BID DOCUMENTS

Bid No. 10MOT26
DSA # 03-125482

FOR

Installation of Playground & Shade Structures at Will Rogers ES

Mandatory Site Visit: Wednesday, March 18, 2026; 10:00am PST

Will Rogers Elementary School;
Located: 11250 Duncan Avenue
Lynwood, CA 90262

Bid Due Date/Time/Place: Wednesday, April 8, 2026; 10:00am PST

Location: Lynwood Unified School District
Purchasing Department, 2nd Floor
11321 Bullis Road
Lynwood, CA 90262
Attn: Porfiria Mora

Inquiries by email to: Porfiria Mora, Buyer at pmora@mylusd.org and cc:
purchasingfinal@mylusd.org

*****Phone calls for information concerning this BID will not be accepted***

Important: Firms interested in submitting a response to this BID, are not to contact by any means, any Board Member, Administrator, or staff member of the District other than the designated Buyer identified above regarding this BID. If this directive is violated, the District may deem the Firm's "submittal" to be "Non-Responsive", and no further consideration will be given.

Installation of Playground & Shade Structures at Will Rogers ES

BID NO. 10MOT26

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SECTION 1

NOTICE TO CONTRACTORS

NOTICE TO CONTRACTORS; CALL FOR BIDS

The District reserves the right to change and/or modify the submittal schedule.

Scheduled Activities	Dates	Time
BID Advertised – 1st Advertisement	**Thursday, March 5, 2026**	
BID Advertised – 2nd Advertisement	**Thursday, March 12, 2026**	
Mandatory Pre-bid Conference & Job Walk	**Wednesday, March 18, 2026**	**10:00am**
PreQual Package due	**Friday, March 27, 2026**	**2:00pm**
Deadline for RFI's	**Friday, March 27, 2026**	**12:00pm**
Deadline for Addenda.	**Wednesday, April 1, 2026**	**2:00pm**
BIDs due	**Wednesday, April 8, 2026**	**10:00am**
Notice of Intent to Award	**Friday, April 10, 2026**	
Board of Education Meeting for Award	**Thursday, April 23, 2026**	
Notice to Award	**Tuesday, April 28, 2026**	
Estimate Construction Start Date	**Friday, June 12, 2026**	

NOTICE IS HEREBY GIVEN that Lynwood Unified School District, acting by and through its Board of Education, will receive up to, but not later than the above-stated date and time, Bid Proposals for the Work of the Project described above.

1. Bid Proposal. All information or responses of a Bidder in its Bid Proposal and other documents accompanying the Bid Proposal shall be complete, accurate and true; incomplete, inaccurate or untrue responses or information provided therein by a Bidder shall be grounds for the District to reject such Bidder's Bid Proposal for non-responsiveness. Bid Proposals shall be submitted with the following:

    - Bid Proposal Sheet
    - Subcontractors List
    - Qualification Statement
    - Attachment A: Letter of Assent
    - Attachment B: DVBE Participation Statement
    - Attachment C: Non-Collusion Affidavit
    - Attachment D: Certificate of Workers Compensation Insurance
    - Attachment E: Drug-Free Workplace Certification
    - Attachment G: Bid Bond

2. Bidder and Subcontractors DIR Registered Contractor Status. Pursuant to Labor Code § 1771.1, Bidders must be a DIR Registered Contractor when submitting a Bid Proposal. The Bid Proposal of a Bidder who is not a DIR Registered Contractor when the Bid Proposal is submitted will be rejected for non- responsiveness. All Subcontractors identified in a Bidder's Subcontractors' List must be DIR Registered contractors at the time the Bid Proposal is submitted.

3. Duration of Bid Proposals. Bid Proposals shall not be withdrawn by any Bidder for a period of Sixty days (60) days after the opening of Bid Proposals. During this time, all Bidders shall guarantee prices quoted in their respective Bid Proposals.

[END OF SECTION]

SECTION 2

SCOPE OF WORK

GENERAL SCOPE OF WORK

Bid # 10MOT26

THE SCOPE OF WORK: Installation of Playground & Shade Structures at Will Rogers ES:

Installation of District owned Play structure and Shade Shelter at preschool yard. New concrete walkways to meet ADA compliance and drinking fountains.

SECTION 3

INSTRUCTIONS TO BIDDERS

INSTRUCTIONS FOR BIDDERS

1. Preparation and Submittal of Bid Proposal. All information required by the bid forms must be completely and accurately provided. Numbers shall be stated in both words and figures where required in the bid forms; conflicts between a number stated in words and in figures are governed by the words. Partially completed Bid Proposals or Bid Proposals submitted on other than the bid forms included herein are non-responsive and will be rejected. Any document submitted with a Bid Proposal which is not complete, accurate and executed, as required by each document, will result in the Bid Proposal being deemed non-responsive. All Bid Proposals shall be submitted before the latest date/time for submitting Bid Proposals (See Notice to Contractors). Bidders are solely responsible for timely submission of Bid Proposals to the District at the place designated in the Notice to Contractors.

2. Bid Security. Each Bid Proposal shall be accompanied by Bid Security in the form of: (i) a certified or cashier's check made payable to the District or (ii) a Bid Bond, in the form and content included with the Contract Documents in an amount equal to Ten Percent (10%) of the Bid Proposal amount, inclusive of the price(s) proposed for additive Alternate Bid Items, if any. A Bid Proposal submitted without the required Bid Security is non-responsive and will be rejected. If the Bid Security is a Bid Bond, the Bidder's Bid Proposal shall be deemed responsive only if the Bid Bond is issued by an Admitted Surety Insurer under Code of Civil Procedure §995.120 in the form and content included herein, duly completed and executed (with notary acknowledgements) on behalf of the Bidder and Surety. Bid Security shall be submitted as set forth in the Call for Bids.

3. Bidder Modifications; Withdrawal or Modification of Submitted Bid Proposal.

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

   3.2. Withdrawal or Modification of Submitted Bid Proposal. Bid Proposals may be withdrawn or modified only if: (i) the Bidder submitting the Bid Proposal submits a written request for withdrawal or modification to the District; and (ii) the written withdrawal or modification request is actually received by the District prior to the latest date/time for submittal of Bid Proposals. Requests for withdrawal of a Bid Proposal after the public opening of Bid Proposals pursuant to Public Contract Code §5100 et seq. will be considered only if in strict conformity with requirements of Public Contract Code §5100 et seq.

4. Examination of Site and Contract Documents. Each Bidder shall, at its sole cost and expense, inspect the Site and to become fully acquainted with the Contract Documents and conditions affecting the Work. The failure of a Bidder to receive or examine any of the Contract Documents or to inspect the Site shall not relieve such Bidder from any obligation with respect to the Bid Proposal, or the Work required under the Contract Documents. The District assumes no responsibility or liability to any Bidder for, nor shall the District be bound by, any understandings, representations or agreements of the District's representatives, agents, employees or officers concerning the Contract Documents or the Work made prior to execution of the Contract which are not in the form of Bid Addenda duly issued by the District. The submission of a Bid Proposal shall be deemed prima facie evidence of the Bidder's full compliance with the requirements of this section.

5. Contract Time. The Project must be completed within the Contract Time of Forty-nine (49) calendar days after the commencement date established by the District's Notice to Proceed.

6. Agreement and Bonds. The Agreement which the successful Bidder, as Contractor, will be required to

execute along with the forms for the Labor and Material Payment Bond, Performance Bond and other documents and instruments which will be required to be furnished by the successful are included or described in the Contract Documents and shall be carefully examined by the Bidder. The required number of executed copies of the Agreement and the form and content of the Performance Bond, the Labor and Material Payment Bond, Subcontractor Performance Bond and other documents or instruments required at the time of execution of the Agreement are specified in the Contract Documents.

7. Pre-Bid Questions; Contract Document Interpretation and Modifications.

   7.1. Bidder Pre-Bid Questions. Any Bidder in doubt as to the true meaning of any part of the Contract Documents, finds discrepancies, errors or omissions therein, or finds variances in any of the Contract Documents with the Laws ("Pre-Bid Questions"), shall submit Pre-Bid Questions as set forth in the Call for Bids. Bidders are solely and exclusively responsible for submitting Pre-Bid Questions no later than the time/date designated in the Call for Bids. Responses to Pre-Bid Questions will be by written addenda. Failure to request interpretation or clarification of any portion of the Contract Documents pursuant to the foregoing is a waiver of any discrepancy, defect or conflict therein.

   7.2. No Oral Interpretations. No person is authorized to: (i) render an oral interpretation or correction of any portion of the Contract Documents; or (ii) provide oral responses to Pre-Bid Questions. No Bidder is authorized to rely on any such oral interpretation, correction or response.

   7.3. District's Right to Modify Contract Documents; Addenda. Before the public opening and reading of Bid Proposals, the District will respond to Pre-Bid Questions and other revisions to the Work or the Contract Documents by written addenda. If the District issues any addenda during the bidding, the failure of any Bidder to acknowledge such addenda in its Bid Proposal will render the Bid Proposal non-responsive and rejected. If the District conducts a Mandatory Job Walk, it is the contractor's responsibility to obtain a copy of the addenda from the Purchasing webpage. https://www.mylusd.org/departments/business-services/purchasing/bids-and-rfps

   7.4. Bidder's Assumptions. The District is not responsible for any assumptions made or used by the Bidder in calculating its Bid Proposal Amount including, without limitation, assumptions regarding costs of labor, materials, equipment or substitutions/alternatives for any material, equipment, product, item or system incorporated into or forming a part of the Work which have not been previously expressly approved and accepted by the District. The successful Bidder, upon award of the Contract by the District, if any, will be required to complete the Work for the amount bid in the Bid Proposal within the Contract Time and in accordance with the Contract Documents.

8. Award of Contract.

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

   8.2. Award to Responsible Bidder Submitting Lowest Priced Responsive Bid Proposal. The award of the Contract, if made by the District through action of its Board of Education, will be to the responsible Bidder submitting the lowest priced responsive Bid Proposal.

   8.3. Award of Contract. If the Bidder submitting this Bid Proposal is awarded the Contract, the Bidder will execute and deliver to the District the Agreement in the form attached hereto within Five (5) calendar days after notification of award of the Contract. Concurrently with delivery of the executed Agreement to the District, the Bidder awarded the Contract shall deliver to the District:

   - Agreement
   - Certificates of Insurance evidencing all insurance coverages the Bidder and its Subcontractors are required to obtain under the Contract Documents
   - Labor and Material Payment Bond
   - Performance Bond
   - Certificate of Workers' Compensation Insurance

Failure of the Bidder awarded the Contract to strictly comply with the preceding may result in the District's rescinding award of the Contract and/or forfeiture of the Bidder's Bid Security. In such an event, the District may, in its sole and exclusive discretion, elect to award the Contract to the responsible Bidder submitting the next lowest priced Bid Proposal or reject all Bid Proposals.

8.4. Responsive Bid Proposal. A responsive Bid Proposal means a Bid Proposal which conforms, in all material respects, to the Bid and Contract Documents. A Bid Proposal which does not conform to material bidding requirements, as reasonably determined by the District, is subject to rejection for non-responsiveness.

8.5. Responsible Bidder.

8.5.1. Bidder Capacity. Factors affecting the Bidder's capacity to perform and complete the Work will be assessed, including: (i) Bidder's access to labor, materials and other resources necessary to complete the Work; (ii) Bidder's ability to complete the Work within the time established for completion of the Work, or portions thereof; and (iii) Bidder's ability to complete warranty obligations.

8.5.2. Bidder Character, Integrity. Factors reflecting the character and integrity of the Bidder, including: (i) other public agency finding/determination, within the past five (5) years, that the Bidder is not responsible; (ii) currently debarred from bidding public works projects or debarment from bidding within past five (5) years; and (iii) false claims liability within the past five (5) years under local, state or federal laws.

8.5.3. Bidder Financial Capability. Factors considered include: (i) sufficiency of the Bidder's financial resources; (ii) whether the Bidder is current in payment of debts and performance of other financial obligations; and (iii) bankruptcy or insolvency proceedings have been instituted within the past five (5) years.

8.5.4. Bidder Prior Performance. The Bidder's prior performance on prior public works contracts, including without limitation: (i) cost overruns; (ii) compliance with general conditions and other contractual requirements, including schedule development, schedule updates and coordination of labor, material/equipment procurements and subcontractors; (iii) completion within allocated time; (iv) submittal of unsubstantiated, unsupported or excessive cost proposals, claims or contract adjustment requests; (v) completion of a project by a surety; (vi) owner's exercise of default remedies; and (vii) finding or determination by any public agency that the Bidder is not a responsible bidder.

8.5.5. Safety. Factors include: (i) findings of serious or willful safety violations of safety laws, regulations or requirements by any local, state or federal agency within the past five (5) years; (ii) adequacy and implementation of safety plans, programs for on-site and off-site Construction and Construction related activities; and (iii) Workers Compensation Insurance EMR rating exceeding 1.25.

