- 2. Administrative and procedural requirements for submittals.

- B. Related Requirements:

- 1. Section 01 29 00 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
- 2. Section 01 31 00 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
- 3. Section 01 32 00 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
- 4. Section 01 32 33 "Photographic Documentation" for submitting preconstruction photographs, periodic construction photographs, and Final Completion construction photographs.
- 5. Section 01 40 00 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
- 6. Section 01 77 00 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
- 7. Section 01 78 23 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
- 8. Section 01 78 39 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying



with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

#### 1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  2. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  3. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    - a. Submit revised submittal schedule as required to reflect changes in current status and timing for submittals.
  4. Format: Arrange the following information in a tabular format:
    - a. Scheduled date for first submittal.
    - b. Specification Section number and title.
    - c. Submittal Category: Action; informational.
    - d. Name of subcontractor.
    - e. Description of the Work covered.
    - f. Scheduled date for Architect's final release or approval.
    - g. Scheduled dates for purchasing.
    - h. Scheduled date of fabrication.
    - i. Scheduled dates for installation.
    - j. Activity or event number.

#### 1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
  2. Date.
  3. Name of Architect.
  4. Name of Contractor.
  5. Name of firm or entity that prepared submittal.
  6. Names of subcontractor, manufacturer, and supplier.
  7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier and alphanumeric suffix for resubmittals.
  8. Category and type of submittal.
  9. Submittal purpose and description.

10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
  11. Drawing number and detail references, as appropriate.
  12. Indication of full or partial submittal.
  13. Location(s) where product is to be installed, as appropriate.
  14. Other necessary identification.
  15. Remarks.
  16. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- E. Submittals Utilizing Web-Based Project Software: Prepare submittals as PDF files or other format indicated by Project management software.

#### 1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project management software website. Enter required data in web-based software site to fully identify submittal.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
  4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No

extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

## 1.7 SUBMITTAL REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
  - a. Manufacturer's catalog cuts.
  - b. Manufacturer's product specifications.
  - c. Standard color charts.
  - d. Statement of compliance with specified referenced standards.
  - e. Testing by recognized testing agency.
  - f. Application of testing agency labels and seals.
  - g. Notation of coordination requirements.
  - h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:
  - a. Wiring diagrams that show factory-installed wiring.
  - b. Printed performance curves.
  - c. Operational range diagrams.
  - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches , but no larger than 30 by 42 inches .
  3. BIM Incorporation: Develop and incorporate Shop Drawing files into BIM established for Project.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
  2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
    - a. Project name and submittal number.
    - b. Generic description of Sample.
    - c. Product name and name of manufacturer.
    - d. Sample source.
    - e. Number and title of applicable Specification Section.
    - f. Specification paragraph number and generic name of each item.
  3. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
  4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.

- a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
  - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.
    - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
    - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

D. Certificates:

1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
2. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.

E. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - a. Name of evaluation organization.
  - b. Date of evaluation.
  - c. Time period when report is in effect.
  - d. Product and manufacturers' names.
  - e. Description of product.
  - f. Test procedures and results.
  - g. Limitations of use.

#### 1.8 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp . Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
  1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

#### 1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required , and return.
  1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action .
  2. Submittals by Web-Based Project Management Software: Architect will indicate, on Project management software website, the appropriate action.

- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 33 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
  - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Mockups: Full-size physical assemblies that are constructed either as freestanding temporary built elements or as part of permanent construction. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
  - 1. Laboratory Mockups: Full-size physical assemblies constructed and tested at testing facility to verify performance characteristics.
  - 2. Integrated Exterior Mockups: Mockups of the exterior envelope constructed on-site as freestanding temporary built elements , consisting of multiple products, assemblies, and subassemblies, with cutaways enabling inspection of concealed portions of the Work.



- a. Include each system, assembly, component, and part of the exterior wall and roof to be constructed for the Project. Colors of components shall be those selected by the Architect for use in the Project.
  3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes; doors; windows; millwork; casework; specialties; furnishings and equipment; and lighting.
  4. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
  5. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.
- E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- G. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" shall have the same meaning as the term "testing agency."
- I. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- J. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect.

#### 1.4 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within

reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

#### 1.5 ACTION SUBMITTALS

##### A. Mockup Shop Drawings:

1. Include plans, sections, elevations, and details, indicating materials and size of mockup construction.
2. Indicate manufacturer and model number of individual components.
3. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

#### 1.6 INFORMATIONAL SUBMITTALS

##### A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

##### B. Qualification Data: For Contractor's quality-control personnel.

##### C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
2. Primary wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

##### D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

##### E. Reports: Prepare and submit certified written reports and documents as specified.

##### F. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

#### 1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

##### A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and

quality-control responsibilities and to coordinate Owner's quality-assurance and quality-control activities. Coordinate with Contractor's Construction Schedule.

- B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
  - 1. Project quality-control manager may also serve as Project superintendent .
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Monitoring and Documentation: Maintain testing and inspection reports, including log of approved and rejected results. Include Work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming Work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

#### 1.8 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
  - 1. Date of issue.
  - 2. Project title and number.
  - 3. Name, address, telephone number, and email address of testing agency.
  - 4. Dates and locations of samples and tests or inspections.
  - 5. Names of individuals making tests and inspections.
  - 6. Description of the Work and test and inspection method.
  - 7. Identification of product and Specification Section.
  - 8. Complete test or inspection data.
  - 9. Test and inspection results and an interpretation of test results.
  - 10. Record of temperature and weather conditions at time of sample-taking and testing and inspection.
  - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  - 12. Name and signature of laboratory inspector.
  - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
  - 1. Name, address, telephone number, and email address of technical representative making report.
  - 2. Statement on condition of substrates and their acceptability for installation of product.
  - 3. Statement that products at Project site comply with requirements.

4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement of whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of factory-authorized service representative making report.
  2. Statement that equipment complies with requirements.
  3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  4. Statement of whether conditions, products, and installation will affect warranty.
  5. Other required items indicated in individual Specification Sections.

#### 1.9 QUALITY ASSURANCE

- A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged in the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following Contractor's responsibilities, including the following:
1. Provide test specimens representative of proposed products and construction.
  2. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
  3. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
  4. Build site-assembled test assemblies and mockups, using installers who will perform same tasks for Project.
  5. Build laboratory mockups at testing facility, using personnel, products, and methods of construction indicated for the completed Work.
  6. When testing is complete, remove test specimens and test assemblies, and mockups, and laboratory mockups; do not reuse products on Project.
  7. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect and Commissioning Authority, with copy to Contractor. Interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from the Contract Documents.
- K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups of size indicated.
  2. Build mockups in location indicated or, if not indicated, as directed by Architect.
  3. Notify Architect seven days in advance of dates and times when mockups will be constructed.

4. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
  5. Demonstrate the proposed range of aesthetic effects and workmanship.
  6. Obtain Architect's approval of mockups before starting corresponding Work, fabrication, or construction.
    - a. Allow seven days for initial review and each re-review of each mockup.
  7. Promptly correct unsatisfactory conditions noted by Architect's preliminary review, to the satisfaction of the Architect, before completion of final mockup.
  8. Approval of mockups by the Architect does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  9. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  10. Demolish and remove mockups when directed unless otherwise indicated.
- L. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings . Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials. Comply with requirements in "Mockups" Paragraph.
1. Coordinate construction of the mockup to allow observation of air barrier installation, flashings, air barrier integration with fenestration systems, and other portions of the building air/moisture barrier and drainage assemblies, prior to installation of veneer, cladding elements, and other components that will obscure the work.

#### 1.10 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
  2. Engage a qualified testing agency to perform quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
  4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and

reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

- C. Testing Agency Responsibilities: Cooperate with Architect , Commissioning Authority and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect , Commissioning Authority, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
  3. Conduct and interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from requirements.
  4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  6. Do not perform duties of Contractor.
- D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00 "Submittal Procedures."
- E. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- F. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspection equipment at Project site.

- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
  - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's Construction Schedule. Update and submit with each Application for Payment.
  - 1. Schedule Contents: Include tests, inspections, and quality-control services, including Contractor- and Owner-retained services, commissioning activities, and other Project-required services paid for by other entities.
  - 2. Distribution: Distribute schedule to Owner, Architect, Commissioning Authority, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

#### 1.11 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner

#### PART 2 - PRODUCTS (Not Used)

#### PART 3 - EXECUTION

##### 3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 73 00 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00



SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

#### 1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Abbreviations and acronyms not included in this list shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States." The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; [www.aabc.com](http://www.aabc.com).
2. AAMA - American Architectural Manufacturers Association; [www.aamanet.org](http://www.aamanet.org).
3. AAPFCO - Association of American Plant Food Control Officials; [www.aapfco.org](http://www.aapfco.org).
4. AASHTO - American Association of State Highway and Transportation Officials; [www.transportation.org](http://www.transportation.org).
5. AATCC - American Association of Textile Chemists and Colorists; [www.aatcc.org](http://www.aatcc.org).
6. ABMA - American Bearing Manufacturers Association; [www.americanbearings.org](http://www.americanbearings.org).
7. ABMA - American Boiler Manufacturers Association; [www.abma.com](http://www.abma.com).
8. ACI - American Concrete Institute; (Formerly: ACI International); [www.concrete.org](http://www.concrete.org).
9. ACPA - American Concrete Pipe Association; [www.concrete-pipe.org](http://www.concrete-pipe.org).
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); [www.aeic.org](http://www.aeic.org).
11. AF&PA - American Forest & Paper Association; [www.afandpa.org](http://www.afandpa.org).
12. AGA - American Gas Association; [www.aga.org](http://www.aga.org).
13. AHAM - Association of Home Appliance Manufacturers; [www.aham.org](http://www.aham.org).
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); [www.ahrinet.org](http://www.ahrinet.org).
15. AI - Asphalt Institute; [www.asphaltinstitute.org](http://www.asphaltinstitute.org).
16. AIA - American Institute of Architects (The); [www.aia.org](http://www.aia.org).
17. AISC - American Institute of Steel Construction; [www.aisc.org](http://www.aisc.org).
18. AISI - American Iron and Steel Institute; [www.steel.org](http://www.steel.org).
19. AITC - American Institute of Timber Construction; [www.aitc-glulam.org](http://www.aitc-glulam.org).
20. AMCA - Air Movement and Control Association International, Inc.; [www.amca.org](http://www.amca.org).
21. ANSI - American National Standards Institute; [www.ansi.org](http://www.ansi.org).
22. AOSA - Association of Official Seed Analysts, Inc.; [www.aosaseed.com](http://www.aosaseed.com).
23. APA - APA - The Engineered Wood Association; [www.apawood.org](http://www.apawood.org).

24. APA - Architectural Precast Association; [www.archprecast.org](http://www.archprecast.org).
25. API - American Petroleum Institute; [www.api.org](http://www.api.org).
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; [www.asphaltroofing.org](http://www.asphaltroofing.org).
29. ASCE - American Society of Civil Engineers; [www.asce.org](http://www.asce.org).
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; [www.ashrae.org](http://www.ashrae.org).
32. ASME - ASME International; (American Society of Mechanical Engineers); [www.asme.org](http://www.asme.org).
33. ASSE - American Society of Sanitary Engineering; [www.asse-plumbing.org](http://www.asse-plumbing.org).
34. ASSP - American Society of Safety Professionals (The); [www.assp.org](http://www.assp.org).
35. ASTM - ASTM International; [www.astm.org](http://www.astm.org).
36. ATIS - Alliance for Telecommunications Industry Solutions; [www.atis.org](http://www.atis.org).
37. AVIXA - Audiovisual and Integrated Experience Association; (Formerly: Infocomm International); [www.soundandcommunications.com](http://www.soundandcommunications.com).
38. AWEA - American Wind Energy Association; [www.awea.org](http://www.awea.org).
39. AWI - Architectural Woodwork Institute; [www.awinet.org](http://www.awinet.org).
40. AWMAC - Architectural Woodwork Manufacturers Association of Canada; [www.awmac.com](http://www.awmac.com).
41. AWPA - American Wood Protection Association; [www.awpa.com](http://www.awpa.com).
42. AWS - American Welding Society; [www.aws.org](http://www.aws.org).
43. AWWA - American Water Works Association; [www.awwa.org](http://www.awwa.org).
44. BHMA - Builders Hardware Manufacturers Association; [www.buildershardware.com](http://www.buildershardware.com).
45. BIA - Brick Industry Association (The); [www.gobrick.com](http://www.gobrick.com).
46. BICSI - BICSI, Inc.; [www.bicsi.org](http://www.bicsi.org).
47. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); [www.bifma.org](http://www.bifma.org).
48. BISSC - Baking Industry Sanitation Standards Committee; [www.bissc.org](http://www.bissc.org).
49. BWF - Badminton World Federation; (Formerly: International Badminton Federation); [www.bissc.org](http://www.bissc.org).
50. CDA - Copper Development Association; [www.copper.org](http://www.copper.org).
51. CE - Conformite Europeenne; <http://ec.europa.eu/growth/single-market/ce-marking/>.
52. CEA - Canadian Electricity Association; [www.electricity.ca](http://www.electricity.ca).
53. CFFA - Chemical Fabrics and Film Association, Inc.; [www.chemicalfabricsandfilm.com](http://www.chemicalfabricsandfilm.com).
54. CFSEI - Cold-Formed Steel Engineers Institute; [www.cfsei.org](http://www.cfsei.org).
55. CGA - Compressed Gas Association; [www.cganet.com](http://www.cganet.com).
56. CIMA - Cellulose Insulation Manufacturers Association; [www.cellulose.org](http://www.cellulose.org).
57. CISCA - Ceilings & Interior Systems Construction Association; [www.cisca.org](http://www.cisca.org).
58. CISPI - Cast Iron Soil Pipe Institute; [www.cispi.org](http://www.cispi.org).
59. CLFMI - Chain Link Fence Manufacturers Institute; [www.chainlinkinfo.org](http://www.chainlinkinfo.org).
60. CPA - Composite Panel Association; [www.compositepanel.org](http://www.compositepanel.org).
61. CRI - Carpet and Rug Institute (The); [www.carpet-rug.org](http://www.carpet-rug.org).
62. CRRC - Cool Roof Rating Council; [www.coolroofs.org](http://www.coolroofs.org).
63. CRSI - Concrete Reinforcing Steel Institute; [www.crsi.org](http://www.crsi.org).
64. CSA - CSA Group; [www.csa-group.org](http://www.csa-group.org).

65. CSI - Construction Specifications Institute (The); [www.csiresources.org](http://www.csiresources.org).
66. CSSB - Cedar Shake & Shingle Bureau; [www.cedarbureau.org](http://www.cedarbureau.org).
67. CTA - Consumer Technology Association; [www.cta.tech](http://www.cta.tech).
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); [www.coolingtechnology.org](http://www.coolingtechnology.org).
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; [www.dasma.com](http://www.dasma.com).
71. DHA - Decorative Hardwoods Association; (Formerly: Hardwood Plywood & Veneer Association); [www.decorativehardwoods.org](http://www.decorativehardwoods.org).
72. DHI - Door and Hardware Institute; [www.dhi.org](http://www.dhi.org).
73. ECA - Electronic Components Association; (See ECIA).
74. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
75. ECIA - Electronic Components Industry Association; [www.eciaonline.org](http://www.eciaonline.org).
76. EIA - Electronic Industries Alliance; (See TIA).
77. EIMA - EIFS Industry Members Association; [www.eima.com](http://www.eima.com).
78. EJMA - Expansion Joint Manufacturers Association, Inc.; [www.ejma.org](http://www.ejma.org).
79. EOS/ESD Association; (Electrostatic Discharge Association); [www.esda.org](http://www.esda.org).
80. ESTA - Entertainment Services and Technology Association; (See PLASA).
81. ETL - Intertek (See Intertek); [www.intertek.com](http://www.intertek.com).
82. EVO - Efficiency Valuation Organization; [www.evo-world.org](http://www.evo-world.org).
83. FCI - Fluid Controls Institute; [www.fluidcontrolsinstitute.org](http://www.fluidcontrolsinstitute.org).
84. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); [www.fiba.com](http://www.fiba.com).
85. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); [www.fivb.org](http://www.fivb.org).
86. FM Approvals - FM Approvals LLC; [www.fmglobal.com](http://www.fmglobal.com).
87. FM Global - FM Global; (Formerly: FMG - FM Global); [www.fmglobal.com](http://www.fmglobal.com).
88. FRSA - Florida Roofing, Sheet Metal Contractors Association, Inc.; [www.floridarroof.com](http://www.floridarroof.com).
89. FSA - Fluid Sealing Association; [www.fluidsealing.com](http://www.fluidsealing.com).
90. FSC - Forest Stewardship Council U.S.; [www.fscus.org](http://www.fscus.org).
91. GA - Gypsum Association; [www.gypsum.org](http://www.gypsum.org).
92. GANA - Glass Association of North America;(See NGA).
93. GS - Green Seal; [www.greenseal.org](http://www.greenseal.org).
94. HI - Hydraulic Institute; [www.pumps.org](http://www.pumps.org).
95. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
96. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
97. HPVA - Hardwood Plywood & Veneer Association; (See DHA).
98. HPW - H. P. White Laboratory, Inc.; [www.hpwhite.com](http://www.hpwhite.com).
99. IAPSC - International Association of Professional Security Consultants; [www.iapsc.org](http://www.iapsc.org).
100. IAS - International Accreditation Service; [www.iasonline.org](http://www.iasonline.org).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
103. ICEA - Insulated Cable Engineers Association, Inc.; [www.icea.net](http://www.icea.net).
104. ICPA - International Cast Polymer Alliance; [www.icpa-hq.org](http://www.icpa-hq.org).
105. ICRI - International Concrete Repair Institute, Inc.; [www.icri.org](http://www.icri.org).
106. IEC - International Electrotechnical Commission; [www.iec.ch](http://www.iec.ch).

107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); [www.ieee.org](http://www.ieee.org).
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); [www.ies.org](http://www.ies.org).
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; [www.iest.org](http://www.iest.org).
111. IGMA - Insulating Glass Manufacturers Alliance; [www.igmaonline.org](http://www.igmaonline.org).
112. IGSHPA - International Ground Source Heat Pump Association; [www.igshpa.org](http://www.igshpa.org).
113. II - Infocomm International; (See AVIXA).
114. ILI - Indiana Limestone Institute of America, Inc.; [www.iliai.com](http://www.iliai.com).
115. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); [www.intertek.com](http://www.intertek.com).
116. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); [www.isa.org](http://www.isa.org).
117. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
118. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); [www.isfanow.org](http://www.isfanow.org).
119. ISO - International Organization for Standardization; [www.iso.org](http://www.iso.org).
120. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
121. ITU - International Telecommunication Union; [www.itu.int/home](http://www.itu.int/home).
122. KCMA - Kitchen Cabinet Manufacturers Association; [www.kcma.org](http://www.kcma.org).
123. LMA - Laminating Materials Association; (See CPA).
124. LPI - Lightning Protection Institute; [www.lightning.org](http://www.lightning.org).
125. MBMA - Metal Building Manufacturers Association; [www.mbma.com](http://www.mbma.com).
126. MCA - Metal Construction Association; [www.metalconstruction.org](http://www.metalconstruction.org).
127. MFMA - Maple Flooring Manufacturers Association, Inc.; [www.maplefloor.org](http://www.maplefloor.org).
128. MFMA - Metal Framing Manufacturers Association, Inc.; [www.metalframingmfg.org](http://www.metalframingmfg.org).
129. MHIA - Material Handling Industry of America; [www.mhia.org](http://www.mhia.org).
130. MIA - Marble Institute of America; (See NSI).
131. MMPA - Moulding & Millwork Producers Association; [www.wmmpa.com](http://www.wmmpa.com).
132. MPI - Master Painters Institute; [www.paintinfo.com](http://www.paintinfo.com).
133. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; [www.mss-hq.org](http://www.mss-hq.org).
134. NAAMM - National Association of Architectural Metal Manufacturers; [www.naamm.org](http://www.naamm.org).
135. NACE - NACE International; (National Association of Corrosion Engineers International); [www.nace.org](http://www.nace.org).
136. NADCA - National Air Duct Cleaners Association; [www.nadca.com](http://www.nadca.com).
137. NAIMA - North American Insulation Manufacturers Association; [www.naima.org](http://www.naima.org).
138. NALP - National Association of Landscape Professionals; [www.landscapeprofessionals.org](http://www.landscapeprofessionals.org).
139. NBGQA - National Building Granite Quarries Association, Inc.; [www.nbgqa.com](http://www.nbgqa.com).
140. NBI - New Buildings Institute; [www.newbuildings.org](http://www.newbuildings.org).
141. NCAA - National Collegiate Athletic Association (The); [www.ncaa.org](http://www.ncaa.org).
142. NCMA - National Concrete Masonry Association; [www.ncma.org](http://www.ncma.org).
143. NEBB - National Environmental Balancing Bureau; [www.nebb.org](http://www.nebb.org).
144. NECA - National Electrical Contractors Association; [www.necanet.org](http://www.necanet.org).
145. NeLMA - Northeastern Lumber Manufacturers Association; [www.nelma.org](http://www.nelma.org).
146. NEMA - National Electrical Manufacturers Association; [www.nema.org](http://www.nema.org).
147. NETA - InterNational Electrical Testing Association; [www.netaworld.org](http://www.netaworld.org).
148. NFHS - National Federation of State High School Associations; [www.nfhs.org](http://www.nfhs.org).