8.5.6. Subcontractors; Subcontractors List. Each Bidder shall identify its proposed Subcontractors for the proposed Work, including any Alternate Bid Items, who will perform/provide portions of the Work valued at or more than one-half (½) of one percent (1%) of the amount proposed by the Bidder for the Work. The Bidder's proposed Subcontractors shall be identified in the form of Subcontractors List. The Subcontractors List requires the Bidder's disclosure of information relating to each listed Subcontractor as set forth in the Subcontractors List. Failure of a Bidder to provide all required information for all listed Subcontractors will result in rejection of the Bidder's Bid Proposal for non-responsiveness. All Bidders are referred to the Contract Documents and the notation therein that all Contract Documents are intended to be

complementary and that the organization or arrangements of the Specifications and Drawings shall not limit the extent of the Work of the Contract Documents. The omission of any portion or item of Work from the Bid Proposal or from the sub-bidders' sub-bids which is/are necessary to produce the intended results and/or which are reasonably inferable from the Contract Documents is not a basis for adjustment of the Contract Price or the Contract Time. Dissemination of the Contract Documents to sub-bidders and dissemination of addenda issued during the bidding process is solely the responsibility of each Bidder.

9. DVBE Participation Goal. Bidders must meet the DVBE Participation Goal or demonstrate that Good Faith Efforts were made to meet the DVBE Participation Goal. The DVBE Participation Goal is not a quota or a set-aside, but Good Faith Efforts must be made to achieve the DVBE Participation Goal. The DVBE Participation Goal and related documents establishing a Bidder's achievement of the DVBE Participation Goal are set forth in the DVBE Participation Policy and DVBE Worksheets. All Bid Proposals be submitted with the completed DVBE Worksheets. The Bid Proposal of a Bidder who did not meet the DVBE Participation Goal and who does not demonstrate by the DVBE Worksheets that Good Faith Efforts were made to achieve the DVBE Participation Goal will be rejected for non-responsiveness.

10. Workers' Compensation Insurance. Pursuant to California Labor Code §3700, the successful Bidder shall secure Workers' Compensation Insurance for its employees engaged in the Work of the Contract. The successful Bidder shall execute and deliver to the District the form of Workers Compensation Certification included in the Contract Documents concurrently with such Bidder's delivery of the executed Agreement to the District.

11. Bid Security Return. The Bid Security of the four (4) Bidders submitting the four (4) lowest priced responsive Bid Proposals, will be held by the District for ten (10) calendar days after the period for which Bid Proposals must be held open (which is set forth in the Call for Bids) or until posting by the successful Bidder(s) of the bonds, certificates of insurance required and return of executed copies of the Agreement, whichever occurs later, at which time the Bid Security of such other Bidders will be returned to them.

12. Forfeiture of Bid Security. If the Bidder awarded the Contract fails or refuses to execute the Agreement within time set forth in the Bid Proposal, the District may declare the Bidder's Bid Security forfeited as damages caused by the failure of the Bidder to enter into the Contract and may thereupon award the Contract for the Work to the responsible Bidder submitting the next lowest priced Bid Proposal or may call for new bids, in its sole and exclusive discretion.

13. Contractors' License. No Bid Proposal will be considered from a Bidder who, at the time Bid Proposals are opened, is not licensed to perform the Work, in accordance with the Contractors' License Law, California Business & Professions Code §§7000 et seq. This requirement is not a mere formality and will not be waived by the District or its Board of Education. The required California Contractors' License classification(s) for the Work is set forth in the Call for Bids.

14. CWA Letter of Assent. The Work is subject to the Community Workforce Agreement ("CWA") between the District and the Los Angeles/Orange Counties Building and Trades Council. Each Bidder must submit the completed and executed CWA Letter of Assent concurrently with submitting its Bid Proposal. All Subcontractors must complete and execute the CWA Letter of Assent as a condition to performing any Work.

15. Bidder's Qualifications. Each Bidder shall submit with its Bid Proposal the form of Qualifications Statement, which is included within the Contract Documents. All information required by the Qualifications Statement shall be completely and fully provided. Any Bid Proposal not accompanied by the Qualifications Statement completed with all information required and bearing the signature of the Bidder's duly authorized representative under penalty of perjury will render the Bid Proposal non-responsive and rejected. If the District determines that any information provided by a Bidder in the Qualifications Statement is false or misleading, or is incomplete so as to be false or misleading, the District may reject the Bid Proposal submitted

by such Bidder as being non-responsive. If any response to the "Essential Requirements" section of the Qualifications Statement is a "not qualified" response, the Bidder's Bid Proposal will be rejected for failure of the Bidder to meet minimum qualifications for the Work.

1. Job-Walk. The District will conduct a Job-Walk at the time(s) and place(s) designated in the Call for Bids. If attendance at the Job Walk is indicated in the Call for Bids as being mandatory, the failure of any Bidder to have its authorized representative present at the entirety of the Job-Walk will render the Bid Proposal of such Bidder to be non-responsive.

2. Public Records. Bid Proposals and other documents responding to the Call for Bids become the exclusive property of the District upon submittal to the District. At such time as the District issues the Notice of Intent to award the Contract pursuant to these Instructions for Bidders, all Bid Proposals and other documents submitted in response to the Call for Bids become a matter of public record and shall be thereupon be considered public records, except for information contained in such Bid Proposals deemed to be Trade Secrets (as defined in California Civil Code §3426.1) and information provided in response to the Qualifications Statement. A Bidder that indiscriminately marks all or most of its Bid Proposal as exempt from disclosure as a public record, whether by the notations of "Trade Secret," "Confidential," "Proprietary," or other similar notations, may result in, or render, the Bid Proposal non-responsive and rejected. The District is not liable or responsible for the disclosure of such records, including those exempts from disclosure if disclosure is deemed required by law, by an order of Court, or which occurs through inadvertence, mistake or negligence on the part of the District or its officers, employees or agents. At such time as Bid Proposals are deemed a matter of public record, pursuant to the above, any Bidder or other
party shall be afforded access for inspection and/or copying of such Bid Proposals, by request made to the District in conformity with the California Access to Public Records Act, California Government Code §§6250, et. seq. If the District is required to defend or otherwise respond to any action or proceeding wherein request is made for the disclosure of the contents of any portion of a Bid Proposal deemed exempt from disclosure hereunder, the Bidder submitting the materials sought by such action or proceeding agrees to defend, indemnify and hold harmless the District in any action or proceeding from and against any liability, including without limitation attorneys' fees arising therefrom. The party submitting materials sought by any other party shall be solely responsible for the cost and defense in any action or proceeding seeking to compel disclosure of such materials; the District's sole involvement in any such action shall be that of a stakeholder, retaining the requested materials until otherwise ordered by a court of competent jurisdiction.

16. Notice of Intent to Award Contract. Following the public opening and reading of Bid Proposals, the District will issue a Notice of Intent to Award the Contract, identifying the Bidder to whom the District intends to award the Contract and the date/time/place of the District's Board of Education meeting at which award of the Contract will be considered.

17. Bid Protest.

    17.1. Submittal of Bid Protest. Any Bidder submitting a Bid Proposal to the District may file a protest of the District's intent to award the Contract provided that all of the following are complied with: (i) the bid protest is in writing; (ii) the bid protest is filed and received by the District's Assistant Superintendent, Business Services ("Assistant Superintendent'') not more than five (5) calendar days after the date of issuance of the District's Notice of Intent to Award the Contract; and (iii) the written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and credible evidence. Any bid protest not conforming to the foregoing shall be rejected by the District as invalid.

    17.2. District Review and Disposition of Bid Protest. Provided that a bid protest is filed in strict conformity with the foregoing, the Assistant Superintendent or such individual(s) as may be designated by

him/her ("Designee") will review and evaluate the basis of the bid protest. The Assistant Superintendent or Designee shall provide the Bidder submitting the bid protest with a written statement concurring with or denying the bid protest ("Bid Protest Response"). The Bid Protest Response is deemed the final action of the District and not subject to appeal or reconsideration by any other employee or officer of the District or the Board of Education of the District. The issuance of the Bid Protest Response by the Assistant Superintendent or the Designee is an express condition precedent to the institution of any legal or equitable proceedings relative to the bidding process, the District's intent to award the Contract, the District's disposition of any bid protest or the District's decision to reject all Bid Proposals. If any such legal or equitable proceedings are instituted and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fees and costs incurred in connection with any such proceeding, including any appeal arising therefrom. Each Bidder shall acknowledge in the Bid Proposal that the foregoing is a binding attorneys' fee agreement pursuant to Civil Code §1717 and shall be enforceable against the Bidder and the District.

18. Self-Performance Declaration Requirement. Bidders are required to complete and submit the Self-Performance Declaration with their Bid Proposal. The form certifies that the Bidder will perform not less than forty percent (40%) of the total original Contract Price with its own organization, under its direct supervision and control, in accordance with the Contract Documents.

The completed Declaration must be included at the time of bid submission. Failure to provide a fully executed form demonstrating compliance with the minimum self-performance requirement will result in the Bid being deemed non-responsive pursuant to California Public Contract Code 20111 and related applicable law.

[END OF SECTION]

SECTION 4

BID PROPOSAL

BID PROPOSAL

PROJECT: Bid # 10MOT26; Installation of Playground & Shade Structures at Will Rogers ES

Bidder	**Project** _____ (Bidder Name) _____ (Street Address) _____ (City, State, Zip Code) (_____) _____ (Telephone)		
Bidder Contact Person and Email	_____ (Name) _____ (Email Address)		
Contractors' License	_____ (License Number)	_____ (Expiration Date)	_____ (License Classifications)
DIR Registration Number	_____		

1. Bid Proposal Price.

1.1. Base Bid Price. The undersigned Bidder, having become familiarized with the Contract Documents and the local conditions affecting the performance or cost of to perform the Work, the Bidder proposes and agrees to perform the Work of the Contract Documents including, without limitation, providing and furnishing any and all of the labor, materials, tools, equipment and services necessary to perform all obligations under the Contract Documents for the sum of:

_____ Dollars ($_____).

1.2 Bid Proposal Price. The Bid Proposal Price is the sum of the Base Bid Price (Paragraph 1.1) plus Aggregate Amount (Paragraph 1.2) which is:

_____ Dollars ($_____).

[CONTINUED NEXT PAGE]

2. **Addenda**. The Bidder confirms that: (i) it has received and reviewed all Addenda issued by the District, if any, as set forth below; and (ii) that this Bid Proposal incorporates and is inclusive of, all items or other matters contained in all Addenda, if any, issued by or on behalf of the District. ***Failure of the Bidder to acknowledge all Addenda may result in rejection of the Bid Proposal for non-responsiveness.***

ADDENDUM NO.	ADDENDUM ISSUE DATE

3. **DVBE Participation Goal.** The Bidder acknowledges that the District has established a three percent (3%) Participation Goal for DVBEs in connection with the Work. The Bidder certifies to the District that the Bidder achieved the DVBE Participation Goal or the Bidder did not achieve the DVBE Participation Goal, but made Good Faith Efforts to achieve the DVBE Participation Goal, as noted by the checkbox below.

☐ The Bidder achieved the DVBE Participation Goal.

☐ The Bidder did not achieve the DVBE Participation Goal, but made Good Faith Efforts to achieve the DVBE Participation Goal

The Bidder acknowledges that if this Bid Proposal and the foregoing documents are not fully in compliance with applicable requirements set forth in the Call for Bids, Instructions for Bidders and in each of the foregoing documents, the Bid Proposal may be rejected as non-responsive.

4. **Contractors' License**. The Bidder certifies that: (i) it is possesses a valid and in good standing Contractors' License, in the necessary class(es), for performing the Work as set for in the Call for Bids; (ii) that such license shall be in full force and effect throughout the duration of the performance of the Work; and (iii) that all Subcontractors providing or performing any portion of the Work are properly licensed to perform their respective portions of the Work at the time of submitting this Bid Proposal and will remain so properly licensed at all times during their performance of the Work.

4a. The successful bidder must possess a **valid and active Class B License** at the time of bid and throughout the duration of this Contract.

5. **Award of Contract**. If the Bidder submitting this Bid Proposal is awarded the Contract, the undersigned will execute and deliver to the District the Agreement in the form set forth in the Contract Documents within five (5) business days after notification of award of the Contract. Concurrently with delivery of the executed Agreement to the District, the Bidder awarded the Contract shall deliver to the District: (i) Certificates of Insurance evidencing all insurance coverages required under the Contract Documents; (ii) the Performance Bond; and (iii) the Labor and Material Payment Bond. Failure of the Bidder awarded the Contract to strictly comply with the preceding may result in the District's rescission of the award of the Contract and/or forfeiture of the Bidder's Bid Security. In such an event, the District may, in its sole and exclusive discretion, elect to award the Contract to the responsible Bidder submitting the next lowest Bid Proposal, or to reject all Bid Proposals.

6. **Acknowledgments, Certifications and Authority**. The Bidder acknowledges its receipt, review and understanding of the Drawings, the Specifications and other Contract Documents pertaining to the proposed Work. The Bidder certifies that the Contract Documents are, in its opinion, adequate, feasible and complete

for providing, performing and Construction the Classroom Building in a sound and suitable manner for the use specified and intended by the Contract Documents. The Bidder certifies that it has, or has available, all necessary equipment, personnel, materials, facilities and technical and financial ability to complete the Work for the amount bid herein within the Contract Time and in accordance with the Contract Documents. The undersigned is an employee of the Bidder and is authorized by the Bidder to execute this Bid Proposal on behalf of the Bidder and to bind the Bidder to this Bid Proposal.