149. NFPA - National Fire Protection Association; [www.nfpa.org](http://www.nfpa.org).
150. NFPA - NFPA International; (See NFPA).
151. NFRC - National Fenestration Rating Council; [www.nfrc.org](http://www.nfrc.org).
152. NGA - National Glass Association (The); (Formerly: Glass Association of North America); [www.glass.org](http://www.glass.org).
153. NHLA - National Hardwood Lumber Association; [www.nhla.com](http://www.nhla.com).
154. NLGA - National Lumber Grades Authority; [www.nlga.org](http://www.nlga.org).
155. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
156. NOMMA - National Ornamental & Miscellaneous Metals Association; [www.nomma.org](http://www.nomma.org).
157. NRCA - National Roofing Contractors Association; [www.nrca.net](http://www.nrca.net).
158. NRMCA - National Ready Mixed Concrete Association; [www.nrmca.org](http://www.nrmca.org).
159. NSF - NSF International; [www.nsf.org](http://www.nsf.org).
160. NSI - National Stone Institute; (Formerly: Marble Institute of America); [www.naturalstoneinstitute.org](http://www.naturalstoneinstitute.org).
161. NSPE - National Society of Professional Engineers; [www.nspe.org](http://www.nspe.org).
162. NSSGA - National Stone, Sand & Gravel Association; [www.nssga.org](http://www.nssga.org).
163. NTMA - National Terrazzo & Mosaic Association, Inc. (The); [www.ntma.com](http://www.ntma.com).
164. NWFA - National Wood Flooring Association; [www.nwfa.org](http://www.nwfa.org).
165. PCI - Precast/Prestressed Concrete Institute; [www.pci.org](http://www.pci.org).
166. PDI - Plumbing & Drainage Institute; [www.pdionline.org](http://www.pdionline.org).
167. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); [www.plasa.org](http://www.plasa.org).
168. RCSC - Research Council on Structural Connections; [www.boltcouncil.org](http://www.boltcouncil.org).
169. RFCI - Resilient Floor Covering Institute; [www.rfci.com](http://www.rfci.com).
170. RIS - Redwood Inspection Service; [www.redwoodinspection.com](http://www.redwoodinspection.com).
171. SAE - SAE International; [www.sae.org](http://www.sae.org).
172. SCTE - Society of Cable Telecommunications Engineers; [www.scte.org](http://www.scte.org).
173. SDI - Steel Deck Institute; [www.sdi.org](http://www.sdi.org).
174. SDI - Steel Door Institute; [www.steeldoor.org](http://www.steeldoor.org).
175. SEFA - Scientific Equipment and Furniture Association (The); [www.sefalabs.com](http://www.sefalabs.com).
176. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
177. SIA - Security Industry Association; [www.siaonline.org](http://www.siaonline.org).
178. SJI - Steel Joist Institute; [www.steeljoist.org](http://www.steeljoist.org).
179. SMA - Screen Manufacturers Association; [www.smainfo.org](http://www.smainfo.org).
180. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; [www.smacna.org](http://www.smacna.org).
181. SMPTE - Society of Motion Picture and Television Engineers; [www.smpete.org](http://www.smpete.org).
182. SPFA - Spray Polyurethane Foam Alliance; [www.sprayfoam.org](http://www.sprayfoam.org).
183. SPIB - Southern Pine Inspection Bureau; [www.spib.org](http://www.spib.org).
184. SPRI - Single Ply Roofing Industry; [www.spri.org](http://www.spri.org).
185. SRCC - Solar Rating & Certification Corporation; [www.solar-rating.org](http://www.solar-rating.org).
186. SSINA - Specialty Steel Industry of North America; [www.ssina.com](http://www.ssina.com).
187. SSPC - SSPC: The Society for Protective Coatings; [www.sspc.org](http://www.sspc.org).
188. STI - Steel Tank Institute; [www.steeltank.com](http://www.steeltank.com).
189. SWI - Steel Window Institute; [www.steelwindows.com](http://www.steelwindows.com).
190. SWPA - Submersible Wastewater Pump Association; [www.swpa.org](http://www.swpa.org).
191. TCA - Tilt-Up Concrete Association; [www.tilt-up.org](http://www.tilt-up.org).
192. TCNA - Tile Council of North America, Inc.; [www.tileusa.com](http://www.tileusa.com).
193. TEMA - Tubular Exchanger Manufacturers Association, Inc.; [www.tema.org](http://www.tema.org).

194. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); [www.tiaonline.org](http://www.tiaonline.org).
195. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
196. TMS - The Masonry Society; [www.masonrysociety.org](http://www.masonrysociety.org).
197. TPI - Truss Plate Institute; [www.tpinst.org](http://www.tpinst.org).
198. TPI - Turfgrass Producers International; [www.turfgrasssod.org](http://www.turfgrasssod.org).
199. TRI - Tile Roofing Institute; [www.tilerroofing.org](http://www.tilerroofing.org).
200. UL - Underwriters Laboratories Inc.; [www.ul.com](http://www.ul.com).
201. UNI - Uni-Bell PVC Pipe Association; [www.uni-bell.org](http://www.uni-bell.org).
202. USAV - USA Volleyball; [www.usavolleyball.org](http://www.usavolleyball.org).
203. USGBC - U.S. Green Building Council; [www.usgbc.org](http://www.usgbc.org).
204. USITT - United States Institute for Theatre Technology, Inc.; [www.usitt.org](http://www.usitt.org).
205. WA - Wallcoverings Association; [www.wallcoverings.org](http://www.wallcoverings.org).
206. WASTEC - Waste Equipment Technology Association; [www.wastec.org](http://www.wastec.org).
207. WCLIB - West Coast Lumber Inspection Bureau; [www.wclib.org](http://www.wclib.org).
208. WCMA - Window Covering Manufacturers Association; [www.wcmanet.org](http://www.wcmanet.org).
209. WDMA - Window & Door Manufacturers Association; [www.wdma.com](http://www.wdma.com).
210. WI - Woodwork Institute; [www.wicnet.org](http://www.wicnet.org).
211. WSRCA - Western States Roofing Contractors Association; [www.wsrca.com](http://www.wsrca.com).
212. WWPA - Western Wood Products Association; [www.wwpa.org](http://www.wwpa.org).

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut für Normung e.V.; [www.din.de](http://www.din.de).
2. IAPMO - International Association of Plumbing and Mechanical Officials; [www.iapmo.org](http://www.iapmo.org).
3. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
4. ICC-ES - ICC Evaluation Service, LLC; [www.icc-es.org](http://www.icc-es.org).

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; [www.usace.army.mil](http://www.usace.army.mil).
2. CPSC - Consumer Product Safety Commission; [www.cpsc.gov](http://www.cpsc.gov).
3. DOC - Department of Commerce; National Institute of Standards and Technology; [www.nist.gov](http://www.nist.gov).
4. DOD - Department of Defense; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
5. DOE - Department of Energy; [www.energy.gov](http://www.energy.gov).
6. EPA - Environmental Protection Agency; [www.epa.gov](http://www.epa.gov).
7. FAA - Federal Aviation Administration; [www.faa.gov](http://www.faa.gov).
8. FG - Federal Government Publications; [www.gpo.gov/fdsys](http://www.gpo.gov/fdsys).
9. GSA - General Services Administration; [www.gsa.gov](http://www.gsa.gov).
10. HUD - Department of Housing and Urban Development; [www.hud.gov](http://www.hud.gov).
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; [www.eetd.lbl.gov](http://www.eetd.lbl.gov).

12. OSHA - Occupational Safety & Health Administration; [www.osha.gov](http://www.osha.gov).
13. SD - Department of State; [www.state.gov](http://www.state.gov).
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; [www.trb.org](http://www.trb.org).
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; [www.ars.usda.gov](http://www.ars.usda.gov).
16. USDA - Department of Agriculture; Rural Utilities Service; [www.usda.gov](http://www.usda.gov).
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; [www.ojp.usdoj.gov](http://www.ojp.usdoj.gov).
18. USP - U.S. Pharmacopeial Convention; [www.usp.org](http://www.usp.org).
19. USPS - United States Postal Service; [www.usps.com](http://www.usps.com).

D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; [www.govinfo.gov](http://www.govinfo.gov).
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
  - a. Available from Defense Standardization Program; [www.dsp.dla.mil](http://www.dsp.dla.mil).
  - b. Available from General Services Administration; [www.gsa.gov](http://www.gsa.gov).
  - c. Available from National Institute of Building Sciences/Whole Building Design Guide; [www.wbdg.org](http://www.wbdg.org).
6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; [www.access-board.gov](http://www.access-board.gov).
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; [www.bearhfti.ca.gov](http://www.bearhfti.ca.gov).
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; [www.calregs.com](http://www.calregs.com).
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; [www.cal-iaq.org](http://www.cal-iaq.org).
5. CPUC; California Public Utilities Commission; [www.cpuc.ca.gov](http://www.cpuc.ca.gov).
6. SCAQMD; South Coast Air Quality Management District; [www.aqmd.gov](http://www.aqmd.gov).
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; [www.txforests.tamu.edu](http://www.txforests.tamu.edu).



SPECIFICATIONS  
BID DOCUMENTS

Del Mar Union School District  
Monument Signs

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
  - 1. Section 01 10 00 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts , with 1-5/8-inch- OD top rails .
- B. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain-link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors.

## 2.2 TEMPORARY FACILITIES

- A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
  - 1. Store combustible materials apart from building.

## 2.3 EQUIPMENT

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

## PART 3 - EXECUTION

### 3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
  - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

### 3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
  - 1. Locate facilities to limit site disturbance as specified in Section 01 10 00 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### 3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
  - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
  - 1. Comply with work restrictions specified in Section 01 10 00 "Summary."
- C. Temporary Erosion and Sedimentation Control: Comply with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Section 31 10 00 "Site Clearing."
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

### 3.4 MOISTURE AND MOLD CONTROL

- A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.
- B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
  - 1. Protect porous materials from water damage.
  - 2. Protect stored and installed material from flowing or standing water.
  - 3. Keep porous and organic materials from coming into prolonged contact with concrete.
  - 4. Remove standing water from decks.
  - 5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
  - 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
  - 2. Keep interior spaces reasonably clean and protected from water damage.
  - 3. Periodically collect and remove waste containing cellulose or other organic matter.
  - 4. Discard or replace water-damaged material.
  - 5. Do not install material that is wet.
  - 6. Discard and replace stored or installed material that begins to grow mold.

7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.
- D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
  2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.
  3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
    - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective and require replacing.
    - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    - c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48 hours.

### 3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
  2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other

petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.

3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

END OF SECTION 01 50 00

SECTION 01 56 39

TEMPORARY TREE AND PLANT PROTECTION

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general protection, pruning, and care of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.
- B. Related Requirements:
  - 1. Section 01 50 00 "Temporary Facilities and Controls" for temporary site fencing.
  - 2. Section 31 10 00 "Site Clearing" for removing existing trees and shrubs.

1.3 DEFINITIONS

- A. Caliper: Diameter of a trunk measured by a diameter tape at a height 6 inches above the ground for trees up to and including 4-inch size at this height and as measured 12 inches above the ground for trees larger than 4-inch size.
- B. Drip Line: The width of the canopy of the tree as measured by the lateral extent of the foliage on all sides.
- C. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- D. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.
- E. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review methods and procedures related to temporary tree and plant protection, including:

- a. Tree-service firm's personnel, and equipment needed to make progress and avoid delays.
- b. Arborist's responsibilities.
- c. Quality-control program.
- d. Coordination of Work and equipment movement with the locations of protection zones.
- e. Trenching by hand or with air spade within protection zones.
- f. Field quality control.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
  1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.
  2. Indicate extent of trenching by hand or with air spade within protection zones.
- C. Samples: For each type of the following:
  1. Organic Mulch: 1-quart volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For arborist and tree service firm.
- B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- D. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.
  1. Use sufficiently detailed photographs or video recordings.
  2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
- E. Quality-control program.



1.7 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist as certified by the International Society of Arboriculture (ISA) or a Registered Consulting Arborist as designated by ASCA.
- B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.
- C. Quality-Control Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work without damaging trees and plantings. Include dimensioned diagrams for placement of protection zone fencing and signage, the arborist's and tree-service firm's responsibilities, instructions given to workers on the use and care of protection zones, and enforcement of requirements for protection zones.

1.8 FIELD CONDITIONS

- A. The following practices are prohibited within protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Storage or use of equipment and non-related construction activities, including pipe-cutting machines, tile-cutting machines, and lumber saws.
  - 3. Storage or dumping of deleterious materials harmful to plant growth. Deleterious materials might include fuels, oils, other petroleum products, acids, liquids, concrete mix or concrete washout, stucco mix or stucco washout, paint or paint washout, and zinc grindings from working with galvanized products in the field.
  - 4. Soil disturbance or grade change.
  - 5. Moving or parking vehicles or equipment, even temporarily.
  - 6. Foot traffic.
  - 7. Erection of sheds or structures.
  - 8. Drainage changes or impoundment of water.
  - 9. Excavation or other digging unless otherwise indicated.
  - 10. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
  - 11. The use of a tree as a temporary power pole, backstop, winch support, anchorage, or other similar function.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Backfill Soil: Planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.
1. Planting Soil: Fertile, friable, surface soil, containing natural loam and complying with ASTM D 5268. Provide topsoil that is free of stones larger than 1 inch in any dimension and free of other extraneous or toxic matter harmful to plant growth. Obtain topsoil only from well-drained sites where soil occurs in depth of 4 inches or more; do not obtain from bogs or marshes.
- B. Organic Mulch: Free from deleterious materials, animal waste, sludge waste, lumber or C&D wood by-products, trash and debris, and suitable as a top dressing of trees and shrubs.
1. Type: Ground tree trimming, wood, and bark.
  2. Size Range: 1/2 inch to 2-inch diameter.
  3. Color: Natural, no dyes.
  4. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Agriservice, Inc.
    - b. Plant's Choice, Inc.
    - c. Whittier Fertilizer.
    - d. Or equal.
- C. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements. Previously used materials may be used when approved by District Construction Manager.
1. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch opening, 0.148-inch-diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch-OD line posts, and 2-7/8-inch-OD corner and pull posts; with 0.177-inch-diameter top tension wire and 0.177-inch-diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.
    - a. Height: 72 inches.
  2. Gates: Single- Double- swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones; leaf width 36 inches.
- D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering and as follows:

1. Size and Text: As shown on Drawings.
2. Lettering: 3-inch-high minimum, black characters on white background.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- B. Prepare written report, authored by arborist, listing conditions detrimental to tree and plant protection.

#### **3.2 PREPARATION**

- A. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Tie a 1-inch blue vinyl tape around each tree trunk at 54 inches above the ground.
- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.
  1. Apply 3-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.

#### **3.3 PROTECTION ZONES**

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people and animals from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.
  1. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.
  2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to District Construction Manager.

3. Access Gates: Install; adjust to operate smoothly, easily, and quietly; free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by District Construction Manager. Install one sign spaced approximately every 20 feet on protection-zone fencing, but no fewer than four signs with each facing a different direction.
- C. Maintain protection zones free of weeds and trash.
- D. Maintain protection-zone fencing and signage in good condition as acceptable to District Construction Manager and remove when construction operations are complete and equipment has been removed from the site.
  1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
  2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

### 3.4 EXCAVATION

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 31 20 00 "Earth Moving" unless otherwise indicated.
- B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots.
- C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.
- D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

### 3.5 ROOT PRUNING

- A. Root pruning shall not be attempted by untrained construction personnel, but shall be performed by a qualified tree care professional or a certified tree care worker. Only personnel approved by the arborist shall perform pruning operations.
- B. Prune tree roots that are affected by temporary and permanent construction. Prune roots as directed by the arborist or as follows. If direction from arborist is different from what is stated below, then direction from arborist governs.
  - 1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
  - 2. Cut Ends: Treat as directed by arborist.
  - 3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
  - 4. Cover exposed roots with burlap and water regularly.
  - 5. Backfill as soon as possible according to requirements in Section 31 20 00 "Earth Moving."
- C. Root Pruning at Edge of Protection Zone: Prune tree roots 6 inches outside of the protection zone by cleanly cutting all roots to the depth of the required excavation.
- D. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

### 3.6 CROWN PRUNING

- A. Crown pruning shall not be attempted by untrained construction personnel, but shall be performed by a qualified tree care professional or a certified tree care worker. Only personnel approved by the arborist shall perform pruning operations
- B. Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.
  - 1. Prune to remove only injured, broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
  - 2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
  - 3. Pruning Standards: Prune trees according to ANSI A300 (Part 1).
    - a. Type of Pruning: Cleaning raising reducing and thinning as directed by arborist.
    - b. Specialty Pruning: Structural and utility as directed by arborist.
- C. Unless otherwise directed by arborist and acceptable to District Construction Manager, do not cut tree leaders.

- D. Cut branches with sharp pruning instruments; do not break or chop.
- E. Do not paint or apply sealants to wounds.
- F. Provide subsequent maintenance pruning during Contract period as recommended by arborist.
- G. Chip removed branches and dispose of off-site.

### 3.7 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.
  - 1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.
- C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- D. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

### 3.8 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

### 3.9 MAINTENANCE

- A. Irrigation: Supplemental irrigation shall be applied to moisten the soil within the protection zone to the depth of the existing root system, typically in the top 2 to 3 feet of soil, and to then replace that moisture once it is depleted. Irrigation frequency and depth shall be based on the needs of the individual tree. Irrigation applications performed on a schedule are not acceptable, as many variables determine the individual tree's needs (age of tree, size of tree, soil type, aspect, weather, time of year, extent of root pruning, etc). Light, frequent irrigation applications shall be avoided. Apply water deeply, thoroughly, and infrequently, by a method directed by the arborist. Water used in supplemental irrigation applications shall be clean potable water from a reliable source.

- B. Where temporary clearance is needed for adjacent access, tree branches shall be temporarily tied back to hold them out of the clearance zone, with approval by the arborist. Tied branches shall be protected with burlap or other protective material to prevent wounding and chafing.
- C. Dust Control: Tree shall be maintained in a clean fashion throughout the length of the Work. During periods of demolition, clearing & grubbing, grading activities, post-wind, or simply time, gently spray the foliage, trunks, and branches with clean potable water to remove construction dust. Do not utilize pressure washers, large streams of water with high volumes, or other insensitive methods to clean the foliage.
- D. Area inside the tree protection zone shall be maintained in a neat manner, removing excessive leaf build-up, fallen twigs and branches, or debris deposited by winds or other causes.
- E. When installing concrete adjacent to the tree protection zone, install a plastic vapor barrier behind the concrete to prohibit leaching of lime into the soil.
- F. Pest and Disease Control: Notify the arborist if any symptoms of pest or disease are observed. Provide appropriate measures to prevent or remedy pests and diseases, as directed by the arborist.

### 3.10 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by District Construction Manager.
  - 1. Submit details of proposed pruning and repairs.
  - 2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
  - 3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by District Construction Manager.
- B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that District Construction Manager determines are incapable of restoring to normal growth pattern.
  - 1. Small Trees: Provide new trees of same size and species as those being replaced for each tree that measures 10 inches or smaller in caliper size.
  - 2. Large Trees: Project Arborist shall determine the tree appraisal value for damage and replacement using the most recent edition of the *Guide for Plant Appraisal*, authored by the Council of Tree and Landscape Appraisers (CTLA), and published by the International Society of Arboriculture (ISA), Champaign, IL. The formula used shall also be noted.
    - a. Species: As selected by District Construction Manager.
  - 3. Plant and maintain new trees as specified in Section 32 93 00 "Plants."

- C. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 3 inch uniform thickness to remain.
- D. Soil Aeration: Aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2 inch diameter holes a minimum of 12 inches deep at 24 inches o.c. Backfill holes with an equal mix of augered soil and sand.

3.11 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off District property.

**END OF SECTION 01 56 39**



## SECTION 01 60 00 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
  - 1. Section 01 10 00 "Summary" for Contractor requirements related to Owner-furnished products.
  - 2. Section 01 25 00 "Substitution Procedures" for requests for substitutions.
  - 3. Section 01 42 00 "References" for applicable industry standards for products specified.
  - 4. Section 01770 "Closeout Procedures" for submitting warranties.

#### 1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
  - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including

make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
  2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 01 33 00 "Submittal Procedures."
- F. Substitution: Refer to Section 01 25 00 "Substitution Procedures" for definition and limitations on substitutions.
- 1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
  2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
    - a. Name of product and manufacturer.

- b. Model and serial number.
  - c. Capacity.
  - d. Speed.
  - e. Ratings.
3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

#### 1.5 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.
- B. Where conflicts between drawings and or specifications occur between disciplines, product specification, system, or assembly identifications, the contractor shall assume the more costly option for selection unless otherwise clarified in a pre-bid Request for Information (RFI). Should the owner, Architect, or Construction Manager identify the less costly option after bid date, the contractor shall provide a credit for the difference between the two products, systems, or assemblies inclusive of costs for both materials and labor for installation. A unit cost breakdown between the two options will be provided at the request of the Construction Manager, Architect, or Owner.
- C. The CONTRACTOR agrees to cause the project to be developed, constructed, and installed in accordance with the contract documents including those things reasonably inferred from the contract documents as being within the scope of the project and necessary to produce the stated result even though no mention is made in the Contract Documents.
  1. For Example, should a drinking fountain be indicated in the construction drawings, it would be reasonably inferred that the drinking fountain would be provided with waste and water line installations in order to function and shall be included in the contractor's scope even if the waste and water lines are not clearly identified in the construction drawings.

#### 1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
  1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.

C. Storage:

1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
2. Store products to allow for inspection and measurement of quantity or counting of units.
3. Store materials in a manner that will not endanger Project structure.
4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.

- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

- C. Submittal Time: Comply with requirements in Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
  2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
  4. Where products are accompanied by the term "as selected," Architect will make selection.
  5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
  6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
    - a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by the Architect, whose determination is final.
- B. Product Selection Procedures:
1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
    - a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."
  2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
    - a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."
  3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
    - a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."
  4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.

- a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
    - b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.
  5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
    - a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
  6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.
    - a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
    - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
  7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
    - a. For approval of products by unnamed manufacturers, comply with requirements in Section 01 25 00 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 25 00 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.
- E. Sustainable Product Selection: Where Specifications require product to meet sustainable product characteristics, select products complying with indicated requirements. Comply with requirements in Division 01 sustainability requirements Section and individual Specification Sections.
1. Select products for which sustainable design documentation submittals are available from manufacturer.

## 2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
  3. Evidence that proposed product provides specified warranty.
  4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
  5. Samples, if requested.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Section 01 33 00 "Submittal Procedures."
1. Form of Approval of Submittal: As specified in Section 01 33 00 "Submittal Procedures."
  2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.
- D. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner's portion of the Work.
6. Coordination of Owner-installed products.
7. Progress cleaning.
8. Starting and adjusting.
9. Protection of installed construction.

- B. Related Requirements:

1. Section 01 10 00 "Summary" for coordination of , and limits on use of Project site.
2. Section 01 33 00 "Submittal Procedures" for submitting surveys.
3. Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
4. Section 07 84 13 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For land surveyor .



- B. Certified Surveys: Submit two copies signed by land surveyor .
- C. Certificates: Submit certificate signed by land surveyor , certifying that location and elevation of improvements comply with requirements.
- D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

#### 1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Professional Engineer Qualifications: Refer to Section 01 40 00 "Quality Requirements."
- C. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
- D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
  2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
  2. List of detrimental conditions, including substrates.
  3. List of unacceptable installation tolerances.
  4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect in accordance with requirements in Section 01 31 00 "Project Management and Coordination."

### 3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2. Establish limits on use of Project site.
  - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 4. Inform installers of lines and levels to which they must comply.
  - 5. Check the location, level and plumb, of every major element as the Work progresses.
  - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
  - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

### 3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
  - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
  - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

### 3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb, and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
  - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces, unless otherwise indicated on Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.
  - 1. Comply with Section 01 77 00 "Closeout Procedures" for repairing or removing and replacing defective Work.

### 3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 01 10 00 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
  5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
  5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### 3.7 COORDINATION OF OWNER'S PORTION OF THE WORK

- A. Site Access: Provide access to Project site for Owner's construction personnel .
  - 1. Provide temporary facilities required for Owner-furnished, Contractor-installed and Owner-furnished, Owner-installed products.
  - 2. Refer to Section 01 10 00 "Summary" for other requirements for Owner-furnished, Contractor-installed and Owner-furnished, Owner-installed products
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel .
  - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
  - 2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

### 3.8 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
  - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended,

use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.9 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 01 91 13 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 01 40 00 "Quality Requirements."

### 3.10 PROTECTION AND REPAIR OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.



- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01 73 00

## SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
  - 1. Salvaging nonhazardous construction waste.
  - 2. Recycling nonhazardous construction waste.
  - 3. Disposing of nonhazardous construction waste.
- B. Related Requirements:
  - 1. Section 04 20 00 "Unit Masonry" for disposal requirements for masonry waste.
  - 2. Section 31 10 00 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

#### 1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- C. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- D. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- E. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

#### 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.

- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

- 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

#### 1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 30 days of date established for the Notice to Proceed .

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and Form CWM-8 for demolition waste . Include the following information:
  - 1. Material category.
  - 2. Generation point of waste.
  - 3. Total quantity of waste in tons.
  - 4. Quantity of waste salvaged, both estimated and actual in tons.
  - 5. Quantity of waste recycled, both estimated and actual in tons.
  - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
  - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. 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.
- F. 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.
- G. Qualification Data: For waste management coordinator and refrigerant recovery technician.

- H. 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.

#### 1.7 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements. Superintendent may serve as Waste Management Coordinator.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.
- D. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 01 31 00 "Project Management and Coordination." 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 each contractor and 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.

#### 1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Use Form CWM-1 for construction waste and Form CWM-2 for demolition waste . 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. Use Form CWM-3 for construction waste and Form CWM-4 for demolition waste . 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 Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
  2. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
  3. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  4. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  5. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there were no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use Form CWM-5 for construction waste and Form CWM-6 for demolition waste . Include the following:
1. Total quantity of waste.
  2. Estimated cost of disposal (cost per unit). Include transportation and tipping fees and cost of collection containers and handling for each type of waste.
  3. Total cost of disposal (with no waste management).
  4. Revenue from salvaged materials.
  5. Revenue from recycled materials.
  6. Savings in transportation and tipping fees by donating materials.
  7. Savings in transportation and tipping fees that are avoided.
  8. Handling and transportation costs. Include cost of collection containers for each type of waste.
  9. Net additional cost or net savings from waste management plan.

## PART 2 - PRODUCTS

## PART 3 - EXECUTION

### 3.1 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 operation, termination, and removal requirements in Section 01 50 00 "Temporary Facilities and Controls."

- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
  - 1. Distribute waste management plan to everyone concerned within three 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 on Project site necessary for separating materials that are to be salvaged and recycled.
  - 2. Comply with Section 01 50 00 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

### 3.2 RECYCLING CONSTRUCTION WASTE, GENERAL

- 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 Owner .
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
  - 1. Provide appropriately marked containers or bins for controlling recyclable waste until 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 from Owner's property and transport to recycling receiver or processor as often as required to prevent overflowing bins.

### 3.3 RECYCLING CONSTRUCTION WASTE

#### A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
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.

#### B. 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.
  - a. Comply with requirements in Section 32 93 00 "Plants" for use of clean sawdust as organic mulch.

#### C. Gypsum Board: Stack large clean pieces on wood pallets or in container 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.
  - a. Comply with requirements in Section 32 93 00 "Plants" for use of clean ground gypsum board as inorganic soil amendment.

#### D. Paint: Seal containers and store by type.

### 3.4 DISPOSAL OF WASTE

#### A. General: Except for items or materials to be salvaged or recycled, 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. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.

#### C. Burning: Do not burn waste materials.

END OF SECTION 01 74 19



## SECTION 01 77 00 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
- B. Related Requirements:
  - 1. Section 01 29 00 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
  - 2. Section 01 32 33 "Photographic Documentation" for submitting Final Completion construction photographic documentation.
  - 3. Section 01 78 23 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
  - 4. Section 01 78 39 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

#### 1.3 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.5 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.7 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
  - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
  - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect . Label with manufacturer's name and model number.
    - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
  - 1. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  - 2. Complete final cleaning requirements.
  - 3. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
  2. Results of completed inspection will form the basis of requirements for Final Completion.

## 1.8 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Submit a final Application for Payment in accordance with Section 01 29 00 "Payment Procedures."
  2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

## 1.9 LIST OF INCOMPLETE ITEMS

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, , listed by room or space number.
  2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.

- b. Date.
- c. Name of Architect.
- d. Name of Contractor.
- e. Page number.
4. Submit list of incomplete items in the following format:
  - a. PDF Electronic File: Architect will return annotated file.
  - b. Web-Based Project Software Upload: Utilize software feature for creating and updating list of incomplete items (punch list).

#### 1.10 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
  1. Submit by uploading to web-based project software site .

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

### PART 3 - EXECUTION

#### 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - f. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - g. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
    - h. Remove labels that are not permanent.
    - i. Leave Project clean and ready for occupancy.
  - C. Pest Control: Comply with pest control requirements in Section 01 50 00 "Temporary Facilities and Controls." Prepare written report.
  - D. Construction Waste Disposal: Comply with waste-disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."
- 3.2 REPAIR OF THE WORK
- A. Complete repair and restoration operations required by Section 01 73 00 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 01 77 00

SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record specifications.
  - 3. Record Product Data.
  - 4. Miscellaneous record submittals.
- B. Related Requirements:
  - 1. Section 01 73 00 "Execution" for final property survey.
  - 2. Section 01 77 00 "Closeout Procedures" for general closeout procedures.
  - 3. Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit one set(s) of marked-up record prints.
  - 2. Number of Copies: Submit copies of Record Drawings as follows:
    - a. Initial Submittal:
      - 1) Submit PDF electronic files of scanned record prints and one set(s) of file prints.
      - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
    - b. Final Submittal:
      - 1) Submit Record Digital Data Files and three set(s) of Record Digital Data File plots.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and Contract modifications.

#### 1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an acceptable drawing technique.
    - c. Record data as soon as possible after obtaining it.
    - d. Record and check the markup before enclosing concealed installations.
    - e. Cross-reference record prints to corresponding photographic documentation.
  2. Content: Types of items requiring marking include, but are not limited to, the following:
    - a. Dimensional changes to Drawings.
    - b. Revisions to details shown on Drawings.
    - c. Depths of foundations.
    - d. Locations and depths of underground utilities.
    - e. Revisions to routing of piping and conduits.
    - f. Revisions to electrical circuitry.
    - g. Actual equipment locations.
    - h. Duct size and routing.
    - i. Locations of concealed internal utilities.
    - j. Changes made by Change Order or Construction Change Directive.
    - k. Changes made following Architect's written orders.
    - l. Details not on the original Contract Drawings.
    - m. Field records for variable and concealed conditions.
    - n. Record information on the Work that is shown only schematically.
  3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

#### 1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders , Record Product Data, and Record Drawings where applicable.

B. Format: Submit record specifications as annotated PDF electronic file .

#### 1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders , Record Specifications, and Record Drawings where applicable.

C. Format: Submit Record Product Data as annotated PDF electronic file .

1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

#### 1.7 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as PDF electronic file .

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.



SPECIFICATIONS  
BID DOCUMENTS

Del Mar Union School District  
Monument Signs at 7 Sites

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 78 39

SECTION 02 41 16

STRUCTURE DEMOLITION

**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. Demolition and removal of structures and site improvements.
2. Salvaging items for reuse by District.

B. Related Requirements:

1. Section 01 10 00 "Summary" for use of the premises, phasing requirements, interim housing considerations, coordination with occupants, etc.
2. Section 01 32 01 "Construction Progress Documentation".
3. Section 01 32 33 "Photographic Documentation" for preconstruction photographs taken before building demolition.
4. Section 01 74 19 "Construction Waste Management and Disposal".
5. Section 02 41 19 "Selective Demolition" for partial demolition of buildings, structures, and site improvements.
6. Section 31 10 00 "Site Clearing" for site clearing and removal of above- and below-grade site improvements not part of building demolition.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and [**deliver to the District ready for reuse**] [**store**]. Include fasteners or brackets needed for reattachment elsewhere.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PRE-INSTALLATION MEETINGS

1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Building Demolition Activities: Indicate the following:
  - 1. Detailed sequence of demolition work, with starting and ending dates for each activity.
  - 2. Temporary interruption of utility services.
  - 3. Shutoff and capping or re-routing of utility services.
- C. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by demolition operations. Comply with Section 01 32 33 "Photographic Documentation." Submit before the Work begins.

1.7 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

1.8 FIELD CONDITIONS

- A. Building(s) immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.
  - 1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
  - 2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
    - a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.
- B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify the District Construction Manager. Remove hazardous materials in accordance with Specification Sections 02 82 33, 02 83 33 and 02 84 33. The costs associated with such work shall be paid out of the appropriate Allowance, as approved by the District Construction Manager.

- C. On-site storage or sale of removed items or materials is not permitted.

#### 1.9 COORDINATION

- A. Arrange demolition schedule so as not to interfere with The District's on-site operations.

### **PART 2 - PRODUCTS**

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI / ASSE A10.6 and NFPA 241.

#### 2.2 SOIL MATERIALS

- A. Satisfactory Soils: Comply with requirements in Section 31 20 00 "Earth Moving."

### **PART 3 - EXECUTION**

#### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting demolition operations.
- B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.
- C. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations. Comply with Section 01 32 33 "Photographic Documentation.

#### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Utilities to be Disconnected: Locate, identify, disconnect, and seal or cap off utilities serving buildings and structures to be demolished.
  - 1. Arrange to shut off utilities with utility companies.
  - 2. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and

structures to be demolished and that maintain continuity of service to other buildings and structures.

3. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
4. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

### 3.3 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.
- B. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.
  1. Strengthen or add new supports when required during progress of demolition.
- C. Existing Utilities to Remain: Maintain utility services to remain and protect from damage during demolition operations.
  1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by the District and authorities having jurisdiction.
  2. Provide temporary services during interruptions to existing utilities, as acceptable to the District and authorities having jurisdiction.
    - a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.
- D. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Section 01 50 00 "Temporary Facilities and Controls."
  1. Protect adjacent buildings and facilities from damage due to demolition activities.
  2. Protect existing site improvements, appurtenances, and landscaping to remain.
  3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
  4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
  5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
  6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
  7. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.

- E. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

### 3.4 DEMOLITION, GENERAL

- A. General: Demolish indicated structures and site improvements completely. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Do not use cutting torches until work area is cleared of flammable materials..
  - 2. Maintain active fire watch and portable fire-suppression devices during flame-cutting operations.
  - 3. Maintain active fire watch after flame-cutting operations per Contractor's approved Emergency Safety and Health (ES&H) Execution Plan.
  - 4. Maintain adequate ventilation when using cutting torches.
  - 5. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from the District and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
  - 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- C. Explosives: Use of explosives is not permitted.

### 3.5 DEMOLITION BY MECHANICAL MEANS

- A. Below-Grade Construction: Demolish foundation walls and other below-grade construction.
  - 1. Remove below-grade construction, including basements, foundation walls, and footings, completely.
- B. Existing Utilities: Abandon existing utilities and below-grade utility structures. Cut utilities flush with grade.

3.6 SITE RESTORATION

- A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials according to backfill requirements in Section 31 20 00 "Earth Moving."
- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.7 REPAIRS

- A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and recycle or dispose of them according to Section 01 74 19 "Construction Waste Management and Disposal."
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Do not burn demolished materials.

3.9 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.
  - 1. Clean roadways of debris caused by debris transport.

**END OF SECTION 02 41 16**

SECTION 02 41 19

SELECTIVE DEMOLITION

**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. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.

B. Related Requirements:

1. Section 01 10 00 "Summary" for use of the premises, phasing requirements, interim housing considerations, coordination with occupants, etc.
2. Section 01 32 01 "Construction Progress Documentation".
3. Section 01 32 33 "Photographic Documentation" for preconstruction photographs taken before building demolition.
4. Section 01 50 00 "Temporary Facilities and Controls" for temporary construction and environmental protection measures for selective demolition operations.
5. Section 01 56 39 "Temporary Tree and Plant Protection"
6. Section 01 74 19 "Construction Waste Management and Disposal".
7. Section 01 73 00 "Execution" for cutting and patching procedures.
8. Section 02 41 16 "Structure Demolition".
9. Section 31 10 00 "Site Clearing" for site clearing and removal of above- and below-grade improvements not part of selective demolition.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.



- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

#### 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
  - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure District on-site operations are uninterrupted.
  - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
  - 3. Coordination for shutoff, capping, and continuation of utility services.
  - 4. Coordination of District continuing occupancy of portions of existing building and of District partial occupancy of completed Work.
  - 5. Locations of proposed dust and noise control temporary partitions and means of egress.
  - 6. Means of protection for items to remain and items in path of waste removal from building.
- C. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces that might be misconstrued as damage caused by demolition operations. Comply with Section 01 32 33 "Photographic Documentation." Submit before Work begins.
- D. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.7 FIELD CONDITIONS

- A. The District will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so the District operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by the District as far as practical.
- C. Notify the District Construction Manager of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify the District Construction Manager. Remove hazardous materials in accordance with Specification Sections 02 82 33, 02 83 33 and 02 84 33. The costs associated with such work shall be paid out of the appropriate Allowance, as approved by the District Construction Manager.
- E. Termite Infestation: It is not expected that active termite infestations will be encountered in the Work.
  - 1. If active termite infestations are encountered, do not disturb; immediately notify the District Construction Manager who will have the infestations investigated. Allow three days when no work will be permitted on those portions of the Work suspected of having active termite infestations.
- F. Storage or sale of removed items or materials on-site is not permitted.
- G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

1.9 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with the District operations.

**PART 2 - PRODUCTS**

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI / ASSE A10.6 and NFPA 241.

**PART 3 - EXECUTION**

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by the District. The District does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
  - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- D. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs or video.
  - 1. Comply with requirements specified in Section 01 32 33 "Photographic Documentation."
  - 2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
- E. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to District Construction Manager.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Arrange to shut off utilities with utility companies.
  - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

### 3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
  - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
  - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
  - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
  - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 50 00 "Temporary Facilities and Controls."
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
  - 1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
  3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations.
  5. Maintain active fire watch and portable fire-suppression devices during flame-cutting operations.
  6. Maintain active fire watch after flame-cutting operations per Contractor's approved Emergency Safety and Health (ES&H) Execution Plan.
  7. Maintain adequate ventilation when using cutting torches.
  8. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  9. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
  10. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  11. Dispose of demolished items and materials promptly. Comply with requirements in Section 01 74 19 "Construction Waste Management and Disposal."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.
  3. Store items in a secure area until delivery to the District.
  4. Transport items to the District storage area designated by District.
  5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
  2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  3. Protect items from damage during transport and storage.
  4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by District Construction Manager, items may be removed to a suitable, protected storage location during selective

demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

### 3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
  - 4. Comply with requirements specified in Section 01 74 19 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

### 3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

**END OF SECTION 02 41 19**

SECTION 033000 - CAST-IN-PLACE CONCRETE

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 cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
  - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Welding certificates.
- C. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Form materials and form-release agents.
4. Steel reinforcement and accessories.
5. Curing compounds.
6. Bonding agents.
7. Adhesives.
8. Semirigid joint filler.
9. Joint-filler strips.
10. Repair materials.

D. Material Test Reports: For the following, from a qualified testing agency:

1. Aggregates.
2. Cementitious materials.

E. Field quality-control reports.

#### 1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Grade I. Testing agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician, Grade II.

#### 1.7 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.



1.8 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

1.9 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
  - 1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301 (ACI 301M).
  - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 (ACI 301M) and as follows:
  - 1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
  - 1. ACI 301 (ACI 301M).
  - 2. ACI 117 (ACI 117M).

2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
  - 1. Plywood, metal, or other approved panel materials.

- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum.
- E. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- F. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
  - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- G. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
  - 1. Furnish units that leave no corrodible metal closer than 1 inch (25 mm) to the plane of exposed concrete surface.
  - 2. Furnish ties that, when removed, leave holes no larger than 1 inch (25 mm) in diameter in concrete surface.
  - 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

## 2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.

## 2.4 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.
- B. Epoxy-Coated Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, ASTM A 775/A 775M epoxy coated.
- C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

## 2.5 CONCRETE MATERIALS

- A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- B. Cementitious Materials:
  1. Portland Cement: ASTM C 150/C 150M, Type II, gray.
  2. Fly Ash: ASTM C 618, Class F or C.
- C. Normal-Weight Aggregates: ASTM C 33/C 33M, Class 3M coarse aggregate or better, graded. Provide aggregates from a single source.
  1. Maximum Coarse-Aggregate Size: 1 inch (25 mm) nominal.
  2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- D. Air-Entraining Admixture: ASTM C 260/C 260M.
- E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
  1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
- F. Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete and complying with ASTM C 494/C 494M, Type C.
- G. Non-Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, non-set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.
- H. Water: ASTM C 94/C 94M and potable.

## 2.6 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

## 2.7 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1752, cork or self-expanding cork.
- B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 according to ASTM D 2240.
- C. Bonding Agent: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
  - 1. Types I and II, nonload bearing and Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

## 2.8 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
  - 1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
  - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
  - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by underlayment manufacturer.
  - 4. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.
- B. Repair Overlay: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch (6.4 mm) and that can be filled in over a scarified surface to match adjacent floor elevations.
  - 1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.

2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.

## 2.9 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301 (ACI 301M).
  1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
  1. Fly Ash: 15 percent.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
  1. Use water-reducing or high-range water-reducing admixture in concrete, as required, for placement and workability.
  2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
  3. Use water-reducing admixture in pumped concrete and concrete with a w/c ratio below 0.50.
- E. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

## 2.10 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Footings: Normal-weight concrete.
  1. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
  2. Maximum W/C Ratio: 0.50.
  3. Slump Limit: 8 inches (200 mm) for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture , plus or minus 1 inch (25 mm).
  4. Air Content: 2 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.

## 2.11 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

## 2.12 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
  - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
  - 2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
  - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

## PART 3 - EXECUTION

### 3.1 FORMWORK INSTALLATION

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
  - 1. Class A, 1/8 inch (3.2 mm) for smooth-formed finished surfaces.
  - 2. Class B, 1/4 inch (6 mm) for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete

surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, reglets, recesses, and the like, for easy removal.
  2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### 3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.

### 3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70

percent of its 28-day design compressive strength or 7 days (whichever is greater).

2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

### 3.4 SHORING AND RESHORING INSTALLATION

- A. Comply with ACI 318 (ACI 318M) and ACI 301 (ACI 301M) for design, installation, and removal of shoring and reshoring.
  1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

### 3.5 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
  1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
  1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.