By: _____
(Signature)

_____
(Typed or Printed Name)

Title: _____

SUBCONTRACTORS LIST

Project ("the Work")	**Bid # 10MOT26; Installation of Playground & Shade Structures at Will Rogers ES**
Bidder Name	_____
Bidder's Representative Signature	_____ (Signature) _____ (Typed or Printed Name)

Licensed Name of Subcontractor	Address of Office, Mill or Shop & Phone #	Trade or Portion of Work	Contractors' License Number	DIR Registration Number

[DUPLICATE THIS FORM FOR ADDITIONAL SUBCONTRACTORS]

SECTION 5

QUALIFICATIONS STATEMENT

QUALIFICATIONS STATEMENT

The District will review this information to determine if you are a **"Responsible"** Respondent.

1. RESPONDENT QUALIFICATIONS

1.1. Respondents must be a California Department of Industrial Relations registered contractor at the time of submitting the RFQ/P/BID response.

(Provide proof; submit a copy and label as **Exhibit Q.2.1**.)

1.2. Must possess a valid and active California Contractor's "**B" license**" at the time of bid and throughout the duration of this Contract.

1.3. Have experience Construction exterior school buildings for at least five (5) California K-12 customers in the past five (5) years.

(Provide proof; submit a copy and label as **Exhibit Q.2.3**.)

1.4. Be able to meet the District's contract funding limits and schedule objectives

☐ Affirm

1.5. Be able to assign sufficient skilled, knowledgeable and experienced personnel to complete and implement project obligations.

☐ Affirm

1.6. Not be suspended or debarred from accepting contract awards from State of California and Federal Government entities.

☐ Affirm

1.7. At any time during the last ten (10) years, the Respondent, or any predecessor to the Respondent, **has not been** convicted of a crime involving any federal, state, or local law related to a public project similar in nature and scope to this RFQ/P/BID.

☐ Affirm

1.8. Judgments and Arbitration Awards. Within the past ten (10) years, the Respondent has **not been** a party to a judgment entered in a civil proceeding or an arbitration award issued by an arbitrator in a binding arbitration proceeding related to a public project similar in nature and scope to this RFQ/P/BID.

☐ Affirm

[CONTINUED ON NEXT PAGE]

1.1. Performance Bond. Within the past five (5) years no claims have been made against any Performance Bond issued for Respondent, or a predecessor to the Respondent related to a public project similar in nature and scope to this RFQ/P/BID.

☐ Affirm

1.2. Insurance. The Respondent is able to meet the District's insurance requirements described below.

☐ Affirm

Required Insurance Policy Certificate	Minimum Coverage Limits
Workers Compensation	In accordance with law
Employers Liability	One Million Dollars ($1,000,000)
Comprehensive General Liability (including property damage and automobile liability)	One Million Dollars ($1,000,000) per occurrence/Two Million Dollars ($2,000,000) in the aggregate
Professional Liability	One Million Dollars ($1,000,000) per claim Two Million Dollars ($2,000,000) in the aggregate

The undersigned is duly authorized to execute this Qualifications Statement under penalty of perjury on behalf of the above-identified Respondent.

The undersigned warrants and represents that he/she has personal knowledge of each of the responses to this Qualifications Statement and/or that he/she has conducted all necessary and appropriate inquiries to determine the truth, completeness and accuracy of responses to this Qualifications Statement.

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

If the District determines that any response herein is false or misleading or contains misstatements of fact, the Response will not further participate in the RFQ/P/BID selection for award process.

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

Name of Representative: _____

Title of Representative: _____

Respondents Firm Name: _____

Date: _____

Signature of Representative: _____

[END OF SECTION]

SECTION 6

ENCLOSURES & ATTACHMENTS

1.1.1. Advertisements. Advertise (with sufficient time for submission of sub-bids and the Bidder's good faith consideration of the same) prior to the last date for submittal of Bid Proposals in: (i) one or more daily or weekly newspapers of general circulation published in the locality of the Work, and (ii) one or more Construction trade publications, and (iii) one or more con Construction trade publications, journals or papers focusing on DVBEs. Each of the advertisements pursuant to the preceding, must state the following: (i) identification of the general description of the Work and an identification of the District; (ii) state the closing date and time for the District's receipt of Bid Proposals; (iii) state the last date and time for submission of sub-bids from DVBEs to the Bidder; (iv) request sub-bids from DVBE Subcontractors or Material Suppliers; (v) identify the type of Work of the Contract available for sub-bids by DVBEs; and (vi) unequivocally state the requirement of bonds, if any, of a DVBE sub-Bidder and who is to bear the expense of obtaining any required bonds.

1.2. Contract Audit. The successful Bidder awarded the Contract agrees that the District, or its designee, shall have the right to review, obtain and/or copy any and all writings, materials, documents and other records pertaining to utilization of DVBEs in performance of the Contract. The successful Bidder awarded the Contract agrees that the District, or its designee, shall have access to any of the successful Bidder's premises upon reasonable notice, during usual business hours for the purpose of interviewing employees and inspecting and/or copying such writings, materials, documents and other documents which may be relevant to a matter under investigation for the purpose of determining compliance with the DVBE Participation Goal Program Policy.

2. Capitalized Terms. Capitalized terms used herein shall be as defined herein or elsewhere in the Contract Documents.

[END OF SECTION]

ATTACHMENT B:

DISABLED VETERAN BUSINESS ENTERPRISE (DVBE) PARTICIPATION STATEMENT

Each bidder must complete this form in order to comply with the Lynwood Unified School District ("District") policy for participation of disabled veteran business enterprises (School District projects funded in whole or in part by the State of California pursuant to the Leroy F. Greene School Facilities Act of 1998. (Education Code §17070.10, et seq.)

Project Name: _____

Bid No.: _____

DSA No.: _____

The undersigned, on behalf of the Contractor named below, certifies that the Contractor has made reasonable efforts to secure participation by DVBE in the Contract to be awarded for the above-referenced Bid No., including participation by DVBE subcontractors and/or material suppliers.

Check only one of the following:

❑ The Contractor was unable after reasonable efforts to secure DVBE participation in the Contract for the above-referenced Project/Bid No. However, the Contractor will use DVBE services if the opportunity arises at any time during construction of the Project. Upon completion of the Project, the Contractor will report to the District the total dollar amount of DVBE participation in any Contract awarded to Contractor, and in any change orders, for the above-referenced Project.

❑ The Contractor has secured DVBE participation in the Contract for the above referenced Project/Bid No., and anticipates that such DVBE participation will equal approximately _____dollars ($_____), which represents approximately _____percent (___%) of the total Contract for such Project. Upon completion of the Project, Contractor will report to the District the actual total dollar amount of DVBE participation in the Contract awarded to Contractor, and in any change orders, for such Project

Company: _____

Name: _____

Title: _____

Signature: _____

Date: _____

ATTACHMENT C: NON-COLLUSION

STATE OF CALIFORNIA COUNTY OF _____

I, _____, being first duly sworn, deposes and says
(Typed or Printed Name)

that I am the _____ of _____,
(Title) (Bidder Name)

the party submitting the foregoing Bid Proposal ("the Bidder"). In connection with the foregoing Bid Proposal, the undersigned declares, states and certifies that:

1. The Bid Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.

2. The Bid Proposal is genuine and not collusive or sham.

3. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any other bidder or anyone else to put in a sham bid, or to refrain from bidding.

4. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or of anyone interested in the proposed contract.

5. All statements contained in the Bid Proposal and related documents are true.

6. The bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Executed this _____ day of _____, 20____ at _____.
(City, County and State)

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

_____
Signature

_____
Name Printed or Typed

ATTACHMENT D: CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

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

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

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

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

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

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

3. The following information pertains to the Workers Compensation Insurance policy:

Name of Insurer	
Policy No.	
Expiration Date	
Name, Address, Telephone, Fax and Email Address of contact for Insurer or Broker	

_____
(Contractor Name)

By _____
(Signature)

_____
(Typed or printed name)

ATTACHMENT E: DRUG-FREE WORKPLACE

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

1. I am aware of the provisions and requirements of California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990.

2. I am authorized to certify, and do certify, on behalf of Contractor that a drug free workplace will be provided by Contractor by doing all of the following

   2.1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for violation of the prohibition;

   2.2. Establishing a drug-free awareness program to inform employees about all of the following:

   (i) The dangers of drug abuse in the workplace;
   (ii) Contractor's policy of maintaining a drug-free workplace;
   (iii) The availability of drug counseling, rehabilitation and employee-assistance programs; and
   (iv) The penalties that may be imposed upon employees for drug abuse violations;

   2.3. Requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by subdivision (A), above, and that as a condition of employment by Contractor in connection with the Work of the Contract, the employee agrees to abide by the terms of the statement.

3. Contractor agrees to fulfill and discharge all of Contractor's obligations under the terms and requirements of California Government Code §8355 by, *inter alia*, publishing a statement notifying employees concerning: (a) the prohibition of any controlled substance in the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Work of the Contract be given a copy of the statement required by California Government Code §8355(a) and requiring that the employee agree to abide by the terms of that statement.

4. Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of California Government Code §§8355, the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of California Government Code §§8350, *et seq*.

5. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Government Code §§8350, *et seq*. and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Drug-Free Workplace Act of 1990.

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

Executed at _____this ___day of _____, 20___.
(City and State)

_____
(Signature)

_____
(Handwritten or Typed Name)

ATTACHMENT F1: FINGERPRINT CERTIFICATE

I, _____, am the _____ of
(Print Name) (Title)
_____. I declare, state, and certify all of the following:
(Entity/Contractor Name)

1. I am aware of the provisions and requirements of California Education Code §45125.1 and §45125.2, regarding fingerprinting of persons providing services to school districts. As such, I understand that as a public works contractor, California Education Code §45125.2 establishes three (3) methods for ensuring the safety of pupils as described below.

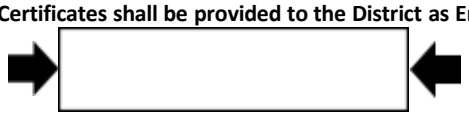
   1.1. Installation of a physical barrier.

   1.2. Continual supervision and monitoring of all of the contractor's employees by an employee of the contractor whom the Department of Justice has ascertained has not been convicted of a violent or serious felony.

   1.3. Surveillance of contractor's employees by school personnel.

   The District requires Entity/Contractor to be able to comply with method (1.2) above. As such, **Entity/Contractor must have a California Department of Justice issued ORI number** under which Entity's/Contractor's employees have been fingerprinted, allowing the California Department of Justice to notify Entity/Contractor upon ascertaining that an individual whose fingerprints were submitted to it has been convicted of a violent or serious felony. Upon such notification, Entity/Contractor shall immediately remove any such individual from District sites.

   Additional Fingerprint Certificates shall be provided to the District as Entity's/Contractor's supervisory staff changes.

   Entity/Contractor DOJ issued ORI # 

2. I have personal knowledge of and/or have made due and diligent inquiry with respect to the following, and based on said knowledge and/or inquiry I certify that:

   2.1. The fingerprints of each person identified on Fingerprint Certificate Attachment, providing continual supervision and monitoring of all of Entity's/Contractor's staff, including subcontractors of all tiers, while Entity/Contractor/subcontractor(s) are on District Sites, have been submitted to the California Department of Justice under the ORI number provided above pursuant to Education Code §45125.1 and §45125.2; and

   2.2. The California Department of Justice has issued written or electronic verification that each person identified on Fingerprint Certificate Attachment has not been convicted of a felony, as defined in Education Code §45122.1, and has no criminal felony proceedings, as defined in Education Code §45122.1, pending against him or her.

3. Entity/Contractor and I understand that if the District determines that Entity/Contractor has either: (a) made a false certification herein, or (b) violates this certification by failing to carry out and to implement the requirements of California Education Code §45125.1, the Contract is subject to termination, suspension of payments, or both.

4. I am authorized to execute this Fingerprint Certificate on behalf of the Entity/Contractor. All of the statements set forth above and all of the information provided in the Fingerprint Certificate Attachment are true, correct, complete, and accurate. Further, there are no omissions or misstatements of material fact in the foregoing statements or in the information set forth in the Fingerprint Certificate Attachment which would render such statements and/or information to be false or misleading.

5. Unsupervised Contact with students means contact that provides the person opportunity and probability for personal communication or touch with students when not under direct District supervision. Entity/Contractor shall ensure that Entity/Contractor, any subcontractors of all tiers, and their officers, employees, and agents will have no Unsupervised Contact with students while on District property. Entity/Contractor will work with the District and with Entity's/Contractor's subcontractors to ensure compliance with this requirement and shall take all measures necessary to ensure compliance with this requirement, without compromising the day-to-day educational operations at each school site where Entity/Contractor is performing work. If Entity/Contractor is unable to ensure through a security plan (which includes but is not limited to provision of an on-site Superintendent who has passed DOJ fingerprinting, and is present at the work areas whenever work is being performed, installation of temporary barriers and fencing, isolation of the work areas or rooms from the rest of the campus or Construction, provision of separate sanitation and break areas for the workers, and provision of a separate path or supervised escort to and from the work for Construction employees) that prevention of

unsupervised contact with students in a particular circumstance, cannot be achieved, then Entity/Contractor shall immediately notify the District before commencing or continuing any work that could result in Unsupervised Contact, and shall refrain from commencing or continuing the work until Entity/Contractor has remedied the issues which may lead to Unsupervised Contact with students.