3.6 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
  - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
  - 2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.
  - 3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
  - 4. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  - 5. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
  - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
  - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
  - 2. Terminate full-width joint-filler strips not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
  - 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

### 3.7 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M).
  - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
  - 1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
  - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301 (ACI 301M).
  - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
  - 1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  - 2. Maintain reinforcement in position on chairs during concrete placement.
  - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  - 4. Slope surfaces uniformly to drains where required.
  - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

### 3.8 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
  - 1. Apply to concrete surfaces indicated.

- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
  - 1. Apply to concrete surfaces indicated.
- C. Rubbed Finish: Apply the following to smooth-formed-finished as-cast concrete where indicated:
  - 1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
  - 2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix 1 part portland cement to 1-1/2 parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
  - 3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix 1 part portland cement and 1 part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.
- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

### 3.9 MISCELLANEOUS CONCRETE ITEM INSTALLATION

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations:
  - 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
  - 2. Construct concrete bases 6 inches ((150 mm)) high unless otherwise indicated, and extend base not less than 6 inches (150 mm) in each direction beyond the

maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.

3. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around the full perimeter of concrete base.
5. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
6. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

### 3.10 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 (ACI 301M) for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
  1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
  2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

- a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
  - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
  - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies does not interfere with bonding of floor covering used on Project.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
- a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound does not interfere with bonding of floor covering used on Project.
4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### 3.11 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
  1. Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches (50 mm) deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

### 3.12 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.

- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension to solid concrete. Limit cut depth to 3/4 inch (19 mm). Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
  2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
  3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
  2. After concrete has cured at least 14 days, correct high areas by grinding.
  3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
  4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
  5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
  6. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
  7. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and

apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

### 3.13 FIELD QUALITY CONTROL

#### A. Inspections:

- 1. Steel reinforcement placement.
- 2. Steel reinforcement welding.
- 3. Headed bolts and studs.
- 4. Verification of use of required design mixture.
- 5. Concrete placement, including conveying and depositing.
- 6. Curing procedures and maintenance of curing temperature.
- 7. Verification of concrete strength before removal of shores and forms from beams and slabs.

#### B. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:

- 1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.
  - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
- 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
- 3. Air Content: ASTM C 231/C 231M, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
- 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample.
- 5. Unit Weight: ASTM C 567/C 567M, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
- 6. Compression Test Specimens: ASTM C 31/C 31M.
  - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.

- b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
  - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
  - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION 033000



SECTION 042200 - CONCRETE UNIT MASONRY

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. Concrete masonry units.
2. Decorative concrete masonry units.
3. Mortar and grout.
4. Steel reinforcing bars.
5. Miscellaneous masonry accessories.

B. Related Requirements:

1. Section 071900 "Water Repellents" for water repellents applied to unit masonry assemblies.
2. Section 076200 "Sheet Metal Flashing and Trim" for sheet metal flashing and for furnishing manufactured reglets installed in masonry joints.

1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).

- B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: For the following:

1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
2. Reinforcing Steel: Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. Show elevations of reinforced walls.
3. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

- C. Samples for Initial Selection:

1. Decorative CMUs, in the form of small-scale units.
2. Colored mortar.
3. Weep holes/vents.

D. Samples for Verification: For each type and color of the following:

1. Exposed CMUs.

## 1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Material Certificates: For each type and size of the following:

1. Masonry units.
  - a. Include material test reports substantiating compliance with requirements.
2. Integral water repellent used in CMUs.
3. Cementitious materials. Include name of manufacturer, brand name, and type.
4. Mortar admixtures.
5. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
6. Grout mixes. Include description of type and proportions of ingredients.
7. Reinforcing bars.
8. Anchors, ties, and metal accessories.

C. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91/C 91M for air content.
2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

D. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to TMS 602/ACI 530.1/ASCE 6.

E. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

## 1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1093 for testing indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
  - 1. Extend cover a minimum of 24 inches (600 mm) down both sides of walls, and hold cover securely in place.
- B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
  - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
  - 2. Protect sills, ledges, and projections from mortar droppings.
  - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
  - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.
  1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to TMS 602/ACI 530.1/ASCE 6.

### 2.3 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6 except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.
- C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.
  1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

### 2.4 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
  2. Provide square-edged units for outside corners unless otherwise indicated.
- B. Integral Water Repellent: Provide units made with integral water repellent for exposed units and where indicated.
1. Integral Water Repellent: Liquid polymeric, integral water-repellent admixture that does not reduce flexural bond strength. Units made with integral water repellent, when tested according to ASTM E 514/E 514M as a wall assembly made with mortar containing integral water-repellent manufacturer's mortar additive, with test period extended to 24 hours, shall show no visible water or leaks on the back of test specimen.
- C. CMUs: ASTM C 90.
1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2000 psi (13.8 MPa).
  2. Density Classification: Medium weight unless otherwise indicated.
  3. Size (Width): Manufactured to dimensions 3/8 inch (10 mm) less-than-nominal dimensions.
  4. Exposed Faces: Provide color and texture matching the range represented by Architect's sample.
  5. Faces to Receive Plaster: Where units are indicated to receive a direct application of plaster, provide textured-face units made with gap-graded aggregates.
- D. Decorative CMUs: ASTM C 90.
1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2000 psi (13.8 MPa).
  2. Density Classification: Medium weight.
  3. Size (Width): Manufactured to dimensions specified in "CMUs" Paragraph.
  4. Pattern and Texture:
    - a. Standard pattern, ground-face finish. Match Architect's samples.
    - b. Standard pattern, split-face finish. Match Architect's samples.
    - c. Standard pattern, split-ribbed finish. Match Architect's samples.
    - d. Scored vertically so units laid in running bond appear as square units laid in stacked bond, standard finish. Match Architect's samples.
    - e. Triple scored vertically so units laid in running bond appear as vertical units laid in stacked bond (soldier courses), standard finish. Match Architect's samples.
  5. Colors: As selected by Architect from manufacturer's full range.
  6. Special Aggregate: Provide units made with aggregate matching aggregate in Architect's sample.

2.5 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
  - 1. Alkali content shall not be more than 0.1 percent when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- D. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in masonry mortar.
- E. Colored Cement Products: Packaged blend made from portland cement and hydrated lime and mortar pigments, all complying with specified requirements, and containing no other ingredients.
  - 1. Colored Portland Cement-Lime Mix:
  - 2. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
  - 3. Pigments shall not exceed 10 percent of portland cement by weight.
- F. Aggregate for Mortar: ASTM C 144.
  - 1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
  - 2. For joints less than 1/4 inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
  - 3. White-Mortar Aggregates: Natural white sand or crushed white stone.
  - 4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- G. Aggregate for Grout: ASTM C 404.
- H. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
- I. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.
- J. Water: Potable.

## 2.6 REINFORCEMENT

- A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420).
- B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch (3.77-mm) steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.

## 2.7 TIES AND ANCHORS

- A. General: Ties and anchors shall extend at least 1-1/2 inches (38 mm) into masonry but with at least a 5/8-inch (16-mm) cover on outside face.
- B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
  - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M, with ASTM A 153/A 153M, Class B-2 coating.
  - 2. Stainless-Steel Wire: ASTM A 580/A 580M, [Type 304] [Type 316].
  - 3. Galvanized-Steel Sheet: ASTM A 653/A 653M, Commercial Steel, G60 (Z180) zinc coating.
  - 4. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
  - 5. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304.
  - 6. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

## 2.8 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane or PVC.
- B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
- C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D 226/D 226M, Type I (No. 15 asphalt felt).

## 2.9 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
  - 1. Do not use calcium chloride in mortar or grout.

2. Use portland cement-lime mortar unless otherwise indicated.
  3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C 270, Property Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.
1. For masonry below grade or in contact with earth, use Type S.
  2. For reinforced masonry, use Type S.
  3. For mortar parge coats, use Type S.
- D. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.
1. Pigments shall not exceed 10 percent of portland cement by weight.
  2. Mix to match Architect's sample.
  3. Application: Use pigmented mortar for exposed mortar joints with the following units:
    - a. Decorative CMUs.
- E. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.
1. Mix to match Architect's sample.
  2. Application: Use colored-aggregate mortar for exposed mortar joints with the following units:
    - a. Decorative CMUs.
    - b. Pre-faced CMUs.
    - c. Cast-stone trim units.
- F. Grout for Unit Masonry: Comply with ASTM C 476.
1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
  2. Proportion grout in accordance with ASTM C 476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2500 psi (17.2 MPa)].
  3. Provide grout with a slump of 8 to 11 inches (200 to 280 mm) as measured according to ASTM C 143/C 143M.



## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
  - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
  - 2. Verify that foundations are within tolerances specified.
  - 3. Verify that reinforcing dowels are properly placed.
  - 4. Verify that substrates are free of substances that would impair mortar bond.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

### 3.3 TOLERANCES

- A. Dimensions and Locations of Elements:
  - 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
  - 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
  - 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.
- B. Lines and Levels:
  - 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
  - 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
  - 3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
  - 4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.

5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch (1.5 mm).

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm).
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch (3 mm).
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch (9 mm) or minus 1/4 inch (6 mm).
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm).

### 3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.
- C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4 inches (100 mm). Bond and interlock each course of each wythe at corners. Do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.
- D. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.
- E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- F. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

### 3.5 MORTAR BEDDING AND JOINTING

- A. Lay hollow CMUs as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
  2. Bed webs in mortar in all courses of piers, columns, and pilasters.
  3. Bed webs in mortar in grouted masonry, including starting course on footings.
  4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
- B. Lay solid CMUs with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Set cast-stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.
1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
  2. Wet joint surfaces thoroughly before applying mortar.
  3. Rake out mortar joints for pointing with sealant.
- D. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- E. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.
- F. Cut joints flush where indicated to receive waterproofing unless otherwise indicated.

### 3.6 CONTROL AND EXPANSION JOINTS

- A. General: Install control- and expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
- B. Form control joints in concrete masonry using one of the following methods:
1. Fit bond-breaker strips into hollow contour in ends of CMUs on one side of control joint. Fill resultant core with grout, and rake out joints in exposed faces for application of sealant.
  2. Install preformed control-joint gaskets designed to fit standard sash block.
  3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar, or rake out joint for application of sealant.
  4. Install temporary foam-plastic filler in head joints, and remove filler when unit masonry is complete for application of sealant.

### 3.7 REINFORCED UNIT MASONRY INSTALLATION

- A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
  2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.
- B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.
- C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
  2. Limit height of vertical grout pours to not more than 60 inches (1520 mm).
  3. Vertical lifts may be provided in accordance with the latest revision of the Division of the State Architect IR 21-2.13 for concrete masonry high lift grouting method.

### 3.8 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.
- B. Inspections: Special inspections according to Level 2 in TMS 402/TMS602.
1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
  2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
  3. Place grout only after inspectors have verified proportions of site-prepared grout.
- C. Testing Prior to Construction: One set of tests.
- D. Testing Frequency: One set of tests for each 5000 sq. ft. (464 sq. m) of wall area or portion thereof.
- E. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.
- F. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.
- G. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for mortar air content and compressive strength.
- H. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.

- I. Prism Test: For each type of construction provided, according to ASTM C 1314 at 7 days and at 28 days.

### 3.9 PARGING

- A. Parge exterior faces of below-grade masonry walls, where indicated, in two uniform coats to a total thickness of 3/4 inch (19 mm). Dampen wall before applying first coat, and scarify first coat to ensure full bond to subsequent coat.
- B. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of 1/8 inch per foot (3 mm per 300 mm). Form a wash at top of parging and a cove at bottom.
- C. Damp-cure parging for at least 24 hours and protect parging until cured.

### 3.10 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
  2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
  3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
  4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
  5. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.

3.11 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
  - 1. Crush masonry waste to less than 4 inches (100 mm) in each dimension.
  - 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Section 312000 "Earth Moving."
  - 3. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.
- C. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- D. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042200

## SECTION 07 92 00 - JOINT SEALANTS

### 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. Nonstaining silicone joint sealants.
  - 2. Urethane joint sealants.
  - 3. Mildew-resistant joint sealants.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.
  - 3. Joint-sealant formulation.
  - 4. Joint-sealant color.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency .
- C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.
  1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

#### 1.6 PRECONSTRUCTION TESTING

- A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
  1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
  2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
  3. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
  4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
  5. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.
  6. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials matching those submitted.

#### 1.7 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
  1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F .
  2. When joint substrates are wet.
  3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.



PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

- A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.
- B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Dow Corning Corporation.
    - b. Pecora Corporation.
    - c. Tremco Incorporated.
    - d. Or equal.

2.3 URETHANE JOINT SEALANTS

- A. Urethane, S, NS, 25, T, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Uses T and NT.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. BASF / Sonneborn Corporation.
    - b. Sika Corporation.
    - c. Tremco Incorporated.
    - d. Or equal.

2.4 MILDEW-RESISTANT JOINT SEALANTS

- A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

- B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Pecora Corporation.
    - b. The Dow Chemical Company.
    - c. Tremco Incorporated.
    - d. Or equal.

## 2.5 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Adfast.
    - b. BASF Corporation.
    - c. Construction Foam Products; a division of Nomaco, Inc.
    - d. Or equal.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) , and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

## 2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    - a. Concrete.
    - b. Unglazed surfaces of ceramic tile.
    - c. Exterior insulation and finish systems.
  - 3. Remove laitance and form-release agents from concrete.
  - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    - a. Metal.
    - b. Glass.
    - c. Porcelain enamel.
    - d. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  - 3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.
  - 4. Provide flush joint profile at according to Figure 8B in ASTM C 1193.
  - 5. Provide recessed joint configuration of recess depth and at according to Figure 8C in ASTM C 1193.
    - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

### 3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
  - 1. Joint Sealant: Urethane, S, NS, 25, NT .
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors .
  
- B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.
  - 1. Joint Locations:
    - a. Control joints on exposed interior surfaces of exterior walls.
    - b. Perimeter joints between interior wall surfaces and frames of interior doors windows .
    - c. Other joints as indicated on Drawings.
  - 2. Joint Sealant: Acrylic latex .
  - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors .
  
- C. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
  - 1. Joint Locations:
    - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
    - b. Tile control and expansion joints where indicated.
    - c. Other joints as indicated on Drawings.
  - 2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT .
  - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors .

END OF SECTION 07 92 00

## SECTION 101419 - DIMENSIONAL LETTER SIGNAGE

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Dimensional characters.
    - a. Cast dimensional characters.

#### 1.2 COORDINATION

- A. Furnish templates for placement of electrical service embedded in permanent construction by other installers.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For signs.
  - 1. Include fabrication and installation details and attachments to other work.
  - 2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
  - 3. Show message list, typestyles, graphic elements, and layout for each sign at least half size .
  - 4. Show locations of electrical service connections.
  - 5. Include diagrams for power, signal, and control wiring.
- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
  - 1. Include representative Samples of available typestyles and graphic symbols.
- D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:
  - 1. Dimensional Characters: Full-size Sample of each type of dimensional character.
  - 2. Exposed Accessories: Full-size Sample of each accessory type.
  - 3. Full-size Samples, if approved, will be returned to Contractor for use in the Project.
- E. Product Schedule: For dimensional letter signs. Use same designations indicated on Drawings or specified.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For signs to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer of products .

1.7 FIELD CONDITIONS

- A. Field Measurements: Verify locations of electrical service embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.8 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Deterioration of finishes beyond normal weathering.
    - b. Separation or delamination of sheet materials and components.
  - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 DIMENSIONAL CHARACTERS

- A. Cast Characters : Characters with uniform faces, sharp corners, and precisely formed lines and profiles, and as follows:
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ACE Sign Systems, Inc.

- b. ASI Sign Systems, Inc.
- c. Metal Arts
- d. Or equal
2. Character Material: Cast aluminum .
3. Character Height: As indicated on Drawings .
4. Thickness: As indicated on Drawings .
5. Finishes:
  - a. Integral Aluminum Finish: Anodized color as selected by Architect from full range of industry colors and color densities .
6. Mounting: Projecting studs .

## 2.3 DIMENSIONAL CHARACTER MATERIALS

- A. Aluminum Castings: ASTM B26/B26M, alloy and temper recommended by sign manufacturer for casting process used and for type of use and finish indicated.
- B. Aluminum Sheet and Plate: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- C. Aluminum Extrusions: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- D. Zinc Castings: ASTM B240, alloy and temper recommended by sign manufacturer for type of use and finish indicated.

## 2.4 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:
  1. Use concealed fasteners and anchors unless indicated to be exposed.
  2. For exterior exposure, furnish stainless steel or devices unless otherwise indicated.
  3. Exposed Metal-Fastener Components, General:
    - a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.
    - b. Fastener Heads: For nonstructural connections, use flathead screws and bolts with tamper-resistant Allen-head slots unless otherwise indicated.
  4. Sign Mounting Fasteners:
    - a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.
    - b. Projecting Studs: Threaded studs with sleeve spacer, welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.



- c. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, installed in predrilled holes.

## 2.5 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
  1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
  2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
  3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
  4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
  5. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
  6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
  7. Castings: Fabricate castings free of warp, cracks, blowholes, pits, scale, sand holes, and other defects that impair appearance or strength. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks before finishing.

## 2.6 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.
- D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

## 2.7 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.
- B. Color Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

## 2.8 STAINLESS STEEL FINISHES

- A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
  - 1. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
  - 2. Directional Satin Finish: No. 4.
  - 3. Dull Satin Finish: No. 6.
  - 4. Reflective, Directional Polish: No. 7.
  - 5. Mirrorlike Reflective, Nondirectional Polish: No. 8.

## 2.9 LACQUER COATING FOR COPPER-ALLOY FINISHES

- A. Lacquer Coating: Clear, organic, waterborne, air-drying, acrylic lacquer called "Incralac"; specially developed for coating copper-alloy products; consisting of a solution of acrylic resin, methyl methacrylate copolymer, leveling agent, and corrosion inhibitor benzotriazole.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Verify that electrical service is correctly sized and located to accommodate signs.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION OF DIMENSIONAL CHARACTERS

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
  - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
  - b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.
2. Projecting Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
  - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place spacers on studs, place sign in position, and push until spacers are pinched between sign and substrate, embedding the stud ends in holes. Temporarily support sign in position until adhesive fully sets.
  - b. Thin or Hollow Surfaces: Place spacers on studs, place sign in position with spacers pinched between sign and substrate, and install washers and nuts on stud ends projecting through opposite side of surface, and tighten.
3. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
4. Back Bar and Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position, so that signage is correctly located and aligned.
5. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.
6. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.

3.3 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed characters and signs that do not comply with specified requirements. Replace characters with damaged or deteriorated finishes

or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101419

SECTION 31 10 00  
SITE CLEARING

**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. Protecting existing vegetation to remain.
- 2. Removing existing vegetation.
- 3. Clearing and grubbing.

B. Related Requirements:

- 1. Section 01 50 00 "Temporary Facilities and Controls" for temporary erosion- and sedimentation-control measures.
- 2. Section 01 56 39 "Temporary Tree and Plant Protection"
- 3. Section 02 41 19 "Selective Demolition."

1.3 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface and existing in-place surficial organic soil layer; the zone where plant roots grow.
- D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- E. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PRE-INSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at Project site.

1.5 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain District's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
  - 1. Use sufficiently detailed photographs or video recordings.
  - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.
- B. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.7 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from District and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by District or authorities having jurisdiction.
  - 3. Maintain emergency vehicle access traffic ways at all times. If the Work impacts the emergency vehicle access traffic way, coordinate with the local Fire Marshal.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining District's property will be obtained by District before award of Contract.
  - 1. Do not proceed with work on adjoining property until directed by District Construction Manager.
- C. Utility Locator Service: Retain a professional utility locator service and have all existing underground utilities located and surface-identified before site clearing.
- D. Do not commence site clearing operations until temporary erosion-control, sedimentation-control and plant-protection measures are in place.

- E. Tree- and Plant-Protection Zones: The following practices are prohibited within plant protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Foot traffic.
  - 4. Erection of sheds or structures.
  - 5. Impoundment of water.
  - 6. Excavation or other digging unless otherwise indicated.
  - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
  - 8. Do not direct vehicle or equipment exhaust toward protection zones.
  - 9. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.
  
- F. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.
  
- G. Burning: Burning is not permitted on the site.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 31 20 00 "Earth Moving."
  - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
  
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain. Wrap a 1-inch blue vinyl tie tape flag around each tree trunk at 54 inches above the ground.
  
- C. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to District.

### 3.2 TREE AND PLANT PROTECTION

- A. Protect trees remaining on-site.
  - 1. Protect shrubs and other vegetation indicated to remain or be relocated.
  - 2. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by District Construction Manager.

### 3.3 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Coordinate with and follow all the requirements contained in Section 01 57 23 "Temporary Storm Water Pollution Control."
- C. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- D. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- E. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

### 3.4 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
  - 1. Arrange with utility companies to shut off indicated utilities.
  - 2. Protect all utilities to remain in place.
  - 3. Cap or seal utilities in accordance with the appropriate code and industry standard.
- B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by District or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify District Construction Manager not less than five days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without District Construction Manager's written permission.



3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
  - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
  - 2. Grind down stumps and remove roots, obstructions, and debris to a depth of 18 inches below exposed subgrade.
  - 3. Use only hand methods for grubbing within protection zones.
  - 4. Chip removed tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
  - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off District's property.
- B. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials, and transport them to recycling facilities. Do not interfere with other Project work.

**END OF SECTION 31 10 00**

Exhibit "B"

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## GENERAL CONDITIONS

### Article 1. DEFINITIONS

- a. The "District" and "Contractor" are those mentioned as such in the agreement. For convenience and brevity, these terms, as well as terms identifying other persons involved in the contract are treated throughout the contract documents as if they are of singular number and masculine gender.
- b. "Subcontractor," as used herein, includes those having a direct contract with Contractor and one who furnishes material worked to a special design according to plans and specifications of this work, but does not include one who merely furnishes material not so worked.
- c. "Surety" is the person, firm, or corporation, admitted as a California admitted surety, that executes as surety the Contractor's Performance Bond and Payment Bond for Public Works.
- d. "Provide" shall include "provide complete in place," that is, "furnish and install."
- e. Words such as "indicated," "shown," "detailed," "noted," "scheduled," or words of similar meaning shall mean that reference is made to the drawings, unless otherwise noted. It shall be understood that the direction, designation, selection, or similar import of the Architect is intended, unless stated otherwise.
- f. "Work" of the Contractor or subcontractor includes labor or materials or both.
- g. The term "day" as used herein shall mean calendar day unless otherwise specifically designated.
- h. Where the words "equal," "equivalent," "satisfactory," "directed," "designated," "selected," "as required," and words of similar meaning are used, the written approval, selection, satisfaction, direction, or similar action of the Architect is required.
- i. Where the word "required" and words of similar meaning are used, it shall mean, "as required to properly complete the work as required by the Architect," unless stated otherwise.
- j. The word "perform" shall be understood to mean that the Contractor, at Contractor's expense, shall perform all operations necessary to complete the work, including furnishing of necessary labor, tools, and equipment, and further including the furnishing and installing of materials that are indicated, specified, or required to complete such performance.
- k. Where the words "acceptable," "acceptance," or words of similar import are used, it shall be understood that the acceptance of the Architect and District is intended.
- l. Where shown, the words "includes," and "including," do not limit the work to the items following those words.

### Article 2. DRAWINGS AND SPECIFICATIONS

- a. **Contract Documents.** Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all. The intention of documents is to include all labor and materials, equipment, and transportation necessary for the proper execution of the work. Materials or work described in words which as applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards.
- b. **Interpretations.** Drawings and specifications are intended to be fully cooperative and to

agree. However, if Contractor observes that drawings and specifications are in conflict, he shall promptly notify the architect in writing and any necessary changes shall be adjusted as provided in contract for changes in work. If such conflict arises, the following order of precedence shall generally apply, provided, however, that the order of precedence shall not be so rigidly interpreted as to affect an absurd or costly result:

1. Special Conditions shall take precedence over General Conditions.
  2. Technical Specifications implement, in additional detail, the requirements of the General Conditions. In the event of conflict between the Technical Specifications and the General Conditions, the General Conditions shall take precedence.
  3. In the event of a conflict between the Technical Specifications and the drawings, the higher quality, higher quantity and most stringent requirements shall be deemed to apply and shall govern as to materials, workmanship, and installation procedures.
  4. With regard to drawings:
    - (a) Figures govern over scaled dimensions;
    - (b) Larger details govern over general drawings;
    - (c) Addenda/change order drawings govern over contract drawings;
    - (d) Contract drawings govern over standard drawings.
  5. Work not particularly shown or specified shall be the same as similar parts that are shown or specified.
- c. Misunderstanding of drawings and specifications shall be clarified by the architect, whose decisions shall be final.
  - d. Standards, Rules, and Regulations referred to are recognized printed standards and shall be considered as one and a part of these specifications within limits specified.

### **Article 3. COPIES FURNISHED**

Contractor will be furnished copies of bid packet and specifications as set forth in Special Conditions. Additional copies and plans may be obtained at cost of reproduction.

### **Article 4. OWNERSHIP OF DRAWINGS**

All drawings, specifications, and copies thereof furnished by District are its property. They are not to be used on other work and with exception of signed contract sets, are to be returned to District on request at completion of work.

### **Article 5. DETAIL DRAWINGS AND INSTRUCTIONS**

- a. In case of ambiguity, conflict, or lack of information, architect shall furnish with reasonable promptness additional instructions, by means of drawings or otherwise, necessary for proper execution of work. For purposes of this section "reasonable promptness" shall mean as soon as possible in order for Contractor to execute the work. If the item is identified by the Contractor as a critical path item, "reasonable promptness" shall mean no more than five business days. All such drawings and instructions shall be consistent with contract documents, true developments thereof, and reasonably inferable therefrom.
- b. Work shall be executed in conformity therewith and Contractor shall do no work without proper drawings and instructions.

## Article 6. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- a. Project shall be commenced on or before the date stated in District's notice to the contractor to proceed and shall be completed by Contractor in the time specified in the Special Conditions. The District is under no obligation to consider early completion of the project and the contract completion date shall not be amended by the District's acceptance of the Contractor's proposed earlier completion date. Furthermore, Contractor shall not, under any circumstances receive additional compensation from the District for indirect, general, administrative or other forms of overhead costs for the period between the time of earlier completion proposed by the Contractor and the official contract completion date. If the work is not completed in accordance with the foregoing, it is understood that the District will suffer damage. It being impractical and infeasible to determine the amount of actual damage, it is agreed that Contractor shall pay to District as fixed and liquidated damages, and not as a penalty, the sum stipulated in the Special Conditions for each calendar day of delay until work is completed and accepted. Contractor and his surety shall be liable for the amount thereof. Any money due or to become due the Contractor may be retained to cover said liquidated damages. Should such money not be sufficient to cover said liquidated damages, District shall have the right to recover the balance from the Contractor or his sureties, who will pay said balance forthwith. Regardless of the time lines in the schedule submitted by Contractor, no delay claims shall be accepted by District unless the event or occurrence delays the completion of the Project beyond the contractual completion date.
- b. Contractor shall abide by District's determination of what constitutes inclement weather based upon the inspector or geotechnical engineer's recommendation. A bad weather day is a day when the weather causes unsafe work conditions or is unsuitable for work that should not be performed during inclement weather (i.e., exterior finishes). Time extensions shall only be granted when the work that is stopped during inclement weather is on the critical path of the Project schedule. The District's consideration of time extension requests will take into account situations when rain days exceed the normal frequency and amount based on the closest weather station data averaged over the past three years, for the period of this contract and when Contractor can show such rain days impact the critical path. Contractor shall be expected to perform all work he can possibly complete during inclement weather (i.e., interior work).
- c. **Extension of Time.** Contractor shall not be charged liquidated damages because of any delays in completion of work due to unforeseeable causes beyond the control and without the fault or negligence of Contractor including, but not restricted to: acts of God, or of public enemy, acts of Government, acts of District or anyone employed by it or acts of another Contractor in performance of a contract with District, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather or delays of subcontractors due to such causes. Contractor shall within five (5) days of beginning of any such delay (unless District grants a further period of time prior to date of final settlement of the contract) notify District in writing of causes of delay; thereupon District shall ascertain the facts and extent of delay and grant extension of time for completing work when, in its judgment, the findings of fact justify such an extension. The District's findings of fact thereon shall be final and conclusive on all parties. In case of a continuing cause of delay, only one claim is necessary. Time extensions to the project should be requested by the Contractor as they occur and without delay. Regardless of the time lines in the schedule submitted by Contractor, no delay claims shall be accepted by District unless the event or occurrence delays the completion of the project beyond the contractual completion date.
- d. **Determining Damages for Delay.** District's liability to Contractor for delays for which

District is responsible shall be limited to an extension of time for delays unless such delays were unreasonable under the circumstances involved and were not within the contemplation of the parties when the contract was awarded. Contractor agrees that the District's representative shall determine the actual costs to Contractor of any delay for which Contractor may claim damages from District. Such costs, if any, shall be directly related to the project, and shall not include costs that would be borne by the Contractor in the regular course of business, including, but not limited to, office overhead and ongoing insurance costs. The District shall not be liable for any damages which the Contractor could have avoided by any reasonable means including, but not limited to, the judicious handling of forces, equipment, or plant.

- e. **Removal or Relocation of Main or Trunkline Utility Facilities.** The Contractor shall not be assessed for liquidated damages for delay in completion of the project, when such delay was caused by the failure of the awarding authority of this contract or the owner of the utility to provide for removal or relocation of the existing main or trunkline utility facilities; however, when the Contractor is aware that removal or relocation of an existing utility has not been provided for, Contractor shall promptly notify the awarding authority and the utility in writing, so that provision for such removal or relocation may be made to avoid and minimize any delay which might be caused by the failure to remove or relocate the main or trunkline utility facilities, or to provide for its removal or relocation. In accordance with section 4215 of the Government Code, if the Contractor while performing the contract discovers any existing main or trunkline utility facilities not identified by the public agency in the contract plans or specifications, he shall immediately notify the public agency and utility in writing. The public utility, where they are the owner, shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price. The Contractor shall be compensated for the costs of locating, repairing damage not due to the failure of the 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 on the project necessarily idled during such work. Such compensation shall be in accordance with the extra work provisions set out at Article 40 hereof.

## **Article 7. PROGRESS SCHEDULE**

- a. Within fourteen (14) days after the date of the Award of the Contract, Contractor shall prepare a baseline progress schedule in hard copy and disk form and shall submit this schedule for the District's approval. The schedule shall clearly identify all staffing and other resources which in the Contractor's judgment are needed to complete the project within the time specified for completion. The schedule shall include milestones and shall include the "critical path" of construction. The Contractor is fully responsible to determine and provide for any and all staffing and resources at levels which allow for good quality and timely completion of the project; the District's approval of the progress schedule does not relieve the Contractor of any such responsibility. Contractor's failure to incorporate all elements of work required for the performance of the contract or any inaccuracy in the schedule shall not excuse the Contractor from performing all work required for a completed project within the specified contract time period, notwithstanding the Owner's acceptance of the schedule. **The first payment will not be made unless the District has been provided and has accepted the project schedule.**
- b. The schedule shall allow enough time for inclement weather. Such schedule shall indicate graphically the beginning and completion dates of all phases of construction, and shall indicate the critical path for all critical, sequential time related activities. All required schedules shall indicate "float time" for all "slack" or "gaps" in the non-critical activities. Submitted construction schedules shall have a duration which does not exceed the contract time. Excess time may be picked up with "float time" at the discretion of the District. A "bar chart" in reasonably complete detail shall be

adequate in contracts over \$1 million and shall show critical path items. All required schedules shall be periodically updated to reflect changes in the status of the job, including weather delays. **At a minimum, the Contractor shall be required to provide and keep updated a monthly schedule in order to prevent delay claims.**

#### **Article 8. CONTRACT SECURITY**

Unless otherwise specified in Special Conditions, Contractor shall furnish a surety bond in an amount equal to 100 percent of contract price as security for faithful performance of this contract and shall furnish a separate bond as security for payment of persons performing labor and furnishing materials in connection with this contract. The Payment Bond must be in the amount of 100 percent of the total amount payable. Both the Payment and the Performance Bonds must be executed by an admitted Surety approved to conduct business in the State of California which meets the highest standards the District is legally permitted to establish. Aforesaid bonds shall be in form set forth in these contract documents. Upon request of Contractor, District will consider and accept multiple sureties on such bonds.

#### **Article 9. ASSIGNMENT**

Contractor shall not assign this contract or any part thereof without prior written consent of District. 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 said contract in favor of all persons, firms, or corporations rendering such services or supplying such materials to the extent that claims are filed pursuant to the Civil Code, the Code of Civil Procedure, and/or the Government Code.

#### **Article 10. PROHIBITED INTERESTS**

No official of District and no District representative who is authorized in such capacity and on behalf of District to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with construction of project, shall be or become directly or indirectly interested financially in this contract or in any part thereof. No officer, employee, architect, attorney, engineer or inspector of or for District who is authorized in such capacity and on behalf of District to exercise any executive, supervisory or other similar functions in connection with construction of project, shall become directly or indirectly interested financially in this contract or in any part thereof.

#### **Article 11. SEPARATE CONTRACTS**

District reserves the right to let other contracts in connection with this work or other work at the same site. Contractor shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly connect and coordinate his work with theirs.

If any part of Contractor's work depends for proper execution or results upon work of any other contractor, the Contractor shall inspect and promptly report to architect any defects in such work that renders it unsuitable for such proper execution and results. His failure to inspect and report shall constitute his acceptance of other contractor's work as fit and proper for reception of his work, except as to defects which may develop in the other contractor's work after execution of contractor's work.

To insure proper execution of his subsequent work, Contractor shall measure and inspect work already in place and shall at once report to the architect any discrepancy between executed work and contract documents.

Contractor shall ascertain to his own satisfaction the scope of the project and nature of any other contracts that have been or may be awarded by District in prosecution of project to the end that



Contractor may perform this contract in the light of such other contracts, if any. Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy at site of project. Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on project. If simultaneous execution of any contract for project is likely to cause interference with performance of some other contract or contracts, District shall decide which contractor shall cease work temporarily and which contractor shall continue or whether work can be coordinated so that contractors may proceed simultaneously. District shall not be responsible for any damages suffered or for extra costs incurred by Contractor resulting directly or indirectly from award, performance, or attempted performance of any other contract or contracts on project, or caused by any decision or omission of District respecting the order of precedence in performance of contracts.

## **Article 12. SUBCONTRACTING**

- a. Contractor agrees to bind every subcontractor by terms of the contract as far as such terms are applicable to subcontractor's work. If Contractor subcontracts any part of this contract, Contractor shall be as fully responsible to District for the acts and omissions of his subcontractor and of persons either directly or indirectly employed by his subcontractor, as he is for acts and omissions of persons directly employed by himself. Nothing contained in these contract documents shall create any contractual relation between any subcontractor and District. The District shall be deemed to be the third party beneficiary of the contract between the contractor and the subcontractor.
- b. District's consent to or approval of any subcontractor under this contract shall not in any way relieve Contractor of his obligations under this contract and no such consent or approval shall be deemed to waive any provision of this contract. The District reserves the right of approval of all subcontractors proposed for use on this Project, and to this end, may require financial, performance and such additional information as is needed to secure this approval. If a Subcontractor is not approved, the Contractor shall promptly submit another of the same trade for approval.
- c. Substitution or addition of subcontractors shall be permitted only as authorized in chapter 4 (commencing at section 4100), part 1, division 2 of the California Public Contract Code.

## **Article 13. DISTRICT'S RIGHT TO TERMINATE CONTRACT**

District may, without prejudice to any other right or remedy, serve written notice of intent to terminate upon Contractor and his surety stating its intention to terminate this contract if the Contractor (i) refuses or fails to prosecute the work or any separable part thereof with such diligence as will insure its completion within the time specified or any extension thereof, or (ii) fails to complete said work within such time, or (iii) if the Contractor should file a bankruptcy petition, or (iv) if he should make a general assignment for the benefit of his creditors, or (v) if a receiver should be appointed on account of his insolvency, or (vi) if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials to complete the work in time specified, or (vii) if he should fail to make prompt payment to subcontractors or for material or labor, or (viii) persistently disregard laws, ordinances or instructions of District, or (ix) otherwise be guilty of a substantial violation of any provision of the contract, or (x) if he or his subcontractors should violate any of the provisions of this contract. The notice of intent to terminate shall state generally the reasons for such intention to terminate. Unless within five days (5) days after the service of such notice, such condition shall cease or such violation shall cease and satisfactory arrangements for the correction thereof be made, this contract shall be deemed to have ceased and terminated. The Contractor then shall not be entitled to receive any further payment until work is finished. Upon the termination of the contract as provided above, District shall immediately serve upon surety and contractor written notice of termination stating that the contract has ceased and terminated. Surety shall have the right to investigate, take over and perform this contract, provided, however,

that if surety, within five (5) days after service upon it of said notice of termination, does not give District written notice of its intention to take over and perform this contract and does not commence performance thereof within seven (7) days from the date of service upon it of such notice of termination, District may take over the work and prosecute same to completion by contract or by any other method it may deem advisable for the account and at the expense of Contractor. If Surety does not perform the project work itself, the Surety shall consult with the District regarding its planned choice of a contractor or contractors to complete the project, and upon request by District, Surety shall provide District Evidence of Responsibility of Surety's proposed contractor or contractors. District shall be entitled to reject Surety's choice of contractor or contractors if District determines in its sole discretion that the contractor or contractors are nonresponsible. If Surety provides District written notice of its intention to take over and perform this contract, within fourteen (14) days of such written notice of intent to take over and perform, Surety or its chosen contractor or contractors (if such contractor or contractor's are approved by District) shall provide District a detailed Progress Schedule as specified in Article 7 above. Contractor and his surety shall be liable to District for any excess cost or other damages occasioned the District as a result of Surety or Surety's contractor or contractors takeover and performance. If the District takes over the work as hereinabove provided, the District may, without liability for so doing, take possession of and utilize in completing the work such materials, appliances, plant, and other property belonging to the Contractor as may be on the site of the work and necessary therefore.

If the unpaid balance of the contract price exceeds the expense of finishing work, including compensation for additional architectural, managerial, and administrative services, such excess shall be paid to Contractor. If such expense shall exceed such unpaid balance, Contractor shall pay the difference to District. Expense incurred by District as herein provided, and damage incurred through Contractor's default, shall be certified by architect.

The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the District.

Notwithstanding the foregoing provisions, this contract may not be terminated or modified where a trustee-in-bankruptcy has assumed the contract pursuant to 11 U.S.C. section 365 (Federal Bankruptcy Act).

#### **Article 14. GUARANTEE**

Besides guarantees required elsewhere, Contractor shall, and hereby does, guarantee all work for a period of one year after date of acceptance of work by District. Contractor shall repair or replace any or all such work, together with any other work, which may be displaced in so doing, that may prove defective in workmanship and/or materials within a one-year period from date of acceptance without expense whatsoever to District, ordinary wear and tear, unusual abuse or neglect excepted. District will give notice of observed defects with reasonable promptness. Contractor shall notify District upon completion of repairs.

In the event of failure of Contractor to comply with above-mentioned conditions within one week after being notified in writing, District is hereby authorized to proceed to have defects repaired and made good at the expense of Contractor. Contractor hereby agrees to pay costs and charges therefore immediately on demand.

If, in the opinion of the District, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the District or to prevent interruption of operations of the District, the District will attempt to give the notice required by this article. If the Contractor cannot be contacted or does not comply with the District's request for correction within a reasonable time as determined by the District, the District may, notwithstanding the provisions of this article, proceed to make such correction or provide such attention. The costs of such correction or attention shall be charged against the Contractor. Such action by the District will not relieve the Contractor of the guarantees provided in this article or elsewhere in this contract.

This article does not in any way limit the guarantee 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 District with all appropriate guarantee or warranty certificates upon completion of the project.

#### **Article 15. NOTICE AND SERVICE THEREOF**

- a. Any notice from one party to the other under the contract shall be in writing and shall be dated and signed by party giving such notice or by the duly authorized representative of such party. Any such notice shall not be effective for any purpose whatsoever unless served in one of the following manners:
  1. If notice is given to District, by personal delivery thereof to District's representative or District's architect or by depositing same in United States mail, enclosed in a sealed envelope addressed to District for attention of said representative or architect, postage prepaid and registered;
  2. If notice is given to Contractor, by personal delivery thereof to said Contractor or to his foreman at site of project, or by depositing same in United States mail, enclosed in a sealed envelope addressed to said Contractor at his regular place of business or at such other address as may have been established for the conduct of work under this contract, postage prepaid and registered;
  3. If notice is given to surety or other person, by personal delivery to such surety or other person or by depositing same in United States mail, enclosed in a sealed envelope addressed to such surety or person at the address of such surety or person last communicated by him to party giving notice, postage prepaid and registered.
  4. If notice is served by mail, it shall be deemed received and all time periods associated with the giving of notice shall run from the third day after mailing.

#### **Article 16. WORKERS**

- a. Contractor shall at all times enforce strict discipline and good order among his employees. Contractor shall not employ on work any unfit person or any one not skilled in work assigned to him.
- b. Any person in the employ of the Contractor whom District may deem incompetent or unfit shall be dismissed from work and shall not again be employed on it except with the written consent of District.

#### **Article 17. WAGE RATES**

- a. Pursuant to the provisions of article 2 (commencing at section 1770), chapter 1, part 7, division 2 of the Labor Code of California, the Director of Industrial Relations has ascertained the general prevailing rate of per diem wages in the locality in which this public work is to be performed for each craft, classification, or type of worker needed to execute the contract. Copies of said determination are on file at District's principal office and are available to any interested party on request.
- b. Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half times the general prevailing rate of per diem wages as determined by the Director of Industrial Relations, unless otherwise specified.
- c. Each worker of the Contractor or any of his subcontractors engaged in work on the project shall be paid not less than the general prevailing rate of per diem wages determined by the Director of Industrial Relations, regardless of any contractual

relationship which may be alleged to exist between the Contractor or any subcontractor and such workers.

- d. The Contractor shall, as a penalty to the District, forfeit not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of Industrial Relations for the work or craft in which the worker is employed for any public work done under the contract by him or her or by any subcontractor under him or her. Prevailing wage rates shall also be used when determining wages paid for change order items. The amount of this forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of the Contractor's mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor in meeting his or her prevailing wage obligations, or the Contractor's willful failure to pay the correct rates of prevailing wages. The difference between the 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 the Contractor, and the Contractor shall be bound by the provisions of Labor Code section 1775.
- e. Any worker employed to perform work on the project, which work is not covered by any classification listed in the general prevailing rate of per diem wages determined by the Director of Industrial Relations, 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. Such minimum wage rate shall be retroactive to the time of initial employment of such person in such classification.
- f. Pursuant to Labor Code section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel, subsistence, apprenticeship or other specified training programs and similar purposes.
- g. 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.
- h. Contractor and each subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work.
- i. The payroll records required above shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:
  - 1. A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his or her authorized representative on request.
  - 2. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.
  - 3. A certified copy of all payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. The public shall not be given access to such records at the principal office of the

Contractor.