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

Executed at _____ this _____ day of _____, 20_____.
(City and State)

_____
(Signature)

_____
(Handwritten or Typed Name)

FINGERPRINT CERTIFICATE ATTACHMENT MUST BE COMPLETED IN ACCORDANCE WITH THE ABOVE

ATTACHMENT F2: FINGERPRINT CERTIFICATE ATTACHMENT

The fingerprints of each person identified below, providing continual supervision and monitoring of all of Entity's/Contractor's staff, including subcontractors of all tiers, while Entity/Contractor/subcontractor(s) are on District Sites, have been submitted to the California Department of Justice under the Entity's/Contractor's ORI number pursuant to Education Code §45125.1 and §45125.2; and,

The California Department of Justice has issued written or electronic verification that each person identified has not been convicted of a felony, as defined in Education Code §45122.1, and has no criminal felony proceedings, as defined in Education Code §45122.1, pending against him or her.

NAME	DATE OF DOJ VERIFICATION

ATTACHMENT G: BID BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto **Lynwood Unified School District** ("the Obligee") for payment of the penal sum hereof in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal has submitted the accompanying Bid Proposal to the Obligee for the Work commonly described as **Bid # 10MOT26; Installation of Playground & Shade Structures at Will Rogers ES**

Location: 11250 Duncan Ave., Lynwood, CA 90262

WHEREAS, subject to the terms of this Bond, the Surety and the Principal are jointly and severally firmly bound unto the Obligee in the penal sum equal to Ten Percent (10%) of the maximum amount of the Bid Proposal submitted by the Principal to the Obligee, inclusive of amounts proposed for additive Alternate Bid Items, if any.

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

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

[CONTINUED NEXT PAGE]

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety and Principal shall be jointly and severally liable for payment to the Obligee all costs, expenses and fees incurred by the Obligee in connection therewith, including without limitation, attorneys' fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 20___by their duly authorized agents or representatives.

_____
(Bidder/Principal Name)

By: _____
(Signature)

_____
(Typed or Printed Name)

Title: _____

(Attach Notary Public Acknowledgement of Principal's Signature)

_____
(Surety Name)

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

_____
(Typed or Printed Name of Attorney-In-Fact)

(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature.)

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

_____
(Contact Name)

_____
(Street Address)

_____
(City, State & Zip Code)

(_____) _____ (_____) _____
Telephone Fax

_____
(Email address)

ATTACHMENT H: PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto **Lynwood Unified School District** ("the Obligee") for payment of the penal sum of _____ Dollars ($_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Education has awarded to the Principal a Contract for the Work described as **Bid # 10MOT26; Installation of Playground & Shade Structures at Will Rogers ES**

Location: 11250 Duncan Ave., Lynwood, CA 90262

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

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

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

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

If the Obligee terminates the Contract due to the Principal's breach or default of the Principal's obligations thereunder, within twenty (20) days after written notice from the Obligee to the Surety of the Principal's breach or default of the Contract Documents and Obligee's termination of the Contract, the Surety shall notify Obligee in writing of Surety's assumption of obligations hereunder by its election to either remedy the default or breach of the Principal or to take charge of the Work of the Contract Documents and complete the Work at its own expense ("the Notice of Election"); provided, however, that the procedure by which the Surety undertakes to discharge its obligations under this Bond shall be subject to the advance written approval of the Obligee, which approval shall not be unreasonably withheld, limited or restricted. The insolvency of the Principal or the Principal's denial of a failure of performance or default under the Contract Documents shall not by itself, without the Surety's prompt, diligent inquiry and investigation of such denial, be justification for Surety's failure to give the Notice of Election or for its failure to promptly remedy the failure of performance or default of the Principal or to complete the Work.

If the Surety fails to issue its Notice of Election to Obligee within the time provided for hereinabove, the Obligee may thereafter cause the cure or remedy of the Principal's failure of performance or default or to complete the Work. The Principal and the Surety shall be jointly and severally liable to the Obligee for all damages and costs sustained by the Obligee as a result of the Principal's failure of performance under the Contract Documents or default in its performance of obligations thereunder, including without limitation the costs of cure or completion of the Work exceeding the then remaining balance of the Contract Price; provided that the Surety's liability hereunder for the costs of performance, damages and other costs sustained by the Obligee upon the Principal's failure of performance or default under the Contract Documents shall be limited to the penal sum hereof, which shall be deemed to include the costs or value of any Changes to the Work which increases the Contract Price. If suit or other proceeding is brought upon this Bond by the Obligee, the Surety and Principal shall be jointly and severally liable for payment to the Obligee of all costs, expenses and fees incurred by the Obligee therewith, including without limitation, attorneys' fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this ___day of _____, 2026_by their duly authorized agent or representative.

_____

(Bidder/Principal Name)

By: _____

(Signature)

_____

(Typed or Printed Name)

Title: _____

(Attach Notary Public Acknowledgement of Principal's Signature)

_____

(Surety Name)

By: _____

(Signature of Attorney-In-Fact for Surety)

_____

(Typed or Printed Name of Attorney-In-Fact)

(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature.)

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

_____

(Contact Name)

_____

(Street Address)

_____

(City, State & Zip Code)

(_____) _____ (_____) _____

Telephone Fax

_____

(Email address)

ATTACHMENT I: LABOR AND MATERIALS PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto **Lynwood Unified School District** ("the Obligee") for payment of the penal sum of _____Dollars ($_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Education has awarded to the Principal a Contract for the Work described as **Bid # 10MOT26; Installation of Playground & Shade Structures at Will Rogers ES**

Location: 11250 Duncan Ave., Lynwood, CA 90262

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

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

NOW THEREFORE, if the Principal shall promptly, fully and faithfully make payment: (i) to any Claimant for all labor, materials or services used or reasonably required for use in the performance of the Work; (ii) of amounts due under the Unemployment Insurance Code for work or labor performed under the Contract; and (iii) of amounts required to be deducted, withheld and paid to the Employment Development Department from wages of the employees of the Principal and its Subcontractors under Section 13020 of the Unemployment Insurance Code with respect to work and labor under the Contract then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The term "Claimant" shall refer to any person, corporation, partnership, proprietorship or other entity including without limitation, all persons and entities described in California Civil Code §9100, providing or furnishing labor, materials or services used or reasonably required for use in the performance of the Work under the Contract Documents, without regard for whether such labor, materials or services were sold, leased or rented. This Bond shall insure to the benefit of all Claimants so as to give them, or their assigns and successors, a right of action upon this Bond.

In the event that suit is brought on this Bond by any Claimant for amounts due such Claimant for labor, materials or services provided or furnished by such Claimant, the Surety shall pay for the same and reasonable attorneys' fees pursuant to California Civil Code §9554.

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

[CONTINUED NEXT PAGE]

Documents, the Drawings or the Specifications of any other portion of the Contract Documents.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 20___by their duly authorized agent or representative.

_____

(Bidder/Principal Name)

By: _____
(Signature)

_____
(Typed or Printed Name)

Title: _____

(Attach Notary Public Acknowledgement of Principal's Signature)

_____

(Surety Name)

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

_____
(Typed or Printed Name of Attorney-In-Fact)

(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature.)

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

_____
(Contact Name)

_____
(Street Address)

_____
(City, State & Zip Code)

(_____) _____ (_____) _____
Telephone Fax

_____
(Email address)

ATTACHMENT J: VERIFICATION OF CERTIFIED PAYROLL RECORDS
SUBMITTAL TO LABOR COMMISSIONER

I am the _____ for _____ in
(Superintendent/Project Manager) (Contractor)
connection with _____.
(Project Name)

1. This Verification is submitted to Lynwood Unified School District concurrently with the Contractor's submittal of an Application for Progress Payment to the District, identified as Application For Progress Payment No. _____("the Pay Application").
2. The Pay Application requests the District's disbursement of a Progress Payment for the value of Work performed between _____, 20____and _____, 20__.
3. The Contractor has submitted Certified Payroll Records ("CPR") to the Labor Commissioner for all employees of the Contractor engaged in performance of Work subject to prevailing wage rate requirements for the period of time covered by the Pay Application.
4. All Subcontractors who are entitled to any portion of payment to be disbursed pursuant to the Pay Application have submitted their CPRs to the Labor Commissioner for all of their employees performing Work subject to prevailing wage rate requirements for the period of time covered by the Pay Application.
5. I have reviewed the Contractor's CPRs submitted to the Labor Commissioner. The CPRs submitted to the Labor Commissioner by the Contractor are complete and accurate for the period of time covered by the Pay Application.
6. I have reviewed the Subcontractors' CPRs submitted to the Labor Commissioner. The CPRs submitted to the Labor Commissioner by the Subcontractors are complete and accurate for the period of time covered by the Pay Application.

I declare under penalty of perjury under California law that the foregoing is true and correct. I executed this Certification on the _____day of _____, 20_____at

_____.
(City and State)

By: _____

_____
(Typed or Printed Name)

ATTACHMENT K: GUARANTEE

NOTE: This form is to be submitted with the final pay request

Project: Bid # 10MOT26; Installation of Playground & Shade Structures at Will Rogers ES

The Contractor hereby warrants and guarantees to the District that all work, materials, equipment and workmanship provided, furnished or installed by or on behalf of Contractor in connection with the above referenced Project (the "Work") have been provided, furnished and installed in strict conformity with the Contract Documents for the Work, including without limitation, the Drawings and the Specifications. Contractor further warrants and guarantees that all work, materials, equipment and workmanship as provided, furnished and/or installed are fit for use as specified and fulfill all applicable requirements of the Contract Documents including without limitation, the Drawings and the Specifications. Contractor shall, at its sole cost and expense, repair, correct and/or replace any or all of the work, materials, equipment and/or workmanship of the Work, together with any other items which may be affected by any such repairs, corrections or replacement, that may be unfit for use as specified or defective within a period of two (2) years from the date of the District's Final Acceptance of the Work, ordinary wear and tear and unusual abuse or neglect excepted.

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

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

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

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

Contractor

_____
(Contractor Name)

_____
(Signature of Contractor's Authorized Employee, Officer Or Representative)

_____
(Printed Name and Title)

_____
(Date)

ATTACHMENT L

DOCUMENT: SELF-PERFORMANCE DECLARATION

(To be executed by Bidder and submitted with Bid)

PROJECT NAME: [Insert School Name] Modernization / New Construction

Bid#: Insert

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1. DECLARATION OF COMPLIANCE

The undersigned Bidder hereby certifies that it will perform, with its own organization and with workers under its own direct supervision and control, work amounting to not less than **forty percent (40%)** of the total original Contract Price.

2. CALCULATION OF SELF-PERFORMANCE

To demonstrate compliance, the Bidder shall complete the table below. **"Self-Performed Work" is defined as work involving the Bidder's own labor force, equipment, and overhead, excluding all costs associated with subcontractors.**

Description of Scope / Trade (e.g., Concrete, Framing, Demo)	**License Class**	**Estimated Dollar Value**
Scope 1:		$
Scope 2:		$
Scope 3:		$
Scope 4:		$
TOTAL VALUE OF SELF-PERFORMED WORK:		**$**

3. VERIFICATION FORMULA

The District will verify the percentage using the following formula:

$$\frac{\text{Total Value of Self-Performed Work}}{\text{Total Base Bid Amount}} \times 100 = \text{Self-Performance } \%$$

Note: "Specialty Items" as defined in the Special Provisions (e.g., HVAC units, elevators, hazardous waste abatement) may be excluded from the Total Base Bid Amount for the purposes of this calculation at the District's sole discretion.

4. ACKNOWLEDGMENTS

- **Direct Supervision:** The Bidder certifies they are the Prime contractor and that their organization" includes only workers employed and paid directly by the Prime Contractor and utilized on its payroll.
- **Audit Rights:** The District and/or it's third party representative reserves the right to audit certified payroll records (CPRs) and daily sign-in sheets during construction to ensure the 40% threshold is maintained.
- **Substitution:** Any shift in work from "Self-Performed" to "Subcontracted" after the bid award must be approved in writing by the District and must comply with **Public Contract Code § 4107**.

BIDDER NAME: _____

BY (Signature): _____

TITLE: _____

DATE: _____

CALIFORNIA CONTRACTOR LICENSE #: _____

The "Non-Responsive" Disqualification

1. **Authority: PCC § 20111 & § 20111.5** A bid is "responsive" if it promises to do exactly what the bid documents require. **Bid documents mandate** a **Self-Performance Declaration showing forty (40%) percent of the work to be completed by the Bidder and the Bidder will submit a list of subcontractors completing the remaining sixty (60%) of the work or the district will reject the bid upon bid review.**

2. The "Non-Responsible" Disqualification

Authority: PCC § 1103 A Bidder is "responsible" if they have the **capacity, experience, and fitness to perform the work.** By setting a forty (40%) percent threshold, the District is effectively defining "responsibility" as having a large enough in-house workforce to handle the majority of the project.The capacity, experience and ability to supervise, direct and ensure sub-contractors complete work satisfactorily for the remaining sixty(60%) percent of the work remaining is the responsibility of the bidder

- **PCC § 1103 Definition:** Defines a "Responsible Bidder" as one who has demonstrated the "quality, fitness, capacity, and experience to satisfactorily perform the public works contract."