- j. Contractor shall file a certified copy of the records required above with the District or entity that requested such records within ten days after receipt of a written request.
- k. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor shall not be marked or obliterated.
- l. Contractor shall inform the District of the location of the records required above, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.
- m. In the event of noncompliance with the requirements of this article regarding maintenance of records, the Contractor shall have ten days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this article. Should noncompliance still be evident after such ten-day period, the Contractor shall, as a penalty by the District, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalty shall be withheld from progress payments then due. A Contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

#### **Article 18. APPRENTICES**

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 indentured to the Contractor in full compliance with provisions of the Labor Code. The prime contractor shall bear the responsibility of compliance with Labor Code section 1777.5 for all apprenticeable occupations and agrees that he will comply with said section which reads:

- (a) Nothing in this chapter shall prevent the employment of properly registered apprentices upon public works.
- (b) Every apprentice employed upon public works shall be paid the prevailing rate of per diem wages for apprentices in the trade to which he or she is registered and shall be employed only at the work of the craft or trade to which he or she is registered.
- (c) Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written apprentice agreements under Chapter 4 (commencing with Section 3070) of Division 3 are eligible to be employed at the apprentice wage rate on public works. The employment and training of each apprentice shall be in accordance with either (1) the apprenticeship standards and apprentice agreements under which he or she is training or (2) the rules and regulations of the California Apprenticeship Council.
- (d) When the contractor to whom the contract is awarded by the state or any political subdivision, in performing any of the work under the contract, employs workers in any apprenticeable craft or trade, the contractor shall employ apprentices in at least the ratio set forth in this section and may apply to any apprenticeship program in the craft or trade that can provide apprentices to the site of the public work for a certificate approving the contractor under the apprenticeship standards for the employment and

training of apprentices in the area or industry affected. However, approval or denial of the apprenticeship program shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the contractor, shall arrange for the dispatch of apprentices to the contractor. A contractor covered by an apprenticeship program's standards shall not be required to submit any additional application in order to include additional public works contracts under that the program. "Apprenticeable craft or trade," as used in this section, means a craft or trade determined as an apprenticeable occupation in accordance with rules and regulations prescribed by the California Apprenticeship Council. As used in this section, "contractor" includes any subcontractor under a contractor who performs any public works not excluded by subdivision (o).

- (e) Prior to commencing work on a contract for public works, every contractor shall submit contract award information to an applicable apprenticeship program that can supply apprentices to the site of the public work. The information submitted shall include an estimate of journeyman hours to be performed under the contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the awarding body if requested by the awarding body. Within 60 days after concluding work on the contract, each contractor and subcontractor shall submit to the awarding body, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the contract. The information under this subdivision shall be public. The apprenticeship programs shall retain this information for 12 months.
- (f) The apprenticeship program that can supply apprentices to the area of the site of the public work shall ensure equal employment and affirmative action in apprenticeship for women and minorities.
- (g) The ratio of work performed by apprentices to journeymen employed in a particular craft or trade on the public work may be no higher than the ratio stipulated in the apprenticeship standards under which the apprenticeship program operates where the contractor agrees to be bound by those standards, but, except as otherwise provided in this section, in no case shall the ratio be less than one hour of apprentice work for every five hours of journeyman work.
- (h) This ratio of apprentice work to journeyman work shall apply during any day or portion of a day when any journeyman is employed at the jobsite and shall be computed on the basis of the hours worked during the day by journeymen so employed. Any work performed by a journeyman in excess of eight hours per day or 40 hours per week shall not be used to calculate the ratio. The contractor shall employ apprentices for the number of hours computed as above before the end of the contract or, in the case of a subcontractor, before the end of the subcontract. However, the contractor shall endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the jobsite. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of an apprenticeship program, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification.
- (i) A contractor covered by this section that has agreed to be covered by an apprenticeship program's standards upon the issuance of the approval certificate, or that has been previously approved for an apprenticeship program in the craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the applicable apprenticeship standards, but in no event less than the 1-to-5 ratio required by subdivision (g).
- (j) Upon proper showing by a contractor that he or she employs apprentices in a

particular craft or trade in the state on all of his or her contracts on an annual average of not less than one hour of apprentice work for every five hours of labor performed by journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the contractor from the 1-to-5 hourly ratio, as set forth in this section for that craft or trade.

- (k) An apprenticeship program has the discretion to grant to a participating contractor or contractor association a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the contractor from the 1-to-5 ratio set forth in this section when it finds that any one of the following conditions is met:
  - (1) Unemployment for the previous three-month period in the area exceeds an average of 15 percent.
  - (2) The number of apprentices in training in the area exceeds a ratio of 1 to 5.
  - (3) There is a showing that the apprenticeable craft or trade is replacing at least one-thirtieth of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis.
  - (4) Assignment of an apprentice to any work performed under a public works contract would create a condition that would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large, or the specific task to which the apprentice is to be assigned is of a nature that training cannot be provided by a journeyman.
- (l) When an exemption is granted pursuant to subdivision (k) to an organization that represents contractors in a specific trade from the 1-to-5 ratio on a local or statewide basis, the member contractors will not be required to submit individual applications for approval to local joint apprenticeship committees, if they are already covered by the local apprenticeship standards.
- (m) A contractor to whom a contract is awarded, who, in performing any of the work under the contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the director determines is the prevailing amount of apprenticeship training contributions in the area of the public works site. A contractor may take as a credit for payments to the council any amounts paid by the contractor to an approved apprenticeship program that can supply apprentices to the site of the public works project. The contractor may add the amount of the contributions in computing his or her bid for the contract. At the end of each fiscal year the California Apprenticeship Council shall make grants to each apprenticeship program in proportion to the number of hours of training provided by the program for which the program did not receive contributions, weighted by the regular rate of contribution for the program. These grants shall be made from funds collected by the California Apprenticeship Council during the fiscal year pursuant to this subdivision from contractors that employed registered apprentices but did not contribute to an approved apprenticeship program. All these funds received during the fiscal year shall be distributed as grants.
- (n) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section. The stipulations shall fix the responsibility of compliance with this section for all apprenticeable occupations with the prime contractor.
- (o) This section does not apply to contracts of general contractors or to contracts of specialty contractors not bidding for work through a general or prime contractor when the contracts of general contractors or those specialty contractors involve less than thirty thousand dollars (\$ 30,000) or 20 working days.

- (p) All decisions of an apprenticeship program under this section are subject to Section 3081."

#### **Article 19. HOURS OF WORK**

- a. 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 the 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 is limited and restricted to eight (8) hours during any one-calendar day and forty (40) hours during any one-calendar week, except as hereinafter provided. Notwithstanding the provisions herein above 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.
- b. The Contractor and every subcontractor shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him 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 the District and to the Division of Labor Law Enforcement, Department of Industrial Relations of the State of California.
- c. The Contractor shall pay to the District a penalty of twenty-five dollars (\$25) for each worker employed in the execution of this contract by the 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 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.
- d. Any work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to District.

#### **Article 20. WORKERS' COMPENSATION INSURANCE**

- a. The Contractor shall provide, during the life of this contract, workers' compensation insurance for all of his employees engaged in work under this contract, on or at the site of the project, and, in case any of his work is sublet, the Contractor shall require the subcontractor similarly to provide workers' compensation insurance for all the latter's employees. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by the Contractor's insurance. In case any class of employees engaged in work under this contract, on or at the site of the project, is not protected under the Workers' Compensation Statutes, the Contractor shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected. The Contractor shall file with the District certificates of his insurance protecting workers.
- b. Company or companies providing insurance coverage shall be acceptable to the District, and in the following form and coverage.
  1. Statutory Workers' Compensation and Employer's Liability Coverage: Contractor shall maintain insurance to afford protection for all claims under California Workers' Compensation Act and other employee benefit acts, and in addition, shall maintain Employer's Liability Insurance for a minimum limit of \$1,000,000. The Workers' Compensation Policy shall include the following endorsements, copies of which shall be provided to District:



- (a) The Voluntary Compensation Endorsement; and
- (b) Broad Form All States Endorsement; and
- (c) The Longshoremen's and Harbor Workers endorsement, where applicable to the work under this contract; and
- (d) Waiver of Subrogation Endorsement.

**Article 21. COMMERCIAL GENERAL LIABILITY AND PROPERTY DAMAGE INSURANCE**

- a. Contractor shall procure and maintain during the life of this contract and for such other period as may be required herein, at its sole expense, such comprehensive general liability insurance or commercial general liability and property damage insurance as shall protect Contractor and District from all claims for bodily (personal) injury, including accidental death, as well as claims for property damage arising from operations under this contract, and other covered loss, however occasioned, occurring during the policy term. Such policy shall comply with all the requirements of this article, and shall be in the form and amounts as set forth in the Special Conditions hereof. The limits set forth in the Special Conditions shall not be construed to relieve the Contractor from liability in excess of such coverage, nor shall it limit Contractor's indemnification obligations to District, and shall not preclude the District from taking such other actions available to District under other provisions of the contract documents or law.
- b. Contractor shall make certain that any and all subcontractors hired by Contractor are insured in accordance with this contract. If any subcontractor's coverage does not comply with the foregoing provisions, Contractor shall indemnify and hold District harmless from any damage, loss, cost, or expense, including attorneys' fees, incurred by District as a result thereof.
- c. Company or companies providing insurance coverage shall be acceptable to the District and authorized to conduct business in the State of California.
- d. Any general liability policy provided by Contractor hereunder shall contain an endorsement which applies its coverage to District, members of District's board of trustees, and the officers, agents, employees and volunteers of District, the State Allocation Board, if applicable, the architect, and the architect's consultants, individually and collectively, as additional insureds using form CG2010 11-85 or equivalent which must include products and completed operations coverage, broad form property damage coverage, coverage for collapse, explosion and underground, and include independent contractor coverage.
- e. The coverage afforded by the additional insured endorsement described in paragraph d above, shall apply as primary insurance, and any other insurance maintained by District, the members of District's Board of Trustees, or its officers, agents, employees and volunteers, or any self-funded program of District, shall be in excess only and not contributing with such coverage.
- f. Contractor shall notify District in writing of the amount, if any, of self-insured retention provided under the General Liability coverage, with a maximum limit of \$25,000. District may approve higher retention amounts, based upon review of documentation submitted by Contractor. Such review shall take into consideration Contractor's net worth and reserves for payment of claims of liability against Contractor, which must be sufficient to adequately compensate for the lack of other insurance coverage required hereunder.
- g. All general liability policies shall be written to apply to all bodily injury, including death, property damage, personal injury and other covered loss, however occasioned, occurring during the policy term, and shall specifically insure the

performance by Contractor of that part of the indemnification contained in Article 24 hereof, relating to liability for injury to or death of persons and damage to property. If the coverage contains one or more aggregate limits, a minimum of 50% of any such aggregate limit must remain available at all times; if over 50% of any aggregate limit has been paid or reserved, District may require additional coverage to be purchased by Contractor to restore the required limits. Contractor may combine primary, umbrella, and as broad as possible excess liability coverage to achieve the total limits indicated above. Any umbrella or excess liability policy shall include the additional insured endorsement, products and completed operations coverage and broad form property damage described in paragraphs d and e, above. To the extent that the umbrella insurer requires notice of changes to the primary policy, notice will be considered to be given and not prejudice the District's rights to recover under the umbrella policy.

- h. Contractor and District release each other, and their respective authorized representatives, from any Claims (as defined in Article 24 hereof), but only to the extent that the proceeds received from any policy of liability insurance carried by District or Contractor, other than any self-insurance, covers any such Claim or damage. Included in any policy or policies of liability insurance provided by Contractor hereunder shall be a standard waiver of rights of subrogation against District by the insurance company issuing said policy or policies.
- i. If coverage is written on a "claims made" basis, the Certificate of Insurance shall clearly so state. In addition to the coverage requirements specified above, such policy shall provide that:
  - 1. The policy retroactive date coincides with or precedes Contractor's commencement of work under the Agreement (including subsequent policies purchased as renewals or replacements).
  - 2. Contractor will make every effort to maintain similar insurance during the required extended period of coverage following expiration of the Agreement, including the requirement of adding all additional insureds.
  - 3. If insurance is terminated for any reason, Contractor shall purchase an extended reporting provision of at least two years to report claims arising in connection with the Agreement.
  - 4. The policy allows for reporting of circumstances or incidents that might give rise to future claims.
- j. Contractor's failure to procure the insurance specified herein, or failure to deliver certified copies or appropriate certificates of such insurance, or failure to make the premium payments required by such insurance, shall constitute a material breach of the contract, and District may, at its option, terminate the Agreement for any such default by Contractor.
- k. The requirements as to the types and limits of insurance coverage set forth herein and in the Special Conditions to be maintained by the Contractor, and any approval of said insurance by the District or its insurance advisor(s), are not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Contractor pursuant to the Agreement, including, but not limited to, the provisions concerning indemnification.
- l. District shall retain the right at any time to review the coverage, form, and amount of insurance required herein and may require Contractor to obtain insurance reasonably sufficient in coverage, form and amount to provide adequate protection against the kind and extent of risk which exists at the time a change in insurance is required.

- m. All deviations from the contractual insurance requirements stated herein must be approved in writing by District's risk manager.

**Article 22. BUILDER'S RISK/APPLICABLE INSTALLATION/FIRE INSURANCE**

- a. It is the Contractor's responsibility to maintain or cause to be maintained builder's risk insurance or applicable installation coverage on all work, material, equipment, appliances, tools, and structures which are a part of the contract and subject to loss or damage by fire, extended coverage, and vandalism and malicious mischief. District accepts no responsibility until the contract is formally accepted by the Governing Board for the work. The Contractor is required to file with the District a certificate evidencing builder's risk or applicable installation of not less than the amount identified in the special conditions insurance coverage.
- b. Provide insurance coverage on completed value form, all-risk or special causes of loss coverage.
  - 1. Insurance policies shall be so conditioned as to cover the performance of any extra work performed under the contract.
  - 2. Coverage shall include all materials stored on site and in transit.
  - 3. Coverage shall include Contractor's tools and equipment.
  - 4. Insurance shall include boiler, machinery and material hoist coverage.
- c. Company or companies providing insurance coverage shall be acceptable to the District and authorized to conduct business in the State of California.

**Article 23. PROOF OF CARRIAGE OF INSURANCE**

- a. Contractor shall, as soon as practicable following the placement of insurance required hereunder, but in no event later than the effective date of the Agreement, deliver to District certificates of insurance evidencing the same, together with appropriate separate endorsements thereto, evidencing that Contractor has obtained such coverage for the period of the Agreement. Contractor shall deliver certified copies of the actual insurance policies specified herein, within thirty days after commencement of work. Thereafter, copies of renewal policies, or certificates and appropriate separate endorsements thereof, shall be delivered to District within thirty (30) days prior to the expiration of the term of any policy required herein. Contractor shall permit District at all reasonable times to inspect any policies of insurance of Contractor which Contractor has not delivered to District.

- b. Certificates and insurance policies shall include the following clause:

"This policy shall not be canceled or reduced in required limits of liability or amounts of insurance until notice has been mailed to District stating date of cancellation, reduction or other adverse change respecting such insurance. The date of cancellation, reduction or adverse change may not be less than thirty (30) days after date of mailing notice."

Any notice required to be sent pursuant to this section shall be to District's address as shown in the Notice to Contractors Calling for Bids.

- c. Certificates of insurance shall state in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, and cancellation and reduction notice. All Certificates of Insurance provided by Contractor shall name District, the architect, and architect's consultants as additional insureds.
- d. After receiving written Notice of Cancellation of Insurance, Contractor shall have ten (10) days to provide other policies of insurance similar to the canceled policies and

acceptable insurance. If such replacement coverage is not provided, the District may secure insurance at the Contractor's expense.

- e. Nothing contained in the insurance requirements shall be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from operations under this agreement.

#### **Article 24. INDEMNIFICATION**

District shall not be liable for, and Contractor shall defend and indemnify District to the fullest extent permitted by law against any and all claims, demands, liability, judgments, awards, fines, mechanics' liens or other liens, labor disputes, losses, damages, expenses, charges or costs of any kind or character, including attorneys' fees, expert witness fees, investigation costs and court costs (hereinafter collectively referred to as "Claims"), which arise out of or are in any way connected to the work covered by this contract arising either directly or indirectly from any act, error, omission or negligence of Contractor or its contractors, licensees, agents, servants or employees, including, without limitation, Claims caused by the concurrent act, error, omission or negligence of District or its agents or employees. However, Contractor shall have no obligation to indemnify District from a Claim if it is determined by a court of competent jurisdiction that such Claim was caused by the active negligence, sole negligence, or willful misconduct of District or its agents or employees.

#### **Article 25. LAWS AND REGULATIONS**

- a. Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations bearing on conduct of work as indicated and specified. If Contractor observes that drawings and specifications are at variance therewith, he shall promptly notify architect in writing and any necessary changes shall be adjusted as provided in contract for changes in work. If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to architect, he shall bear all costs arising therefrom.
- b. Contractor shall be responsible for familiarity with the Americans with Disabilities Act (ADA) (42 USC 12101 et seq.). Installations of equipment and other devices shall be in compliance with ADA regulations.

#### **Article 26. PERMITS AND LICENSES**

Permits and licenses necessary for prosecution of work shall be secured and paid for by Contractor, unless otherwise specified.

#### **Article 27. INSPECTION FEES FOR PERMANENT UTILITIES**

All inspection fees and other municipal charges for permanent utilities including, but not limited to, sewer, electrical, phone, gas, water, and irrigation shall be paid for by District. Contractor shall be responsible for arranging the payment of such fees, but inspection fees and other municipal fees relating to permanent utilities shall be paid by District. Contractor may either request reimbursement from District for such fees, or obtain the funds from District prior to paying such fees.

#### **Article 28. EASEMENTS**

Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by District, unless otherwise specified.

#### **Article 29. SURVEYS**

Surveys to determine location of property lines and corners will be supplied by District. Surveys

to determine locations of construction, grading, and site work shall be provided by Contractor.

**Article 30. 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 excise tax because it is a sale to a state or local government for its exclusive use, the District, upon request, will execute a certificate of exemption which will certify (1) that the 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 the District. No excise tax for such materials shall be included in any bid price.

**Article 31. PATENTS, ROYALTIES, AND INDEMNITIES**

The Contractor shall hold and save the District and its officers, agents, and employees harmless from liability of any nature or kind, including cost and expense, for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of this contract, including its use by the District, unless otherwise specifically stipulated in the contract documents.

### **Article 32. MATERIALS**

- a. Except as otherwise specifically stated in this contract, Contractor shall provide and pay for all materials, labor, tools, equipment, water, lights, power, transportation, superintendency, temporary constructions of every nature, and all other services and facilities of every nature whatsoever necessary to execute and complete this contract within specified time.
- b. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality.
- c. Materials shall be furnished in ample quantities and at such times as to insure uninterrupted progress of work and shall be stored properly and protected as required. Contractor shall be entirely responsible for damage or loss by weather or other causes to materials or work under this contract.
- d. No materials, supplies, or equipment for work under this contract shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in work and agrees upon completion of all work to deliver premises, together with all improvements and appurtenances constructed or placed thereon by him, to District free from any claims, liens, or charges. He further agrees that neither he nor any person, firm, or corporation furnishing any materials or labor for any work covered by this contract shall have any right to lien upon premises or any improvement or appurtenance thereon, except that Contractor may install metering devices or other equipment of utility companies or of political subdivisions title to which is commonly retained by utility company or political subdivision. In event of installation of any such metering device or equipment, Contractor shall advise District as to owner thereof. Nothing contained in this article, however, shall defeat or impair right of persons furnishing material or labor under any bond given by Contractor for their protection or any rights under any law permitting such persons to look to funds due Contractor in hands of District, 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.

### **Article 33. SUBSTITUTIONS**

- a. Whenever in specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name or by name of manufacturer, such specification shall be deemed to be used for the purpose of facilitating description of material, process, or article desired and shall be deemed to be followed by the words "or equal." Contractor may, unless otherwise stated, offer any material, process, or article which shall be substantially equal or better in every respect to that so indicated or specified. Any material, process, or article not exactly meeting the specifications in the documents in every respect shall be considered a substitution. If a material, process, or article offered by Contractor is not, in opinion of architect, substantially equal or better in every respect to that specified, then Contractor shall furnish the material, process, or article specified. Burden of proof as to equality of any material, process, or article shall rest with Contractor.
- b. If a bidder desires to request substitution of an "or equal" item or product or work, it must make such a request in writing no later than 30 days after the award of the contract stating the make and grade of the item, product or work which is to be substituted. Such request must be accompanied by documentation substantiating the request. The documentation submitted must include any and all illustrations,

specifications, and other relevant data including catalog information which describes the substituted item or product or work and substantiates that it is an "or equal" to the specified item or product or work. In addition, the submittal documentation must also include a statement of the cost implications of the substitution being requested stating whether and why the substitution will reduce or increase the contract price. The documentation submitted must also include information regarding the durability and life cycle cost of the substituted item, product or work. Substantiating data shall include a signed affidavit from the contractor stating that the substituted item or product or work is equivalent to the specified item or product or work in every way except as listed on the affidavit. IF A PROPOSED SUBSTITUTION IS REJECTED, BIDDER SHALL BE RESPONSIBLE TO PROVIDE THE ITEM OR PRODUCT OR WORK AS ORIGINALLY SPECIFIED. DISTRICT HAS THE COMPLETE AND SOLE DISCRETION TO DETERMINE IF AN ITEM OR ARTICLE IS AN EQUAL ITEM.