SECTION 7

SAMPLE CONTRACT

SAMPLE AGREEMENT

THIS AGREEMENT is entered as of ***[insert date]*** in the City of Lynwood, County of Los Angeles, State of California, by and between **Lynwood Unified School District**, a California Unified School District hereinafter "District" and _____("Contractor").

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

1. **The Work**. Within the Contract Time and for the Contract Price, subject to adjustments thereto pursuant to the Contract Documents, the Contractor shall perform and provide all necessary labor, materials, tools, equipment, utilities, services and transportation to complete in a workmanlike manner all of the Work required in connection with the work of improvement commonly referred to as **Bid # 10MOT26; Installation of Playground & Shade Structures at Will Rogers ES located at 11250 Duncan Ave., Lynwood, Ca 90262.** The Contractor shall complete all Work covered by the Contract Documents, including without limitation, the Drawings and Specifications prepared by the Architect, _____ and other Contract Documents enumerated in Article 5 below, along with all modifications and addenda thereto issued in accordance with the Contract Documents.

2. **Contract Time**. The Contractor shall achieve Substantial Completion of the Work within the Contract Time which is Forty-nine (49) calendar days after the date established in the Notice to Proceed issued by or on behalf of the District for commencement of the Work.

3. **Contract Price**. The District shall pay the Contractor as full consideration for the Contractor's full, complete and faithful performance of the Contractor's obligations under the Contract Documents, subject to adjustments of the Contract Price in accordance with the Contract Documents, the Contract Price of _____ Dollars ($_____). The District's payment of the Contract Price shall be in accordance with the Contract Documents. The Contract Price is based upon the Contractor's Base Bid Proposal, and the following Alternate Bid Items, if any: _____.

4. **Liquidated Damages**. The Contractor shall be subject to assessment of Liquidated Damages set forth in the Special Conditions if the Contractor: (i) fails to submit each Submittal required by the Contract Documents in accordance with the Submittal Schedule incorporated into the Contractor's Construction Schedule; or (ii) fails to achieve Substantial Completion of the Work within the Contract Time, subject to adjustments thereto in accordance with the Contract Documents; and/or (iii) fails to complete all Punch List items within the time established pursuant to the Contract Documents.

5. **Limitation on Damages**. In the event of the District's breach or default of its obligations under the Contract Documents, the damages, if any, recoverable by the Contractor shall be limited to general damages which are directly caused by said breach or default of the District and shall exclude any and all special or consequential damages, if any, suffered by the Contractor. By executing this Agreement, the Contractor expressly acknowledges the foregoing limitation to the recovery only of general damages from the District if the District is in breach or default of its obligations under the Contract Documents. The Contractor expressly waives any right to and foregoes the recovery of any special or consequential damages from the District including, without limitation, damages for: i) lost or impaired bonding capacity; and/or, ii) lost profits arising out of or in connection with any past, present, or future work of improvement, except for the Project which is the subject of the Contract Documents; and/or iii) loss of productivity.

6. **The Contract Documents**. The documents forming a part of the Contract Documents consist of the following:

00 01 13	Call for Bids, including Bid Addenda, if any
00 01 21	DSA Form 103
00 21 13	Instructions for Bidders
00 41 00	Bid Proposal
00 41 13	Alternate Bid Items Proposal Form
00 43 13	Subcontractors List
00 45 15	Qualifications Statement
00 45 19	Non-Collusion Affidavit
00 45 26	Certificate of Workers Compensation Insurance
00 45 27	Drug-Free Workplace Certification
00 45 58.01	DVBE Attachment B, Bidder DVBE Statement
00 45 46	Fingerprint Certification
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00 61 10	Bid Bond
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00 65 37	Contractor Certification of Subcontractor Claim
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00 73 00	Special Provisions
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	Specifications

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

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

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

"DISTRICT"
Lynwood Unified School District

By: _____

Title: _____

"CONTRACTOR"

_____

By: _____

Title: _____

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GENERAL CONDITIONS

1. DEFINITIONS; GENERAL

1.1. District. The "District" refers to **Lynwood Unified School District** and unless otherwise stated, includes, the District's authorized representatives, including the Project Manager, if a Project Manager is designated, the District's Board of Education and the District's officers, employees, agents and representatives.

1.2. Contractor. The Contractor is the person or entity identified as such in the Agreement; references to "Contractor" include the Contractor's authorized representative.

1.3. Architect. The Architect is the person or entity identified as such in the Agreement; references to the "Architect" include the Architect's authorized representative

1.4. The Work. The "Work" is the Construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment or services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract Documents. The Work may constitute the whole or a part of the Project.

1.5. The Project. The Project is the total Construction of which the Work performed by the Contractor under the Contract Documents which may be the whole or a part of the Project and which may include Construction by the District or by separate contractors.

1.6. Surety. The Surety is the person or entity that executes, as surety, the Contractor's Labor and Material Payment Bond and/or Performance Bond.

1.7. Subcontractors; Sub-Subcontractors. A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work. "Subcontractor" does not include a separate contractor to the District or subcontractors of any separate contractor. A Sub-Subcontractor is a person or entity of any tier, who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site.

1.8. Material Supplier. A Material Supplier is any person or entity who only furnishes materials, equipment or supplies for the Work without fabricating, installing or consuming them in the Work.

1.9. Drawings and Specifications. The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing generally, the design, location and dimensions of the Work and may include without limitation, plans, elevations, sections, details, schedules or diagrams. The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, Construction systems, standards, criteria and workmanship for the Work and related services. The Drawings and Specifications are intended to delineate and describe the Work and its component parts so as to permit skilled and competent contractors to bid upon the Work and prosecute the same to completion. Large scale Drawings shall take precedence over smaller scale Drawings as to shape and details of Construction. Figured dimensions on Drawings shall govern, but Work which is not dimensioned shall be as directed or required by field conditions. Specifications shall govern as to materials, workmanship and installation procedures.

1.10. Special Conditions; Supplemental Conditions. Special Conditions and Supplemental Conditions, if any, are part of the Contract Documents, setting forth provisions and requirements applicable to the Work which is not otherwise established in the Contract Documents.

1.11. Contract Documents. The Contract Documents consist of the Agreement between the District and the Contractor, Conditions of the Contract (whether General, Special, Supplemental or otherwise),

Drawings, Specifications, including addenda issued prior to execution of the Agreement and any other documents listed in the Agreement. The Contract Documents shall include modifications issued after execution of the Agreement. The Contract Documents form the Contract for Construction.

1.12. Intent and Correlation of Contract Documents

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

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

1.12.3. Conflict in Contract Documents. Conflicts, inconsistencies or ambiguities in the Contract Documents shall be resolved by the Architect in accordance with Article 3.1.9 of the General Conditions; where conflicts or inconsistencies arise between the Drawings and the Specifications, in resolving such conflicts or inconsistencies, the Architect will be governed generally by the following standards: the Drawings are intended to describe matters relating to placement, type, quantity and the like; the Specifications are intended to describe matters relating to quality, materials, compositions, manufacturers and the like. In the event of conflicting provisions between the Contract Documents that were not called to the attention of the Architect or District prior to award of the Contract, the Architect shall determine which of the conflicting requirements shall govern. In general, the Architect shall use as a guideline the more stringent requirements or the more expensive material unless, in the opinion of the Architect, other requirements are more appropriate. The decision of the Architect is final and shall not be further reviewable or appealable by arbitration or litigation. If conflicts exist between portions of the Contract Documents regarding the quality of any item, product, equipment or materials, unless otherwise directed or authorized by the District, the Contractor shall provide the item, product, equipment or material of the highest or more stringent quality. If conflicts, inconsistencies, or ambiguities exist between the Special Conditions and the General Conditions, the Special Condition shall prevail.

1.12.4. Drawing Dimensions. Dimensions given on the Drawings take precedence over scaled measurements, and large-scale Drawings take precedence over small scale Drawings. Figures take precedence over scaled dimensions. Scaling of dimensions is performed at the Contractor's own risk.

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

Contractor to illustrate materials or equipment for some portion of the Work. Shop Drawings, Samples and Product Data prepared or furnished by the Contractor or any of its Subcontractors or Material Suppliers are collectively referred to as "Submittals".

1.14. Division of State Architect ("DSA"). DSA is the California Division of the State Architect including without limitation the DSA's Office of Construction Services, Office of Design Services and the Office of Regulatory Services; references to the DSA in the Contract Documents shall mean the DSA, its offices and its authorized employees and agents. The authority of the DSA over the Work and the performance thereof shall be as set forth in the Contract Documents and Title 24 of the California Code of Regulations.

1.15. Project Inspector. The Project Inspector is the individual designated and employed by the District in accordance with the requirements of Title 24 of the California Code of Regulations. The Project Inspector shall be authorized to act on behalf of the District as provided for in the Contract Documents and the Laws, including without limitation, in Title 24 of the California Code of Regulations, as the same may be amended from time to time.

1.16. Contract Document Terms. The term "provide" means "provide complete in place" or to "furnish and install" such items. Unless otherwise provided in the Contract Documents, the terms "approved;" "directed;" "satisfactory;" "accepted;" "acceptable;" "proper;" "required;" "necessary" and "equal" shall mean as approved, directed, satisfactory, accepted, acceptable, proper, required, necessary and equal, in the opinion of the Architect. The term "typical" as used in the Drawings shall require the installation or furnishing of such item(s) of the Work designated as "typical" in all other areas similarly marked as "typical" or which are reasonably inferable as a "typical" condition; Work in such other areas shall conform to that shown as "typical" or as reasonably inferable therefrom.

1.17. Contractor's Superintendent. The Contractor's Superintendent is the individual employed by the Contractor whose principal responsibility shall be the supervision and coordination of the Work; the Contractor's Superintendent shall not perform routine construction labor.

1.18. Record Drawings. The Record Drawings are a set of the Drawings marked by the Contractor during the performance of the Work to indicate completely and accurately the actual as-built condition of the Work. The Record Drawings shall be sufficient for a capable and qualified draftsman to modify the Drawings to reflect and indicate the Work actually in place at Final Completion of the Work.

1.19. Project Manager, The Project Manager is an independent contractor retained by the District and is authorized and empowered to act on behalf of the District as set forth in the Contract Documents. The District reserves the right to remove or replace the Project Manager prior to completion of the Work without adjustment of the Contract Price or the Contract Time or otherwise affect, limit or restrict Contractor's obligations hereunder. The Project Manager for the Work is identified in the Special Conditions. If no Project Manager is designated for the Work, references to the Project Manager in the Contract Documents are deemed deleted and replaced with references to the Architect, Project Inspector and/or the District as applicable and appropriate in the context of usage.

1.20. Construction Equipment. "Construction Equipment" is equipment utilized for the performance of any portion of the Work, but which is not incorporated into the Work.

1.21. Site. The Site is the physical area designated in the Contract Documents for Contractor's performance, Construction and installation of the Work.

1.22. Field Clarifications. A written or graphic document consisting of supplementary details, instructions or information issued on behalf of the District which clarifies or supplements the Contract Documents and which becomes a part of the Contract Documents upon issuance. Field Clarifications do not constitute an adjustment of the Contract Time or the Contract Price, unless a Change Order relating to a Field Clarification is authorized and issued under the Contract Documents. The Contractor's obligations under the Contract Documents include performance and completion of Work noted in Field Clarifications.

1.23. Defective or Non-Conforming Work. Defective or non-conforming Work is any Work which is unsatisfactory, faulty or deficient by: (i) not conforming to the requirements of the Contract Documents; (ii) not conforming to the standards of workmanship of the applicable trade or industry; (iii) not being incompliance with the requirements of any inspection, reference, standard, test, or approval required by the Contract Documents; or (iv) damage occurring prior to Final Completion of all of the Work. The Contractor shall promptly correct, repair or replace any portion of the Work subject to a Notice of Non-Compliance.

1.24. Delivery. The term "delivery" used in conjunction with any equipment, materials or other items to be incorporated into the Work shall mean the unloading and storage in a protected condition pending incorporation into the Work.

1.25. Notice to Proceed. The Notice to Proceed is the written notice issued by or on behalf of the District to the Contractor authorizing the Contractor to proceed with commencement of the Work and which establishes the date for commencement of the Contract Time.

1.26. Progress Reports; Verified Reports. Progress Reports are written reports prepared by the Contractor and its Subcontractors on a daily basis. Daily Progress Reports shall be completed and submitted to the District not later than 9:00 A.M. of the ensuing business day. Daily Progress Reports must include: (i) the number of labor and supervising personnel at the Site; (ii) the labor/work classification of each laborer; (iii) a detailed description of the Work in progress and completed; (iv) weather/environmental conditions; and (v) problems encountered with a potential impact to the Contract Time or the Contract Price. Verified Reports are periodic written reports prepared by the Contractor and submitted to the DSA; Verified Reports shall be in such form and content as required by the applicable provisions of Title 24 of the California Code of Regulations. A material obligation of the Contractor is the preparation of complete and accurate Progress Reports, if required, and Verified Reports as well as the timely submission of the same.

1.27. Laws. The term "Laws" as used in the Contract Documents shall refer to all laws, ordinances, codes, rules and/or regulations promulgated by any governmental or quasi-governmental agency with jurisdiction over any portion of the Work and which apply to any portion of the Work. Laws refer to those enacted and in effect as of the execution of the Agreement, amendments thereto occurring during the performance of the Work and subsequently enacted Laws that take effect during the performance of the Work. No adjustment of the Contract Time or the Contract Price shall be allowed for the Contractor's compliance with the Laws.

1.28. Construction Change Directive. A Construction Change Directive is a written instrument issued by or on behalf of the District to the Contractor directing a Change to the Work prior to the Contractor and District reaching full agreement on an adjustment of the Contract Time and/or Contract Price on account of such Change. A material obligation of the Contractor is timely performance of Work noted in a Construction Change Directive. A Construction Change Directive may be effectuated by issuance of a Field Order or similar instruction by the Architect when authorized by the District.

2. DISTRICT

2.1. Information Required of the District.

2.1.1. Surveys; Site Information. Information, if any, concerning physical characteristics of the Site, including without limitation, surveys, soils reports, and utility locations, to be provided by the District are set forth in the Contract Documents. Information not provided by the District or necessary information in addition to that provided by the District concerning physical characteristics of the Site which is required shall be obtained by Contractor without adjustment to the Contract Price or the Contract Time.

2.1.2. Permits; Fees. Except as otherwise provided in the Contract Documents, the District shall secure and pay for necessary permits, approvals, easements, assessments and charges required for Construction, use or occupancy of permanent structures or for permanent changes in existing facilities which are part of the Work. If permits or other authorization of public authorities with jurisdiction over any portion of the Work are designated as the responsibility of the Contractor under the Contract Documents, the Contractor shall be solely responsible for obtaining the same. The cost of such permits or authorizations and any costs incurred by the Contractor in obtaining such permits shall be included within the Contract Price, unless otherwise expressly provided for in the Contract Documents. Notwithstanding any provision of the Contract Documents the contrary, without adjustment of the Contract Time or the Contract Price, the Contractor shall pay for and obtain the following as necessary for completion or performance of the Work: (i) temporary Fire Department permits for temporary material handling, storage and/or dispensing facilities for fuel, oil, liquid or gasses; (ii) Air Quality Management District permits relating to temporary facilities used in connection with any portion of the Work; and (iii) City of Lynwood business license.

2.1.3. Drawings and Specifications. Without adjustment of the Contract Time or the Contract Price, the Contractor shall be responsible for completing all Work and other obligations of the Contractor under the Contract Documents. At the commencement of the Work, the District, through the Project Manager or the Architect, will provide the Contractor with the number of sets of the Contract Documents indicated in the Special Conditions. The Contractor may obtain additional sets of the Contract Documents at the cost of reproduction.

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

2.2. District's Right to Stop the Work. In addition to the District's right to suspend the Work or terminate the Contract pursuant to the Contract Documents, the District, may, by written order, direct the Contractor to stop the Work, or any portion thereof, until the cause for such stop work order has been eliminated if the Contractor: (i) fails to correct Work which is not in conformity and in accordance with the requirements of the Contract Documents, or (ii) otherwise fails to carry out the Work in conformity and accordance with the Contract Documents. The right of the District to stop the Work hereunder shall not be deemed a duty on the part of the District to exercise such right for the benefit of the Contractor or any other person or entity, nor shall the District's exercise of such right waive or limit the exercise of any other right or remedy of the District under the Contract Documents or at law. If Work is stopped or suspended pursuant to the foregoing, the Contract Price and the Contract Time are not subject to adjustment. The Construction Manager shall be authorized to exercise and enforce the rights of the District under this Article 2.2.

2.3. Partial Occupancy or Use.

2.3.1. District's Right to Partial Occupancy. The District may occupy or use any completed or partially completed portion of the Work, provided that: (i) the District has obtained the consent of, or is otherwise authorized by, public authorities with jurisdiction thereof, to so occupy or use such portion of the Work and (ii) the District and the Contractor have accepted, in writing, the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, utilities, damage to the Work, insurance and the period for correction of the Work and commencement of warranties required by the Contract Documents for such portion of the Work partially used or occupied by the District. If the Contractor and the District are unable to agree upon the matters set forth in (ii) above, the District may nevertheless use or occupy any portion of the Work, with the responsibility for such matters subject to resolution in accordance with the Contract Documents. Immediately prior to such partial occupancy or use of the Work, or portions thereof, the District, the Project Inspector, the Contractor, Project Manager, and the Architect shall jointly inspect the portions of the Work to be occupied or to be used to determine and record the condition of the Work. Repairs, replacements or other corrective action noted in such inspection shall be promptly performed and completed by the Contractor so that the portion of the Work to be occupied or used by the District is in conformity with the requirements of the Contract Documents and the District's occupancy or use thereof is not impaired. The District's use or occupancy of the Work or portions thereof pursuant to the preceding shall not be deemed "completion" of the Work as that term is used in Public Contract Code §7107.

2.3.2. No Acceptance of Defective or Nonconforming Work. Unless otherwise expressly agreed upon by the District and the Contractor, the District's partial occupancy or use of the Work or any portion thereof, shall not constitute the District's acceptance of Defective or Non-Conforming Work. Notwithstanding the District's partial occupancy of the Work, the Contractor shall promptly correct, repair or replace all Defective or Non-Conforming Work in areas partially occupied by the District.

2.4. Project Inspector.

2.4.1. Authority of Project Inspector. In addition to the authority and rights of the Project Inspector as provided for elsewhere in the Contract Documents and/or the Laws, all of the Work shall be performed under the observation of the Project Inspector. The foregoing notwithstanding, the Contractor shall not perform any Work deviating from the Contract Documents solely on the basis of direction by the Project Inspector; such deviations shall be deemed defective or non-conforming Work subject to correction or replacement at the sole cost of the Contractor and without adjustment of the Contract Time. The performance of the duties of the Project

Inspector shall not relieve or limit the Contractor's performance of its obligations under the Contract Documents.

2.4.2. Limitations on Project Inspector. The Project Inspector does not have authority to interpret the Contract Documents or to modify the Work depicted in the Contract Documents. The Project Inspector has no authority relative to the content or scope of the Contractor's safety plan/program. The Contractor shall not perform any Work deviating from the Contract Documents solely on the basis of direction by the Project Inspector; such deviations shall be deemed Defective or Non-Conforming Work subject to correction or replacement at the sole cost of the Contractor and without adjustment of the Contract Time.

2.4.3. Contractor Access for Project Inspector. The Contractor shall provide the Project Inspector with access to all parts of the Work at any time, wherever located and whether partially or completely fabricated, manufactured, furnished or installed.

2.4.4. Contractor and District Responsibilities for Costs and Fees of Project Inspector. The District is responsible only for payment of the fees of the Project Inspector for standard eight (8) hour work days Mondays through Fridays, excepting holiday days ("Project Inspector Standard Workdays"). Unless the District directs the Contractor to perform Work exceeding the Project Inspector Standard Workdays, for any Work performed by the Contractor outside the Project Inspector Standard Workdays, the Contractor shall be responsible for payment of Project Inspector fees for Project Inspector services relating to such Work. All services provided by the Project Inspector exceeding an eight (8) hour workday Mondays through Fridays and/or the first eight (8) hours on Saturdays shall be at one and one-half (1½) times the Project Inspector's basic hourly rate. All hours of service provided by the Project Inspector in excess of eight (8) hours on Saturdays, and all hours of service provided by the District's Inspector on holiday days or on Sundays are at two (2) times the Project Inspector's basic hourly rate. Fees for services provided by the Project Inspector beyond the Project Inspector Standard Workdays set forth above are the sole responsibility of the Contractor; the District may deduct such fees from the Contract Price then or thereafter due the Contractor.

3. PROJECT MANAGER AND CONTRACT ADMINISTRATION

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

3.2. Project Manager Periodic Site Observations. The Project Manager will visit the Site at intervals appropriate to the stage of Construction to become generally familiar with the progress and quality of the completed Work and to determine, in general, if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. The Architect will not be required to make exhaustive or continuous Site inspections to check quality or quantity of the Work. On the basis of Site observations as an architect, the Architect will keep the District informed of the progress of the Work, and will endeavor to guard the District against defects and deficiencies in the Work.

3.3. Contractor Responsibility for Construction Means, Methods and Sequences. Neither the District, Project Inspector, Architect or the Project Manager will have control over or charge of and be responsible for Construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, these being solely the Contractor's responsibility. The District, Architect, Project Inspector or Project Manager have no control over or charge of and are not responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

3.4. Review of Applications for Payment. The Architect, Project Inspector and Project Manager will each review the Contractor's Applications for Progress Payments and for Final Payment, evaluate the extent of Work performed and certify to the District the amount properly due the Contractor on such Application for Payment.

3.5. Rejection of Work. The Architect and/or Project Manager are authorized to reject Work which is defective or does not conform to the requirements of the Contract Documents. Whenever the Architect, Project Inspector or the Project Manager consider it necessary or advisable, for implementation of the intent of the Contract Documents, they shall have authority to require additional inspections or testing of the Work, whether or not such Work is fabricated, installed or completed. The authority of the Architect, Project Inspector or the Project Manager or a decision made in good faith by the Architect, Project Inspector or Project Manager to exercise or not to exercise such authority shall not give rise to a duty or responsibility to the Contractor, Subcontractors, Material Suppliers, their agents or employees, or other persons performing portions of the Work.

3.6. Submittals.

3.6.1. Processing of Submittals. Submittals required by the Contract Documents shall be prepared by or on behalf of the Contractor in accordance with the requirements of the Contract Documents. If the District retains a Project Manager for the Work, Submittals shall be transmitted by the Contractor to the Project Manager for distribution by the Project Manager to the Architect and the District. Upon completion of the Architect's review of a Submittal, the Project Manager shall transmit the reviewed Submittal to the Contractor for the Contractor's distribution to its Subcontractor(s) and other affected parties. If the District does not retain a Project Manager for the Work, Submittals shall be submitted by the Contractor to the Architect or such other party designated in the Contract Documents or by the Architect for review and processing.

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

3.6.3. Time for Architect's Review. The Architect's review of Submittals will be conducted promptly so as not to delay or hinder the progress of the Work or the activities of the Contractor, the District or the District's separate contractors while allowing sufficient time, in the Architect's reasonable professional judgment, to permit adequate review of Submittals. The foregoing

notwithstanding, the Architect's review and return of Submittals will conform with the time limits and other conditions, if any, set forth in the Specifications or the Submittal Schedule if the Submittal Schedule is required by other provisions of the Contract Documents.

3.7. Changes to the Work; Change Orders. The District will prepare Change Orders, and with the written approval of the District, may authorize minor Changes in the Work which do not result in adjustment of the Contract Time or the Contract Price. The District is authorized to issue Field Clarifications and Field Orders.

3.8. Completion. The Architect, Project Inspector and the Project Manager will conduct observations to determine the date(s) of Substantial Completion and the date(s) of Final Completion. The Project Manager will receive from the Contractor and forward to the District, for the District's review and records, written warranties and related documents or other items required by the Contract Documents upon close-out of the Work which are assembled by the Contractor. If a Project Manager is not retained for the Work, the Contractor shall submit such items to the Architect for forwarding to the District. The Architect, Project Inspector and Project Manager will verify that the Contractor has complied with all requirements of the Contract Documents and is entitled to receipt of Final Payment.

3.9. Interpretation of Contract Documents; Architect as Initial Arbiter of Disputes. The Architect will interpret and decide matters concerning the requirements of the Contract Documents on written request of either the District or the Contractor. The Architect's response to such requests will be made with reasonable promptness and within the time limits agreed upon, if any. If no agreement is reached establishing the time for the Architect's review and response to requests, the Architect shall be afforded a ten (10) calendar day period after receipt of such request to review and respond thereto. Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both the District and the Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith. The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents. If there is any disagreement, dispute or other matter in controversy between the District and the Contractor, in addition to other requirements established by the Contract Documents or by law, the submission of the same to the Architect for its decision shall be a condition precedent to initiation of dispute resolution procedures.

3.10. Request for Information. If the Contractor encounters any condition which the Contractor believes, in good faith and with reasonable basis, is the result of an ambiguity, conflict, error or omission in the Contract Documents (collectively "the Conditions"), it shall be affirmative obligation of the Contractor to timely notify the Architect and the Project Manager, in writing, of the Conditions encountered and to request an interpretation from the Architect necessary to address and resolve any such Conditions before proceeding with any portion of the Work affected or which may be affected by such Conditions. If the Contractor fails to timely notify the Architect and the Project Manager in writing of any Conditions encountered and the Contractor proceeds to perform any portion of the Work containing or affected by such Conditions the Contractor shall bear all costs associated with or required to correct, remove, or otherwise remedy any portion of the Work affected thereby without adjustment of the Contract Time or the Contract Price. In requesting an interpretation of the Architect to address and resolve any Conditions the Contractor shall act with promptness in submitting any such written request so as to allow the Architect a reasonable period of time to review, evaluate and respond to any such request, taking into account the current status of the progress and completion of the Work and the actual or potential impact of any such Conditions upon the completion of the Work within the Contract Time. The Contract Time shall not be subject

to adjustment in the event that the Contractor shall fail to timely request information from the Architect. If the Architect reasonably determines that any of Contractor's request(s) for information: (i) does not reflect adequate or competent supervision or coordination by the Contractor or any Subcontractor; or (ii) does not reflect the Contractor's adequate or competent knowledge of the requirements of the Work or the Contract Documents; or (iii) is not justified for any other reason, Contractor shall be liable to the District for all costs incurred by the District associated with the processing, reviewing, evaluating and responding to any such request for interpretation, including without limitation, fees of the Project Manager and the Architect as well as any other design consultant to the Architect or the District. If the Contractor requests further clarification of a response to a Request for Interpretation, the subsequent Request for Interpretation shall be identified by the same number as the initial Request for Information followed by an alphabetical letter, beginning with the letter "A". In responding to any of Contractor's Request(s) for Interpretation, the Architect shall, in the response, indicate if the Architect has made the determination pursuant to the preceding sentence and, if so, the amount of costs to be borne by the Contractor for the processing, review, evaluation and response to the Request for Interpretation. Thereafter, the District is authorized to deduct such amount from any portion of the Contract Price then or thereafter due the Contractor.