After award of the contract should the District determine in its sole discretion that substitution of an item or product is reasonable and necessary or reasonable and appropriate, the Contractor shall submit any substitution requests together with all data required to substantiate that the substituted product or item is an "or equal" to the specified product or item. The make and grade of the item, product or work which is to be substituted shall be provided to the District representative. The documentation submitted must include any and all illustrations, specifications, and other relevant data including catalogue information which describes the substituted item, product or work and substantiates that it is an "or equal" to the specified item, product or work. In addition, the submittal documentation must also include a statement of the cost implications of the substitution being requested stating whether and why the substitution will reduce or increase the contract price. The documentation submitted must also include information regarding the durability and life cycle cost of the substituted item, product or work. Substantiating data shall include a signed affidavit from the Contractor stating that the substituted product is equivalent to the specified product or item in every way except as listed on the affidavit. Failure to submit all the needed substantiating data, including the signed affidavit, to the District Representative or Architect in a timely fashion so that the substitution can be adequately reviewed and considered prior to any necessity for its use or application may result in the rejection of the proposed substitution. The District Representative or Architect is not obligated to review multiple substitution submittals for the same product or item due to the Contractor's failure to submit a complete package either at time of submission of bid documents or in a timely manner after award of contract.

- c. In event Contractor furnishes material, process, or article more expensive than that specified, the difference in cost of such material, process, or article so furnished shall be borne by Contractor.

#### **Article 34. SHOP DRAWINGS**

- a. Contractor shall check and verify all field measurements and shall submit with such promptness as to cause no delay in his own work or in that of any other contractor, subcontractor, architect, other independent contractor or worker on the Project, three (3) copies of all shop or setting drawings, schedules, and materials list, and all other submittals in accordance with other provisions of the contract required for the work of various trades. Contractor shall sign all submittals affirming that submittals have been reviewed and approved by Contractor prior to submission to architect. Each signed submittal shall affirm that the submittal meets all the requirements of the contract documents except as specifically and clearly noted and listed on the cover sheet of the submittal.
- b. Contractor shall advise District immediately, if architect has not checked and approved with reasonable promptness, such schedules and drawings for

conformance with design concept of project and compliance with information given in contract documents. Contractor shall make any corrections required by architect, file with him three (3) corrected copies, and furnish such other copies as may be needed for construction. Architect's approval of such drawings or schedules also shall not relieve Contractor from responsibility for deviations from drawings or specifications unless he has in writing called architect's attention to such deviations at time of submission and has secured his written approval. Architect's approval of such drawings and schedules also shall not relieve contractor from responsibility for errors in shop drawings or schedules. For purposes of this section "reasonable promptness" shall mean such reasonable promptness as to cause no delay in the work or in the activities of the District, Contractor or separate contractors, while allowing sufficient time in the architect's professional judgment to permit adequate review. In contracts in excess of \$1 million, "reasonable promptness" shall mean such reasonable promptness as to not affect the critical path.

#### **Article 35. SUBMITTALS**

- a. Contractor shall furnish for approval, within fourteen (14) days following award of contract a log of all samples, material lists and certifications, mix designs, schedules, and other submittals, as required in specifications. Such log shall indicate whether samples will be provided as specified and in accordance with other provisions of this contract.
- b. Contractor will provide samples and submittals, together with catalogs and supporting data required by architect within a reasonable time period so as not to cause delays on the project.
- c. This provision shall not authorize any extension of time for performance of this contract. Architect will check and approve such samples, only for conformance with design concept of work and for compliance with information given in contract documents. Work shall be in accordance with approved samples. Architect's action will be taken within fourteen (14) calendar days after receiving such samples and submittals. If in the architect's professional judgment fourteen days is an insufficient amount of time to permit adequate review, Architect shall, within the initial fourteen (14) day period, notify the Contractor, with a copy to the Inspector and the District, of the amount of time that will be required to respond.

If the Architect's response results in a change in the project, then such change shall be effected by a written change order.

#### **Article 36. CLOSEOUT SUBMITTALS**

The Contractor shall be responsible for the timely delivery of the technical manuals, warranties and guarantees as required in the technical specifications. The final payment will not be made until the District representative has had an opportunity to review and accept the required documents.

#### **Article 37. PAYMENTS**

- a. Payment will be made in one lump sum less the ten percent (10%) retention per site due and payable within thirty (30) days after the completion and acceptance of the work at each site. Contractor will have the option to submit for payment one invoice (minus 10% retention) for total contract sum due and payable within thirty (30) days after the completion and acceptance of all work at all sites covered by the contract.
- b. The final payment of ten percent (10%) of the value of work done under this contract, if unencumbered, shall be made within sixty (60) days after the date of completion of the work, provided however, that in the event of a dispute between the District and the Contractor, the District may withhold from the final payment an amount not to



exceed one hundred and fifty percent (150%) of the disputed amount. Completion means any of the following as provided by Public Contract Code section 7107:

1. The occupation, beneficial use, and enjoyment of a work of improvement, excluding any operation only for testing, start up, or commissioning, by the public agency, or its agent, accompanied by cessation of labor on the work of improvement.
  2. The acceptance by the public agency, or its agent, of the work of improvement.
  3. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 100 days or more, due to factors beyond the control of the contractor.
  4. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 30 days or more, if the public agency files for record a notice of cessation or a notice of completion.
- c. This contract is subject to the provisions of Public Contract Code Section 7107.
- d. For purposes of this contract, the acceptance by the District means acceptance by District's Representative. Acceptance by Contractor of said final payment shall constitute a waiver of all claims against District arising from this contract.

#### **Article 38. PAYMENTS WITHHELD**

- a. In addition to amount which District may retain under any and all other articles in this Contract including those entitled "Payments," and "Time for Completion and Liquidated Damages," District may withhold a sufficient amount or amounts of any payment or payments otherwise due to Contractor, as in his judgment may be necessary to cover:
1. Payments which may be past due and payable for just claims against Contractor or any subcontractors for labor or materials furnished in and about the performance of work on the project under this contract.
  2. Defective work not remedied.
  3. Failure of Contractor to make proper payments to his subcontractor or for material or labor.
  4. Completion of contract if there exists a reasonable doubt that contract can be completed for balance then unpaid.
  5. Damage to another contractor.
  6. Amounts which may be due District for just claims against Contractor.
  7. Failure of Contractor to keep the record ("as-built") drawings up to date.
  8. Failure to provide update on construction schedule as required by Article 7 hereof.

When the above grounds are removed, payment shall be made for amount withheld because of them.

- b. District may apply such withheld amount or amounts to payment of such claims or obligations at its discretion. In so doing, District shall be deemed the agent of Contractor and any payment so made by District shall be considered as a payment

made under contract by District to Contractor and District shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. District will render Contractor a proper accounting of such funds disbursed on behalf of Contractor.

Article 39. CHANGES AND EXTRA WORK

- a. **Changes in Work.** District, without invalidating contract, and as provided by law, may order extra work or make changes by altering, adding to, or deducting from work, the contract sum being adjusted accordingly. All such work shall be subject to prevailing wage rates and shall be executed under the conditions of the original contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.
- b. In giving instructions, Contractor agrees that architect shall have authority to make minor changes in work, not involving change in cost, and not inconsistent with the purposes or approvals of the project. Otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless pursuant to a written order from District, and no claim for an addition to the contract sum shall be valid unless so ordered.
- c. **Unforeseen Conditions.** Contractor shall provide District with notice of unforeseen conditions immediately upon discovery of such conditions.
- d. Value of any such extra work, change, or deduction shall be determined at the discretion of District in one or more of the following ways:
  - 1. By acceptable lump sum proposal from Contractor with itemization as required by District.
  - 2. By unit prices contained in Contractor's original bid and incorporated in contract documents or fixed by subsequent agreement between District and Contractor.
  - 3. By the cost of material and labor and a percentage for overhead and profit. The following form shall be followed as applicable for additions and deductions to contract:

	EXTRA/ CREDIT
(a) Material (attach itemized quantity and unit cost plus sales tax)	_____
(b) Labor (attach itemized hours and base rates from identified prevailing wage schedules)	_____
(c) General Liability and <b>Builder's Risk</b> Insurance, Workers' Compensation Insurance, Social Security, Pension and Unemployment	_____

Taxes at actual and verified cost. **(Do not include this amount if OCIP is in place.)**

- (d) Subtotal \_\_\_\_\_
- (e) Subcontractor's overhead and profit not to exceed **10%** of Item (d) \_\_\_\_\_
- (f) Subtotal \_\_\_\_\_
- (g) General Contractor's Overhead and

Profit, including extended home office overhead, not to exceed **10%** of Item (d)\_\_\_\_\_

- (h) Subtotal \_\_\_\_\_
- (i) Bond Premium, not to exceed 1% of Item (h) \_\_\_\_\_
- (j) Total \_\_\_\_\_

- e. Regardless of whether the cost of the change order is determined pursuant to 1, 2, or 3, above, in addition to the cost of the material and labor for deleted items, Contractor shall credit back an appropriate and reasonable overhead mark-up and the bonding mark up for deleted items.
- f. Should Contractor claim that any instruction, request, drawing, specification, action, condition, omission, default, or other situation (i) obligates the District to pay additional compensation to the Contractor; or (ii) obligates the District to grant an extension of time for the completion of the contract; or (iii) constitutes a waiver of any provision in the contract, CONTRACTOR SHALL NOTIFY THE DISTRICT, IN WRITING, OF SUCH CLAIM AS SOON AS POSSIBLE, BUT IN NO EVENT WITHIN MORE THAN FIVE (5) WORKING DAYS FROM THE DATE CONTRACTOR HAS ACTUAL OR CONSTRUCTIVE NOTICE OF THE CLAIM. CONTRACTOR SHALL ALSO PROVIDE DISTRICT WITH SUFFICIENT WRITTEN DOCUMENTATION SUPPORTING THE FACTUAL BASIS OF THE CLAIM. Contractor shall be required to certify under penalty of perjury the validity and accuracy of any claims submitted. The Contractor's failure to notify the District within such five (5) working day period shall be deemed a waiver and relinquishment of the claim against the District. If such notice be given within the specified time, the procedure for its consideration shall be as stated above in this article.

In the event a mutual agreement cannot be reached on the cost of a change order, Contractor and District agree that an industry estimating guide, such as an estimating guide published by Means, shall be used to determine the cost of a disputed change order item.

- h. All costs associated with the change are to be included in the change order proposal to the District. Costs may be in terms of time, money or both.

**Article 40. DEDUCTIONS FOR UNCORRECTED WORK**

If District deems it inexpedient to correct work injured or not done in accordance with contract, an equitable deduction from contract price shall be made therefore.

**Article 41. PAYMENTS BY CONTRACTOR**

Contractor shall pay:

- a. For all transportation and utility services not later than the 20th day of the calendar month following that in which such services are rendered,
- b. For all materials, tools, and other expendable equipment to the extent of ninety percent (90%) of cost thereof, not later than the 20th day of the calendar month following that in which such materials, tools, and equipment are delivered at site of project and balance of cost thereof not later than the 30th day following completion of that part of work in or on which such materials, tools, and equipment are incorporated or used, and

- c. To each of his subcontractors, not later than the 5th day following each payment to Contractor, the respective amounts allowed Contractor on account of work performed by respective subcontractor to the extent of such subcontractor's interest therein.

**Article 42. CONTRACTOR'S SUPERVISION**

- a. Unless personally present on the premises where work is being done, Contractor shall keep on the work, during its progress, a competent full-time job (project) superintendent satisfactory to District. The job superintendent shall not be changed except with the written consent of District unless the job superintendent proves to be unsatisfactory to Contractor and ceases to be in his employ. The job superintendent shall represent Contractor in his absence and all directions given to him shall be as binding as if given to Contractor. Other directions shall be so confirmed on written request in each case.
- b. Contractor shall give efficient supervision to work, using his best skill and attention to control safety and job coordination. He shall carefully study and compare all drawings, specifications, and other instructions and shall at once report to architect any error, inconsistency or omission which he may discover. The Contractor shall not be liable to District for any damage resulting from errors or deficiencies in the contract documents or other instructions by the architect.

**Article 43. INSPECTOR'S FIELD OFFICE**

- a. Contractor shall provide for the use of inspector a separate trailer or temporary private office of not less than seventy-five square feet of floor area to be located as directed by inspector and to be maintained until removal is authorized by District. The Office shall be of substantial waterproof construction with adequate natural light and ventilation by means of stock design windows. Door shall have a key-type lock or padlock hasp. The inspector's field office shall have heating and air-conditioning and shall be equipped with a telephone, a telephone answering machine, a fax machine and use of an on-site copier at Contractor's expense.
- b. A table satisfactory for the study of plans and two chairs shall be provided by Contractor. Contractor shall provide and pay for adequate electric lights, local telephone service, and adequate heat and air conditioning for the field office until authorized removal.
- c. The provisions of this section are intended to be complementary to any requirements provided elsewhere in these contract documents, however in the event of conflicts between this section and other provisions of these contract documents, this section shall prevail.

**Article 44. DOCUMENTS ON WORK**

- a. Contractor shall keep one copy of all contract documents, including addenda, change orders, Division I, Title 21 of the California Code of Regulations, Parts 1-5 and 12 of Title 24 of the California Code of Regulations, and the prevailing wage rates applicable at the time of the contract, which are a part of contract documents, on job at all times. Said documents shall be kept in good order and shall be available to District representative, architect and his representatives. Contractor shall be acquainted with and comply with the provisions of said Titles 21 and 24 as they relate to this project. (See particularly Duties of the Contractor, Title 24 California Code of Regulations, section 4-343.) Contractor shall also be acquainted with and comply with all California Code of Regulations provisions relating to this project, particularly Titles 17, 19, 21 and 24.)
- b. Contractor shall also make available all books, records, accounts, contracts, bids,

etc. upon request of District.

#### **Article 45. RECORD ("AS BUILT") DRAWINGS**

- a. Contractor shall maintain a clean, undamaged set of contract drawings and shop drawings. In addition to maintaining one complete set of record drawings (herein referred to as "as-builts"), Contractor shall require each trade to do its own as-builts. The trade as-builts shall contain information showing clean and clear drawings with horizontal and vertical controls suitable for conversion to electronic media. Graphic quality must be equal to clean and clear original drawings; adequacy of the drawings shall be determined by the District's representative or architect. Contractor shall mark the set to show the actual installation where the installation varies from the work as originally shown. Contractor shall mark whichever drawings are most capable of showing conditions fully and accurately where shop drawings are used, and shall record a cross-reference at the corresponding location on the contract drawings. Contractor shall give particular attention to concealed elements that would be difficult to measure and record at a later date. Contractor shall use colors to distinguish variations in separate categories of the work.
- b. Contractor shall note related change order numbers where applicable. Contractor shall organize record drawings sheets into manageable sets, bound with durable paper cover sheets and shall print suitable title, dates and other identification on the cover of each set.
- c. At the end of the project, the Contractor shall provide the district representative with a complete set of as-built drawings. The complete set shall contain information showing clean and clear drawings with horizontal and vertical controls suitable for conversion to electronic media. Graphic quality must be equal to clean and clear original drawings; adequacy of the drawings shall be determined by the District's representative or architect. The as-builts must show the entire site for each major trade, including but not limited to water, sewer, electrical, data, telephone, cable, fire, alarm, gas, and plumbing.

#### **Article 46. UTILITY USAGE**

- a. All temporary utilities, including but not limited to electricity, water, gas, and telephone used on work shall be furnished and paid for by Contractor. Contractor shall furnish and install necessary temporary distribution systems, including meters, if necessary, from distribution points to points on site where utility is necessary to carry on the work. Upon completion of work, Contractor shall remove all temporary distribution systems.
- b. Contractor shall provide necessary and adequate utilities and pay all costs for water, electricity, gas, oil, and sewer charges required for completion of the project.
- c. All permanent meters installed shall be listed in the Contractor's name until completion occurs, as defined in Article 6 hereof, at which time further pro-rating will be determined if necessary. When District begins using the project, charges over and above power actually used for construction will be the responsibility of the District.
- d. If contract is for construction in existing facilities, Contractor may, with written permission of District, use District's existing utilities by making prearranged payments to District for utilities used by Contractor for construction.

#### **Article 47. SANITARY FACILITIES**

The Contractor shall provide a sanitary temporary toilet building as directed by the inspector for the use of all workers. The building shall be maintained in a sanitary condition at all times and

shall be left at the site until the inspector directs removal. Use of toilet facilities in the work under construction shall not be permitted except by approval of the inspector.

#### **Article 48. TRENCHES**

If the contract price exceeds \$25,000, the Contractor shall submit to the District or a registered civil or structural engineer employed by the District, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches five feet or more in depth. 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. No excavation of such trench or trenches shall be commenced until said plan has been accepted by District or the person to whom authority to accept has been delegated by District.

#### **Article 49. PROTECTION OF WORK AND PROPERTY**

- a. he Contractor shall be responsible for all damages to persons or property that occur as a result of his fault or negligence in connection with the prosecution of this contract. Contractor shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance by the District. All work shall be solely at the Contractor's risk. Contractor shall adequately protect adjacent property from settlement or loss of lateral support as provided by law and contract documents. Contractor shall take all necessary precautions for the safety of employees on the project and shall comply with all applicable safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where work is being performed. Contractor shall erect and properly maintain at all times, as required by conditions and progress of work, all necessary safeguards, signs, 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. Contractor shall designate a responsible member of his organization on the work, whose duty shall be prevention of accidents. The name and position of the person so designated shall be reported to District by Contractor.
- b. In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization from architect or District, is hereby permitted to act, at his discretion, to prevent such threatened loss or injury, and he shall so act, without appeal, if so authorized or instructed by architect or District. Any compensation claimed by Contractor on account of emergency work shall be determined by agreement.
- c. 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.
- d. Contractor shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property, and structures, and to avoid damage thereto, and repair any damage thereto caused by construction operations. Contractor shall:
  1. Enclose working area with a substantial barricade, arrange work to cause minimum amount of inconvenience and danger to students and faculty in their regular school activities, and perform work which may interfere with school routine before or after school hours. (This subsection applies to new construction on existing sites.)
  2. Provide substantial barricades around any shrubs or trees indicated to be preserved.
  3. Deliver materials to the building area over a route designated by architect.

4. When directed by District, take preventive measures to eliminate objectionable dust.
5. Confine Contractor's apparatus, the storage of materials, and the operations of his workers to limits indicated by law, ordinances, permits, or directions of architect. Contractor shall not unreasonably encumber premises with his materials. Contractor shall enforce all instructions of District and architect regarding signs, advertising, fires, danger signals, barricades, and smoking and require that all persons employed on work comply with all regulations while on construction site.
6. Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by an approved civil engineer or land surveyor, licensed in the State of California, at no cost to the District.

#### **Article 50. LAYOUT AND FIELD ENGINEERING**

All field engineering required for laying out this work and establishing grades for earthwork operations shall be furnished by the Contractor at his expense. Such work shall be done by a qualified civil engineer approved by the architect. Any required "as-built" drawings of site development shall be prepared by the approved civil engineer.

#### **Article 51. REMOVAL OF HAZARDOUS MATERIALS**

- a. Since removal and/or abatement of asbestos, PCBs and other toxic wastes and hazardous materials is a specialized field of work with specialized insurance requirements, unless otherwise specified in the contract documents, district shall contract directly for such specialized services, if required, and shall not require the Contractor to subcontract for such services.
- b. In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless, the Contractor shall immediately stop work in the area affected and report the condition to the District, inspector, and architect in writing. The work in the affected area shall not thereafter be resumed except by written agreement of the District and Contractor if in fact the material is asbestos or PCB and has not been rendered harmless. The work in the affected area shall be resumed in the absence of asbestos or PCB, or when it has been rendered harmless, by written agreement of the District and Contractor, or by arbitration under Article 71 hereof.

#### **Article 52. CUTTING AND PATCHING**

- a. Contractor shall do all cutting, fitting, or patching of work as required to make its several parts come together properly and fit it to receive or be received by work of other contractors showing upon, or reasonably implied by, the drawings and specifications for the completed structure. Contractor shall make good after them as architect may direct.
- b. All cost caused by defective or ill-timed work shall be borne by party responsible therefore.
- c. Contractor shall not endanger any work by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other contractor save with consent or at the direction of architect.

#### **Article 53. CLEANING UP**

Contractor at all times shall keep premises free from debris such as waste, rubbish, and excess

materials and equipment caused by this work. Contractor shall not leave debris under, in, or about the premises. Upon completion of work, Contractor shall clean the interior and exterior of the building or improvement including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected so surfaces are free from foreign material or discoloration. Contractor shall clean and polish all glass, plumbing fixtures, and finish hardware and similar finish surfaces and equipment and contractor shall also remove temporary fencing, barricades, planking and construction toilet and similar temporary facilities from site.

#### **Article 54. CORRECTION OF WORK BEFORE FINAL PAYMENT**

- a. Contractor shall promptly remove from the premises all work condemned by District as failing to conform to the contract, whether incorporated or not. Contractor shall promptly replace and re-execute his own work to comply with contract documents without additional expense to District and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.
- b. If Contractor does not remove such condemned work within a reasonable time, fixed by written notice, District may remove it and may store the material at Contractor's expense. If Contractor does not pay expenses of such removal within ten (10) days' time thereafter, District may, upon ten (10) days' written notice, sell such materials at auction or at private sale and shall account for net proceeds thereof, after deducting all costs and expenses that should have been borne by Contractor.

#### **Article 55. ACCESS TO WORK**

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

#### **Article 56. OCCUPANCY**

District reserves the right to occupy buildings at any time before completion, and such occupancy shall not constitute final acceptance of any part of work covered by this contract.