3.11. Communications. All communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; verbal communications shall be reduced to writing. Communications between the Contractor and the District or the Architect shall be through the Project Manager, if one is retained for the Work. Communications between the Contractor and the District's separate contractors, if any, shall be through the District. All written communications between the Contractor and any Subcontractor, Material Supplier or others directly or indirectly engaged by the Contractor to perform or provide any portion of the Work shall be available to the District, the Project Manager and the Architect for review, inspection and reproduction as may be requested from time to time. Failure or refusal of the Contractor to permit the District, the Project Manager or Architect to review, inspect or reproduce such written communications may be deemed a default of Contractor hereunder. The District reserves the right to implement a computerized data logging and storage system for communications relating to the Work. The Contractor's use and access to such data logging systems will be as established by the District and the Project Manager. The Contractor's use of the data logging system will be without charge or expense to the Contractor; provided, however, the Contract Time and the Contract Price shall not be subject to adjustment on account of the use of the data logging system or training of the Contractor's personnel on the use and functions of the data logging system.

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

4. THE CONTRACTOR

4.1. Contractor Review of Contract Documents.

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

shall bear all attributable costs for correction of the same.

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

4.1.3. Dimensions; Layouts and Field Engineering. Unless otherwise expressly provided, dimensions indicated in the Drawings are intended for reference only. The Drawings are intended to be diagrammatic and schematic in nature; the Contractor shall be solely responsible for coordinating the Work of the Contract Documents. All field engineering required for laying out the Work and establishing grades for earthwork operations shall be by the Contractor at its expense. Any field engineering or other engineering to be provided or performed by the Contractor under the Contract Documents and required or necessary for the proper execution or installation of the Work shall be provided and performed by an engineer duly registered under the laws of the State of California in the engineering discipline for such portion of the Work. Upon commencement of any item of the Work, the Contractor is responsible for dimensions of such item of Work and related Work; without adjustment of the Contract Time or Contract Price, the Contractor is responsible for making component parts of the Work fit together properly. Before ordering any materials or doing any Work, the Contractor and each Subcontractor shall verify measurements and shall be responsible for the correctness and accuracy of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings. Any difference between actual field dimensions and those indicated in the Drawings shall be submitted to the Architect for resolution before proceeding with the Work in affected areas.

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

4.2. Site Investigation; Subsurface Conditions.

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

4.2.2. Subsurface Data. By executing the Agreement, the Contractor acknowledges that it has examined the boring data and other subsurface data available and satisfied itself as to the character, quality and quantity of surface and subsurface materials, including without limitation, obstacles which may be encountered in performance of the Work, insofar as this information is reasonably ascertainable from an inspection of the Site, review of available subsurface data and analysis of information furnished by the District under the Contract Documents. Subsurface data or other soils investigation report provided by the District hereunder are not a part of the

Contract Documents. Information contained in such data or report regarding subsurface conditions, elevations of existing grades, or below grade elevations are approximate only and is neither guaranteed or warranted by the District to be complete and accurate. The Contractor shall examine all boring and other subsurface data to make its own independent interpretation of the subsurface conditions and acknowledge that its bid is based upon its own opinion of the conditions which may be encountered.

4.2.3. Subsurface Conditions. If the Work under the Contract Documents involves digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall promptly and before the following conditions are disturbed, notify the Project Inspector, in writing, of any: (i) material that the Contractor believes may be material that is hazardous waste, as defined in California Health and Safety Code §25117, that is required to be removed to a Class I or Class II or Class III disposal site in accordance with provisions of existing law; (ii) subsurface or latent physical conditions at the site differing from those indicated; or (iii) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the Work or the character provided for in the Contract Documents. If upon notice to the District of the conditions described above and upon the District's investigation thereof, the District determines that the conditions so materially differ or involve such hazardous materials which require an adjustment to the Contract Price or the Contract Time, the District shall issue a Change Order in accordance with Article 9 hereof. In accordance with California Public Contract Code §7104, any dispute arising between the Contractor and the District as to any of the conditions listed in (i), (ii) or (iii) above, shall not excuse the Contractor from the completion of the Work within the Contract Time and the Contractor shall proceed with all Work to be performed under the Contract Documents. The District reserves the right to terminate the Contract pursuant to Article 15.2 hereof should the District determine not to proceed because of any condition described in (i), (ii) or (iii) above.

4.3. Supervision and Construction Procedures.

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

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

4.3.3. Layouts; Surveys. The Contractor is solely responsible for laying-out the Work so that Construction of the Work conforms to the requirements of the Contract Documents and so that all component parts of the Work are coordinated. The Contractor is responsible for maintenance and preservation of benchmarks, reference points and stakes for the Work, with all costs associated therewith included in the Contract Price. The Contractor is solely responsible for all loss or costs resulting from the loss, destruction, disturbance or damage of benchmarks, reference points or stakes.

4.3.4. Waste Materials. Every effort should be made by the contractor to recycle all waste materials removed from the District. The State requires 50% of all waste (by weight) to be recycled. In an effort to maintain this compliance, Contractor shall submit all weight tickets, bill of ladings or tonnage reports of any waste materials sent out for recycling from a work site within the West Valley-Mission Community College District. Copies of the documents shall be submitted to the Project Manager. Final payment will be contingent upon receipt of these documents.

4.3.5. Construction Utilities. The District will furnish and pay the costs of utility services for the Work as set forth in the Special Conditions; all other utilities necessary to complete the Work and the Contractor's obligations, including utility connections, temporary distributions, temporary transformers, routing, and removal thereof at completion of the Work shall be obtained by the Contractor without adjustment of the Contract Price or the Contract Time. The installation and/or removal of any such temporary utility services and distributions by the Contractor shall be coordinated with the District's facilities operations and other District activities at the Site, so operations and activities at or about the Site are not interrupted and utility services are not impaired or interrupted.

4.3.6. Existing Utilities; Removal, Relocation and Protection.

4.3.6.1. Contractor Responsibility for Locating Utilities. The Contractor is responsible for locating all below grade drainage lines, storm drains, sewers, domestic water, gas, electrical, hot water and irrigation utility services, vaults, duct banks and other similar items or utilities services (collectively "Underground Facilities") which are shown in the Drawings or other portions of the Contract Documents; or (ii) which are identified in information relating to Underground Facilities maintained by the regional notification center, "Underground Service Alert" ("USA"). Contractor shall locate and mark locations of the Underground Facilities shown in the Contract Documents and information relating to Underground Facilities maintained by USA before proceeding with Work that may: (i) damage, destroy or impair Underground Facilities; or (ii) limit, disrupt or interrupt utility services provided through Underground Facilities. Prior to commencing Work in the proximity of Underground Facilities or other underground structures that can be readily inferred from adjacent surface improvements, Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, such utilities or installations that are to remain and that are subject to damage, destruction or disruption.

4.3.6.2. Contractor Responsibility for Damage to Underground Facilities. Without adjustment of the Contract Time or the Contract Price, the Contractor shall repair or replace all damage to or destruction of Underground Facilities occurring during performance of the Work. All such repairs or replacements shall be with materials, equipment and other items consistent with those in place prior to commencement of the Work and when the repair or replacement is completed, the Underground Facilities shall be in the same functional and operational condition as prior to the damage or destruction.

4.3.6.3. Contractor Responsibility for Maintaining Utility Services. The Contractor shall maintain in service all utility services provided through the Underground and Overhead Facilities unless the Contractor has notified the District and Construction Manager in writing of utility service disruptions at least three (3) working days in advance of the anticipated disruption of utility services. Notwithstanding the Contractor's notice pursuant to the foregoing, the District may, in the sole discretion of the District, direct alternative times/days for the anticipated utility service disruption as necessary for conduct of on-going activities or operations of the District at and about the Site. The Contractor shall be liable for all costs, fees or charges incurred by the District to provide utility services

if there is disruption, interruption or limitation of any utility services for which the Contractor has not provided the advance written notice of utility disruption pursuant to the foregoing. The District may deduct such costs, fees or charges from the Contract Price then or thereafter due the Contractor. Utilities include heating, A/C, plumbing and electrical.

4.3.6.4. Unmarked; Unknown Utilities. Additional Underground Facilities not shown in the Contract Documents or USA data may exist on or about the Site. The Contractor shall be alert to their existence; if they are encountered, Contractor shall immediately report such Underground Facilities to the Project Inspector, Project Manager and District for disposition of the same prior to disturbing any existing condition. In accordance with California Government Code §4215, the District is responsible for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Site which are not identified in the Contract Documents. Contractor shall be compensated for the costs of locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Contract Documents with reasonable accuracy, and for equipment on the Site necessarily idled during such work. Contractor shall not be assessed Liquidated Damages for delay in completion of the Work when such delay is caused by the failure of the District or the District of the utility to provide for removal or relocation of such utility facilities. Nothing in this Article 4.3.6 shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, meters and junction boxes, on or adjacent to the Site. If such utility facilities are owned by a public utility, the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

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

4.3.7.1. Pre-Construction Conference. The Contractor's representatives (and representatives of Subcontractors as requested by the District) shall attend a Pre- Construction Conference at such time and place as designated by the District. The Pre- Construction Conference will generally address the requirements of the Work and Contract Documents, and to establish Construction procedures. Subject matters of the Pre- Construction Conference will include as appropriate: (i) responsibilities of the Contractor and Subcontractor under the OCIP; (ii) administrative matters, including an overview of the respective responsibilities of the District, Architect, Project Manager, Contractor, Subcontractors, Project Inspector and others performing any part of the Work or services relating to the Work; (iii) Submittals; (iv) Changes and Change Order processing; (v) employment practices, including Certified Payroll preparation and submission, prevailing wage rate responsibilities of the Contractor and Subcontractors, compliance with apprenticeship standards and Division of Labor Standards ("DSLE") monitoring and enforcement of prevailing wage rate requirements; (vi) Progress Schedule development and maintenance; (vii) development of Schedule of Values and payment procedures; (viii)

communications procedures, including the handling of Requests for Interpretation; (ix) conduct of pre-installation meetings to plan and coordinate work of new contractors, separate contractors and to plan for utility outages; (x) emergency and safety procedures; (xi) Site visitor policies; (xii) conduct of Contractor/Subcontractor personnel at the Site; (xiii) punchlist/close-out procedures; and (xiv) Contractor and Subcontractor DIR Contractor Registration.

4.3.7.2. Progress Meetings. Progress meetings will be conducted on regular intervals (weekly unless otherwise expressly indicated elsewhere in the Contract Documents). The Contractor's representatives and representatives of Subcontractors (as requested by the District) shall attend Progress Meetings. Progress Meetings will be chaired by the Project Manager, District or Architect and will generally include as agenda items: Site safety, field issues, coordination of Work, a review of a three week look-ahead schedule prepared by the Contractor's Superintendent, Construction progress and impacts to timely completion, if any. The purposes of the Progress Meetings include: a formal and regular forum for discussion of the status and progress of the Work by all Project participants, a review of progress or resolution of previously raised issues and action items assigned to the Project participants, and reviews of the Progress Schedule and Submittals.

4.3.7.3. Pre-Installation Conference. The Contractor's representatives (and representatives of Subcontractors as requested by the District or the Project Manager) shall attend a Pre-Installation Conference prior to the initiation of a new phase of Work or in connection with the delivery and installation of major items of equipment incorporated into the Work. Pre-Installation Conferences will generally address the requirements of the new phase of Work and Contract Documents, and/or to coordinate delivery and installation of major equipment items.

4.3.7.4. Special Meetings. As deemed necessary or appropriate by the District, Special Meetings will be conducted with the participation of the Contractor, Subcontractors and other Project participants as requested by the District. Attendance of the Contractor, Subcontractors and others as directed by the District at Special Meetings is a material obligation of the Contractor under the Contract Documents.

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

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

4.3.9. Noise and Dust Control.

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

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

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

4.4. Labor and Materials.

4.4.1. Payment for Labor, Materials and Services. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools,

Construction Equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated in the Work.

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

4.4.3. Compliance with Immigration Reform and Control Act of 1986. The Contractor is solely and exclusively responsible for employment of individuals for the Work of the Contract in conformity with the Immigration Reform and Control Act of 1986, 8 USC §§1101 et seq. (the "IRCA"); the Contractor shall also require Subcontractors and any other person or entity employing labor in connection with any of the Work to similarly comply with the IRCA. The foregoing includes without limitation, verification that individuals engaged in any Work are legally entitled to do so.