#### **Article 57. DISTRICT'S INSPECTOR**

- a. If applicable, an inspector will be employed by District in accordance with requirements of Title 24 of the California Code of Regulations and will be assigned to the work. His duties are specifically defined in Part 1, Title 24, Section 4-342 of the California Code of Regulations.
- b. All work shall be under the observation of said inspector. He shall have free access to any or all parts of work at any time. Contractor shall furnish inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting progress and manner of work and character of materials. Inspection of work shall not relieve Contractor from any obligation to fulfill this contract. Inspector or architect shall have authority to stop work whenever the provisions of the contract documents are not being complied with and Contractor shall instruct his employees accordingly.

#### **Article 58. TESTS AND INSPECTIONS**

- a. If contract, District's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, Contractor shall give notice in accordance with such authority of its readiness for observation or inspection **at least two (2) working days prior to being tested or covered up**. If inspection is by a public



authority other than District, Contractor shall inform District of date fixed for such inspection. Required certificates of inspection shall be secured by Contractor. Observations by District shall be promptly made and where practicable at source of supply. If any work should be covered up without approval or consent of District, it must, if required by District, be uncovered for examination and satisfactorily reconstructed at Contractor's expense in compliance with the contract. Costs for testing and inspection shall be paid by District. Costs of tests of any materials found not to be in compliance with the contract shall be paid by the Contractor.

- b. Where such inspection and testing are to be conducted by an independent laboratory or agency, such materials or samples of materials to be tested shall be selected by such laboratory or agency, or District's representative, and not by Contractor.
- c. In advance of manufacture of materials to be supplied by Contractor under the contract, which by the terms of the contract must be tested, Contractor shall notify District in advance so that District may arrange for testing of same at the source of supply. Any materials shipped by Contractor from the source of supply prior to having satisfactorily passed such testing and inspection, or prior to receipt of notice from District's representative that such testing and inspection will not be required, shall not be incorporated into the work without the prior approval of District and subsequent testing and inspection.
- d. Re-examination of questioned work may be ordered by District. If so ordered, work must be uncovered by Contractor. If such work is found to be in accordance with the contract documents, District shall pay the costs of re-examination and replacement. If such work be found not to be in accordance with the contract documents, Contractor shall pay such costs.

#### **Article 59. SOILS INVESTIGATION REPORT**

Except as provided in Article 68, when a soils investigation report obtained from test holes at the site is available, such report shall not be a part of this contract. Any information obtained from such 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, and does not form a part of the contract. Contractor is required to make a visual examination of site and must make whatever tests he deems appropriate to determine the underground condition of the soil. Limited soil tests and subsurface investigations, if any, are available for review and consideration by Contractor and were conducted for the purpose of design only. Subsurface investigation information is made available by District solely as a matter of convenience and general information for Contractor. No representation is made by District or Architect that information provided is completely representative of all conditions and materials which may be encountered. If such a report is referenced in the contract documents for performance of the Work, such reference shall be to establish minimum requirements only. Further, no representation is made by District or Architect that information provided is solely adequate for purposes of construction. District disclaims responsibility for interpretations by Contractor of soil and subsurface investigation information, such as in protecting soil-bearing values, rock profiles, presence and scope of boulders and cobbles, soil stability and the presence, level and extent of underground water. Contractor shall determine means, methods, techniques and sequences necessary to achieve required characteristics of completed Work. Conditions found after execution of the Agreement to be materially different from those reported and which are not customarily encountered in the geographic area of the Work shall be governed by provisions of the General Conditions of the Contract for unforeseen conditions.

#### **Article 60. ARCHITECT'S STATUS**

- a. In general and where appropriate and applicable, the architect shall be the District's representative during the construction period and shall observe the progress and quality of the work on behalf of the District. He shall have the authority to act on

behalf of District only to the extent expressly provided in the contract documents. After consultation with the Inspector and after using his best efforts to consult with the District, the architect shall have authority to stop work whenever such stoppage may be necessary in his reasonable opinion to insure the proper execution of the contract.

- b. Contractor further acknowledges that the architect shall be, in the first instance, the judge of the performance of this contract.

#### **Article 61. ARCHITECT'S DECISIONS**

Contractor shall promptly notify District in writing if the architect fails within a reasonable time, make decisions on all claims of the District or Contractor and on all other matters relating to the execution and progress of the work.

#### **Article 62. PROVISIONS REQUIRED BY LAW DEEMED INSERTED**

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon application of either party, the contract shall forthwith be physically amended to make such insertion or correction.

#### **Article 63. LABOR/EMPLOYMENT SAFETY**

The Contractor shall maintain emergency first aid treatment for his employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 USC, section 651 et seq.).

#### **Article 64. NOTICE OF TAXABLE POSSESSORY INTEREST**

The terms of this document may result in the creation of a possessory interest. If such a possessory interest is vested in a private party to this document, the private party may be subjected to the payment of personal property taxes levied on such interest.

#### **Article 65. ASSIGNMENT OF ANTITRUST ACTIONS**

Contractor or subcontractor offers and agrees to assign to District all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 USC, section 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 the purchase of goods, services, or materials pursuant to this contract or any subcontract. This assignment shall be made and become effective at the time District tenders final payment to the Contractor, without further acknowledgment by the parties.

#### **Article 66. SUBSTITUTION OF SECURITY**

- a. Upon the Contractor's request, the District will make payment of funds withheld from progress payments to ensure performance under the contract pursuant to the requirements of Public Contract Code section 22300 if the Contractor deposits in escrow with the District or with a bank acceptable to the District, securities eligible for investment under Government Code section 16430, bank or savings and loan certificates of deposit, or other security mutually agreed to by the Contractor and the District, subject to the following conditions:
  1. The Contractor shall bear the expense of the District and the escrow agent, either the District or the bank, in connection with the escrow deposit made.
  2. Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amounts of retention to be paid to the Contractor pursuant

to this section.

3. The Contractor shall enter into an escrow agreement satisfactory to the District, which agreement shall include provisions governing inter alia:
  - (a) The amount of securities to be deposited,
  - (b) The providing of powers of attorney or other documents necessary for the transfer of the securities to be deposited,
  - (c) Conversion to cash to provide funds to meet defaults by the Contractor, including, but not limited to, termination of the Contractor's control over the work, stop notices filed pursuant to law, assessment of liquidated damages or other amounts to be kept or retained under the provisions of the contract,
  - (d) Decrease in value of securities on deposit,
  - (e) The termination of the escrow upon completion of the contract.
4. The Contractor shall obtain the written consent of the surety to such agreement.
5. As an alternative to Contractor depositing into escrow securities of a value equivalent to the amounts of retention to be paid to the Contractor, upon Contractor's request, District will make payment of retentions earned directly to the escrow agent at the expense of Contractor pursuant to and in accordance with Public Contract Code section 22300.

**Article 67. EXCAVATIONS DEEPER THAN FOUR FEET**

If this contract involves digging trenches or other excavations that extend deeper than four feet below the surface, then all of the following shall apply:

- a. The Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:
  1. Material that the Contractor believes may be material that is hazardous waste, 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. Subsurface or latent physical conditions at the site differing from those indicated.
  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.
- b. Upon receiving any such notice, 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 District shall issue a change order under the procedures described in this contract.
- c. In the event that a dispute arises between the 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 this contract, but shall proceed with all work to be performed under

the contract. A contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties. (Public Contract Code section 7104).

**Article 68. COMPLIANCE WITH STATE STORM WATER PERMIT FOR CONSTRUCTION**

- a. Contractor shall be required to comply with all conditions of the State Water Resources Control Board (State Water Board) National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (the "Permit") for all construction activity which results in the disturbance of in excess of **ONE ACRE** of total land area or which is part of a larger common area of development or sale. District shall be responsible for filing the Notice of Intent and for obtaining the Permit. A copy of the Permit and supporting rules and orders by the State Water Board is on file with the District. District shall provide a draft of the Storm Water Pollution Prevention Program (SWPPP) for the project to Contractor at least two weeks prior to the opening of bids. It shall be Contractor's responsibility to evaluate the cost of compliance with the SWPPP in bidding on this contract. Contractor shall comply with all requirements of the State Water Resources Control Board. Contractor shall include all costs of compliance with specified requirements in the contract amount.
- b. Contractor shall be responsible for implementing and complying with the provisions of the Permit and the SWPPP, including the standard provisions, monitoring and reporting requirements as required by Permit. Contractor shall provide copies of all reports and monitoring information to District.
- c. Contractor shall comply with the lawful requirements of any applicable municipality, the County, drainage district, and other local agencies regarding discharges of storm water to separate storm drain system or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs.
- d. Failure to comply with the Permit is a violation of federal and state law. Contractor hereby agrees to indemnify and hold harmless District, its officers, agents, and employees from and against any and all claims, demands, losses or liabilities of any kind or nature which District, its officers, agents, and employees may sustain or incur for noncompliance with the Permit arising out of or in connection with the project, except for liability resulting from the negligence or willful misconduct of District, its officers, agents or employees. District may seek damages from Contractor for delay in completing the contract in accordance with Article 6 hereof, caused by Contractor's failure to comply with Permit.

**Article 69. RESOLUTION OF CONSTRUCTION CLAIMS OF \$375,000 OR LESS**

- a. For public work claims of \$375,000 or less between Contractor and District, if District has not elected to resolve disputes by arbitration pursuant to article 7.1 (commencing with section 10240) of chapter 1 of part 2 of the Public Contract Code, the provisions of article 1.5 (commencing with section 20104) of chapter 1 of part 3 of the Public Contract Code apply ("Article 1.5").
- b. For purposes of Article 1.5, "public work" has the same meaning as in sections 3100 and 3106 of the Civil Code. "Claims" means a separate demand by Contractor for a time extension, or payment of money or damages for work done by or for Contractor, payment for which is not otherwise expressly provided in the contract or to which Contractor would not otherwise be entitled, or a payment disputed by District.
- c. Each claim shall be submitted in writing before the date of final payment and shall include all necessary substantiating documentation. District shall respond in writing

within forty-five (45) days of receipt of the claim if the claim is less than \$50,000 ("50,000 claim") or within sixty (60) days of receipt of the claim, if the claim is over \$50,000 but less than or equal to \$375,000 ("50,000-\$375,000 claim"). In either case, District may request in writing within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the District may have against the claimant. Any additional information shall be requested and provided upon mutual agreement of the District and the claimant. District's written response to the claim shall be submitted to claimant within fifteen (15) days after receipt of the further documentation for \$50,000 claims or within thirty (30) days after receipt of the further documentation for \$50,000-\$375,000 claims or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

- d. Within fifteen (15) days of receipt of the District's response, if claimant disputes District's written response or within fifteen (15) days of the District's failure to respond within the time prescribed, the claimant shall provide written notification to District demanding an informal conference to meet and confer ("conference") to be scheduled by the District within thirty (30) days. If the claim or any portion of the claim remains in dispute following the meet and confer ("meet and confer conference") to be scheduled by the District within 30 days, the claimant 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 period of time within which a claim must be filed is tolled from the time the claimant submits a written claim until the time the claim is denied, including time utilized as a result of the meet and confer process, including time utilized by the meet and confer process.
- e. If a civil action is filed to resolve claims within sixty (60) days (but no earlier than thirty (30) days) following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide that both parties select a disinterested third person mediator within fifteen (15) days, shall be commenced within thirty (30) days of the submittal and concluded within fifteen (15) days from the commencement of the mediation unless time 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.
- f. 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 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 or 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. The court may, upon request by any party, order any witness to participate in the mediation or arbitration process.
- g. Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates not to exceed their customary rate. Such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds. Any party who, after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment, shall pay the attorney's fees of the other party arising out of the trial de novo in addition to payment of costs and fees required under chapter 2.5 (commencing with section 1141.10) of title 3 of part 3 of the Code of Civil Procedure. District shall not fail to pay any portion of a claim which is undisputed unless otherwise provided herein and shall pay interest at the legal rate commencing on the

date the suit is filed in court on any arbitration award or judgment.

- h. Any arbitration, mediation or other forms of alternate dispute resolution shall be handled within the boundaries of the District unless otherwise mutually agreed.

**Article 70. RESOLUTION OF CONSTRUCTION CLAIMS IN EXCESS OF \$375,000**

- a. If a dispute in excess of a total value of \$375,000, arises out of, or relates to this contract, or the breach thereof, and if said dispute cannot be settled through normal contract negotiations, the parties agree that as a condition precedent to the initiation of litigation, the dispute shall first be submitted to mediation pursuant to this Article 71. The mediation is voluntary, non-binding, and intended to provide an opportunity for the parties to evaluate each other's cases and arrive at a mutually agreeable resolution of the dispute. These provisions relating to voluntary mediation shall not be construed or interpreted as mandatory arbitration.
- b. Either party may initiate mediation by notifying the other party or parties in writing. A Request for Mediation shall contain a brief statement of the nature of the dispute or claim, and the names, addresses, and phone numbers of all parties to the dispute or claim, and those, if any, who will represent them in the mediation.
- c. The mediation process set forth in this section shall be administered by the American Arbitration Association (AAA) and governed by their rules in effect at the time of filing, or by any other neutral organization agreed to by the parties (hereinafter called "Administrator").
- d. The costs for all mediation, including the administrative fees and mediator compensation, will be shared equally by all parties. Fees shall be jointly negotiated by all parties directly with the Administrator. The expenses of witnesses for any party shall be paid by the party producing such witnesses.
- e. A single mediator, acceptable to all parties, shall be used to mediate the dispute. The mediator will be knowledgeable in construction matters and will be selected from lists furnished by the Administrator. The initial mediation session shall commence within thirty (30) days of filing, unless otherwise agreed by the parties, or at the direction of the mediator.
- f. At least ten (10) days before the first scheduled mediation session, each party shall provide the mediator a brief memorandum setting forth its position with regard to the issues that need to be resolved. At the discretion of the mediator, such memoranda may be mutually exchanged by the parties. At the first session, the parties will be expected to produce all information reasonably required for the mediator to understand the issue presented. The mediator may require each party to supplement such information.
- g. Mediation hearings will be conducted in an informal manner and discovery will not be allowed unless agreed to by all parties. All discussions, statements, or admissions will be confidential to the proceedings and will not be used for any other purpose as they relate to either party's legal position. There shall be no stenographic record of the mediation.
- h. Mediation sessions are private. The parties and their representatives may attend mediation sessions. Other persons may attend only with the permission of the parties and with the consent of the mediator. The parties may have an attorney present and shall advise the other parties no less than five (5) working days before the mediation of their intent to have an attorney present, so that the other parties may also have their attorneys present.

- i. The mediator does not have authority to impose a settlement on the parties but will attempt to assist the parties in reaching a satisfactory resolution of their dispute. The mediator is authorized to conduct joint and separate meetings with the parties and to make oral and written recommendations for settlement. Whenever necessary, the mediator may also obtain expert advice concerning technical aspects of the dispute, provided the parties agree and assume the expenses of obtaining such advice. Arrangements for obtaining such advice shall be made by the mediator or the parties, as the mediator shall determine.
- j. The mediator is authorized to end the mediation whenever, in the mediator's judgment, further efforts at mediation would not contribute to a resolution of the dispute between the parties.
- k. Any resultant agreements from mediation shall be documented in writing, as agreed upon during the mediation, and may be used as the basis for a change order or other directive as appropriate. All mediation results and documentation shall be non-binding and inadmissible for any purpose in any legal proceedings, unless such admission is otherwise agreed in writing by all parties. Mediators shall not be subject to any subpoena or liability and their actions shall not be subject to discovery in subsequent proceedings.
- l. The Mediation shall be terminated by the execution of a Settlement Agreement by the parties; by a written declaration of the Mediator to the effect that further efforts at Mediation are no longer worthwhile; or by a written declaration of a party or parties to the effect that the Mediation proceedings are terminated.
- m. If mediation is unsuccessful in resolving the dispute, the parties thereafter may agree to submit the matter to the Administrator for binding arbitration. The parties agree that the matter shall be submitted to one (1) arbitrator, unless they agree to three (3) arbitrators in writing. The parties further agree that they will faithfully observe this agreement, and that the parties will abide by and perform any award rendered by the arbitrator(s), that a judgment of a court having competent jurisdiction may be entered upon the award, and that such judgment shall be enforceable as a final judgment to the fullest extent under the law. The parties agree to split evenly all arbitration and arbitrator(s) fees and expenses. The arbitration shall be subject to, and proceed in accordance with California Code of Civil Procedure, Section 1280 through 1294.2. If the parties do not agree to submit to binding arbitration, neither party is prevented from pursuing other legal remedies.
- n. Any arbitration, mediation or other forms of alternate dispute resolution shall be handled within the boundaries of the District unless otherwise mutually agreed.

#### **Article 71. GOVERNING LAW AND VENUE**

This Contract shall be governed in accordance with the laws of the State of California and venue shall be in San Diego County.

#### **Article 72. FINGERPRINTING**

District Determination of Fingerprinting Requirement Application is set forth in the Special Conditions.

- (a) Contracts for Construction, Reconstruction, Rehabilitation or Repair of a School Facility Involving **More than Limited Contact with Students.**

If the District determines based on the totality of the circumstances concerning the Project that the Contractor and Contractor's employees are subject to the

requirements of Education Code section 45125.2 pertaining to Contracts for Construction, Reconstruction, Rehabilitation or Repair of a School Facility because they will have contact other than limited contact with pupils, by execution of the Agreement/Contract, the Contractor acknowledges that Contractor is entering into a contract for the construction, reconstruction, rehabilitation, or repair of a school facility where the Contractor and/or Contractor's employees will have more than limited contact with students and the services to be provided do not constitute an emergency or exceptional situation. In accordance with Education Code section 45125.2 the Contractor shall, at Contractor's own expense, (a) install a physical barrier to limit contact with students by Contractor and/or Contractor's employees, or (b) provide for the continuous supervision and monitoring of the Contractor and/or Contractor's employees by an employee of the Contractor who has received fingerprint clearance from the California Department of Justice, or (c) provide for the surveillance of the Contractor and Contractor's employees by a District employee.

(b) Contracts for Construction, Reconstruction Rehabilitation or Repair of a School Facility Involving **Only Limited Contact With Students.**

If the District determines based on the totality of the circumstances concerning the Project that the Contractor and Contractor's employees are subject to the requirements of Education Code section 45125.2 pertaining to Contracts for Construction, Reconstruction, Rehabilitation or Repair of a School Facility because they will have only limited contact with pupils, by execution of the Agreement/Contract, the Contractor acknowledges that Contractor is entering into a contract for the construction, reconstruction, rehabilitation or repair of a school facility involving only limited contact with students. Accordingly, the parties agree that the following conditions apply to any work performed by the Contractor and/or Contractor's employees on a school site: (1) Contractor and/or Contractor's employees shall check in with the school office each day immediately upon arriving at the school site; (2) Contractor and/or Contractor's employees shall inform school office staff of their proposed activities and location at the school site; (3) Once at such location Contractor and/or Contractor's employees shall not change locations without contacting the school office; (4) Contractor and Contractor's employees shall not use student restroom facilities; and (5) If Contractor and/or Contractor's employees find themselves alone with a student, Contractor and Contractor's employees shall immediately contact the school office and request that a member of the school staff be assigned to the work location.

**Article 73. COMPLIANCE WITH DTSC GUIDELINES – IMPORTED SOILS**

If the project requires the use of imported soils, the Contractor shall be responsible to use and shall certify that the imported material it uses is free of any hazardous and/or toxic substance or material of any nature or type as defined in accordance with California Law and the California Health and Safety Code. The District reserves the right to reject any imported material that has come from agricultural or commercial land uses. Contractor must notify the District of the source of material and comply with the San Diego Regional Water Quality Control Board Resolution 95-63 and when applicable, with the guidelines of the Department of Toxic Substances Control (DTSC).

**Article 74. NO ASBESTOS**

- a. The Contractor will be required to execute and submit a Certificate Regarding Non-Asbestos Containing Materials.
- b. Should asbestos containing materials be installed by the Contractor in violation of this



certification, or if removal of asbestos containing materials is part of the Project, decontaminations and removals will be performed in accordance with the requirements of all applicable laws and will meet the following criteria:

1. Decontamination and removal of work found to contain asbestos or work installed with asbestos containing equipment shall be done only under the supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency (EPA).
  2. The asbestos removal contractor shall be an EPA accredited contractor qualified in the removal of asbestos and shall be chosen and approved by the asbestos consultant who shall have sole discretion and final determination in this matter.
  3. The asbestos consultant shall be chosen and approved by the District which shall have sole discretion and final determination in this matter.
  4. The work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.
- c. If removal of asbestos containing materials is part of the project, the cost of all asbestos removal, including, but not necessarily limited to the cost of the asbestos removal contractor, the cost of the asbestos consultant, analytical and laboratory fees, time delays and additional costs that may be incurred by the District shall be borne entirely by the Contractor.
- d. Hold Harmless: Interface of work for the Project with work containing asbestos shall be executed by the Contractor at his/her risk and at his/her discretion with full knowledge of the currently accepted standards, hazards, risks and liabilities associated with asbestos work and asbestos containing products. By execution of the Agreement, the Contractor acknowledges the above and agrees to the fullest extent permitted by law to hold harmless the District, its Governing Board, employees, agents, representatives, including its architect and assigns, for all asbestos liability which may be associated with this work. The Contractor further agrees to instruct his/her employees with respect to the above-mentioned standards, hazards, risk and liabilities.

**END OF GENERAL CONDITIONS DOCUMENT**