4.4.4. Contractor's Project Manager and Superintendent.

4.4.4.1. Qualifications of Contractor's Superintendent and Contractor Project Manager. Prior to start of Work at the Site, the Contractor shall submit in writing to the District and Project Manager, the qualifications of the Contractor's proposed superintendent ("Contractor Superintendent") and the Contractor's proposed Project Manager ("Contractor PM") for acceptance by the Project Manager and District. The Contractor's proposed Contractor Superintendent and proposed Contractor PM shall each have recent experience in similar types of Construction to the Work. The Contractor's proposed Contractor Superintendent and Contractor PM shall be satisfactory to the District and Project Manager and shall not be changed during the Work unless the Contractor's employment of the Contractor Superintendent or Contractor PM is terminated by the Contractor for cause or the Contractor Superintendent or Contractor PM voluntary ceases employment by the Contractor. The Contractor shall dismiss the Contractor Superintendent or the Contractor PM if they are deemed, in the sole reasonable judgment of the District, to be unfit, incompetent or incapable of performing the functions assigned to them. In such an event, the District shall have the right to approve of the replacement Contractor Superintendent or Contractor Project Manager, as applicable.

4.4.4.2. Contractor Superintendent. Competency of the Contractor Superintendent shall include, without limitation, a minimum of three (3) years prior experience as a superintendent for a general contractor on projects similar in size, scope and complexity to the Work. The Contractor's communications relating to the Work or the Contract Documents shall be through the Contractor Superintendent. The Contractor Superintendent shall represent the Contractor and communications given to the Contractor Superintendent shall be binding as if given to the Contractor.

4.4.4.3. Contractor Project Manager. The Contractor shall employ a Contractor PM who shall be a senior management employee of the Contractor. The Contractor PM shall be at the Site periodically to observe the progress and quality of the Work in progress and in place. The Contractor PM shall be responsible for directing and coordinating human and

material resources of the Contractor and Subcontractors throughout the course of the Work using management techniques so that the Work is completed for the Contract Price and within the Contract Time.

4.4.5. Prohibition on Harassment.

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

4.4.5.2. Contractor's Adoption of Anti-Harassment Policy. Contractor shall adopt and implement all appropriate and necessary policies prohibiting any form of discrimination in the workplace, including without limitation harassment on the basis of any classification protected under local, state or federal law, regulation or policy. Contractor shall take all reasonable steps to prevent harassment from occurring, including without limitation affirmatively raising the subject of harassment among its employees, expressing strong disapproval of any form of harassment, developing appropriate sanctions, informing employees of their right to raise and how to raise the issue of harassment and informing complainants of the outcome of an investigation into a harassment claim. Contractor shall require that any Subcontractor or Sub- subcontractor performing any portion of the Work to adopt and implement policies in conformity with this Article 4.4.5.

4.4.5.3. Prohibition on Harassment at the Site. Contractor shall not permit any person, whether employed by Contractor, a Subcontractor, Sub-subcontractor, or any other person or entity, performing any Work at or about the Site to engage in any prohibited form of harassment. Any such person engaging in a prohibited form of harassment directed to any individual performing or providing any portion of the Work at or about the Site shall be subject to appropriate sanctions in accordance with the anti-harassment policy adopted and implemented pursuant to Article 4.4.5.2 above. Any person, performing or providing Work on or about the Site engaging in a prohibited form of harassment directed to any student, faculty member or staff of the District or directed to any other person on or about the Site shall be subject to immediate removal and shall be prohibited thereafter from providing or performing any portion of the Work. Upon the District's receipt of any notice or complaint that any person employed directly or indirectly by Contractor in performing or providing the Work has engaged in a prohibited form of harassment, the District will promptly undertake an investigation of such notice or complaint. In the event that the District, after such investigation, reasonably determines that a prohibited form of harassment has occurred, the District shall promptly notify the Contractor of the same and direct that the person engaging in such conduct be immediately removed from the Site. Unless the District's determination that a prohibited form of harassment has occurred is grossly negligent or without reasonable cause, District shall have no liability for directing the removal of any person determined to have engaged in a prohibited form of harassment nor shall the Contract Price or the Contract Time be adjusted on account thereof. Contractor and the Surety shall defend, indemnify and hold harmless the District and its employees, officers, agents, and representatives

from any and all claims, liabilities, judgments, awards, actions or causes of actions, including without limitation, attorneys' fees, which arise out of, or pertain in any manner to: (i) the assertion by any person dismissed from performing or providing work at the direction of the District pursuant to this Article 4.4.5.3; or (ii) the assertion by any person that any person directly or indirectly under the employment or direction of the Contractor has engaged in a prohibited form of harassment directed to or affecting such person. The obligations of the Contractor and the Surety under the preceding sentence are in addition to, and not in lieu of, any other obligation of defense, indemnity and hold harmless whether arising under the Contract Documents, at law or otherwise; these obligations survive completion of the Work or the termination of the Contract.

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

4.6. Permits, Fees and Notices; Compliance with Laws.

4.6.1. Payment of Permits, Fees. Unless otherwise provided in the Contract Documents, the District shall secure and pay for the building permits, other permits, governmental fees, licenses and inspections necessary or required for the proper execution and completion of the Work. The foregoing notwithstanding, whether or not set forth in the Special Conditions, without adjustment of the Contract Price, the Contractor shall pay all fees, costs or other expenses associated with or arising in connection with Deferred Approval Items.

4.6.2. Compliance with Laws. The Contractor shall comply with and give notices required by the Laws and other orders of public authorities bearing on performance of the Work. All Work completed by the Contractor shall be in compliance with the Laws.

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

4.6.4. DIR Registration. At all times during the Work, the Contractor shall be a DIR registered contractor. Performance of any Work by the Contractor without the Contractor being a DIR registered contractor at the time Work is performed is the Contractor's default in performance of a material obligation of the Contractor under the Contract Documents.

4.7. Submittals.

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

4.7.2. Contractor's Submittals.

4.7.2.1. Prompt Submittals. The Contractor shall review, approve and submit to the

Project Manager and Architect or such other person or entity designated by the District, the number of copies of Submittals required by the Contract Documents. All Submittals required by the Contract Documents shall be prepared, assembled and submitted by the Contractor to the Project Manager and the Architect within the time frames set forth in the Submittal Schedule incorporated and made a part of the Approved Construction Schedule prepared and submitted by the Contractor pursuant to Article 7 of these General Conditions. Contractor's submission of Submittals in conformity with the Submittal Schedule is a material obligation of the Contractor. In the event of Contractor's failure or refusal to prepare and deliver Submittals in accordance with the Submittal Schedule, the Contractor shall be subject to per diem assessments in the amount set forth in the Special Conditions for each day of delayed submission for any Submittal beyond the date set forth in the Submittal Schedule for Contractor's submission of such Submittal. Contractor and District acknowledge and agree that if Contractor shall fail to deliver Submittals in accordance with the Submittal Schedule, the District will incur costs and expenses not contemplated by the Contract Documents, the exact amount of which are difficult to ascertain and fix. Contractor and the District acknowledge and agree that the per diem assessment for delayed submission of Submittals set forth in the Special Conditions represents a reasonable estimate of costs and expenses the District will incur as a result of delayed submission of Submittals and that the same is not a penalty. Notwithstanding Contractor's submission of all required Submittals in accordance with the Submittal Schedule, in the event that the District or the Architect reasonably determines that all or any portion of such Submittals fail to comply with the requirements of Articles 4.7.2.2, 4.7.2.3 and 4.7.2.4 of these General Conditions and/or such Submittals are not otherwise complete and accurate so as to require resubmission, Contractor shall submit revised Submittals within seven (7) days and bear all costs associated with the review and approval of resubmitted Submittals, including without limitation Architect's fees incurred in connection therewith; provided that such costs are in addition to, and not in lieu of, any per diem assessments imposed under this Article 4.7.2.1 for Contractor's delayed submission of Submittals. In the event of the District's imposition of the per diem assessments due to the Contractor's delayed submission of Submittals or in the event of the District's assessment of costs and expenses incurred to review incomplete or inaccurate Submittals, the District may deduct the same from any portion the Contract Price then or thereafter due the Contractor. Submittals not required by the Contract Documents or which do not otherwise conform with the requirements of the Contract Documents may be returned without action. No adjustment to the Contract Time or the Contract Price shall be granted to the Contractor on account of its failure to make timely submission of any Submittal.

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

4.7.2.3. Verification of Submittal Information. By approving and submission of Submittals, the Contractor represents to the District, Project Manager and Architect that the Contractor has determined and verified materials, field measurements, field Construction criteria,

catalog numbers and similar data related thereto and has checked and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents. Each Submittal shall include the following certification duly executed by the Contractor's Superintendent for the Work:

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

4.7.2.4. Information Included in Submittals. All Submittals shall be accompanied by a written transmittal or other writing by the Contractor providing an identification of the portion of the Drawings or the Specifications pertaining to the Submittal, with each Submittal numbered consecutively for ease of reference along with the following information: (i) date of submission; (ii) project name; (iii) name of submitting Subcontractor; and (iv) if applicable, the revision number. The foregoing information is in addition to, and not in lieu of, any other information required by the Contract Documents for the Architect's review, evaluation and acceptance of the Contractor's Submittals.

4.7.2.5. Contractor Responsibility for Deviations. The Contractor shall not be relieved of responsibility for correcting deviations from the requirements of the Contract Documents by the Architect's review of Submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission of the Submittal and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Submittals by the Architect's review thereof.

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

4.7.3. Architect Review of Submittals. The purpose of the Architect's review of Submittals and the time for the Architect's return of Submittals to the Contractor shall be as set forth elsewhere in the Contract Documents. If the Project Manager and Architect return a Submittal as rejected or requiring correction(s) with re-submission, the Contractor, so as not to delay the progress of the Work, shall thereafter resubmit, within seven (7) days, a Submittal conforming with the requirements of the Contract Documents; the resubmitted Submittal shall indicate the portions thereof modified in accordance with the Architect's direction. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications accompanying Submittals. The Architect's review of the Submittals is for the limited purposes described in the Contract Documents.

4.7.4. Submittal Review Notations. Unless otherwise provided elsewhere in the Contract Documents, the following notations or notations of a similar nature noted on a reviewed Submittal will require the Contractor action noted below.

Architect Notation	Contractor Action
No Exceptions Taken	No formal revision required.
Make Corrections Noted	Make revision notes; re-submission of revised Submittal not required.
Revise; Re-Submit	Revise Submittal in accordance with notations and re-submit for subsequent review.
Rejected; Re-Submit	Prepare new alternative Submittal and resubmit for review.

4.7.5. Deferred Approval Items. For all Work designated in the Contract Documents as a "Deferred Approval," the Contractor shall be solely and exclusively responsible for the preparation of designs, calculations and other materials for each Deferred Approval item ("Deferred Approval Design"). Where required by the Laws or the nature of a Deferred Approval, the Deferred Approval Design shall be completed and stamped by a California licensed architect or California registered engineer. The Deferred Approval Design shall: (i) incorporate all requirements of the Deferred Approval as set forth in the Contract Documents; (ii) be coordinated with other portions of the Work; (iii) be completed in a timely manner so as not to delay, disrupt or interfere with completion of the Work within the Contract Time; and (iv) be completed in accordance with the applicable professional standard of care. The Contractor shall submit each completed Deferred Approval Design to the Architect for review and acceptance. The Contractor shall modify each Deferred Approval Design as necessary to obtain the Architect's acceptance of the entirety thereof. Upon the Architect's acceptance of a Deferred Approval Design, the Contractor shall be responsible for: (i) submittal of the Deferred Approval Design to DSA for review and approval; (ii) modifications to the Deferred Approval Design as necessary to obtain DSA approval; and (iii) payment of fees or charges imposed by DSA for review and approval of a Deferred Approval Design without adjustment of the Contract Price. Notwithstanding review and acceptance of a Deferred Approval Design by the Architect or DSA issuance of approval to Construction pursuant to the Contractor's Deferred Approval Design, the Contractor remains liable to the District for all losses, damages, costs, or other consequences of the failure of any Contractor's Deferred Approval Design to: (i) conform to the applicable design professional standard of care; (ii) conform to design intent and/or aesthetic requirements established in the Contract Documents; or (iii) perform and function in accordance with requirements established in the Contract Documents.

4.8. Materials and Equipment.

4.8.1. Specified Materials, Equipment. Except as otherwise expressly set forth in the Contract Documents, references in the Contract Documents to any specific article, device, equipment, product, material, fixture, patented process, form, method or type of Construction, by name, make, trade name, or catalog number, with or without the words "or equal" shall be deemed to establish a minimum standard of quality or performance, and shall not be construed as limiting competition. Whenever a product, material or other item is specified with reference to a Federal Specification, an ASTM Standard, an American National Standards Institute Specification, or other trade association standard (collectively, "the Standards"), the Contractor shall present an affidavit from the manufacturer when requested by the Architect or required in the Specifications, certifying the product, material or other item to be furnished and installed complies with the Standards. When requested by the Architect or required by the Contract Documents, support test data shall be submitted to substantiate compliance with the Standards.

4.8.2. Approval of Substitutions or Alternatives. The Contractor may propose to furnish alternatives or substitutes for items specified in the Contract Documents, provided that: (i) such proposed substitution or alternative complies with the requirements of the Specifications relating to

substitutions of specified items; (ii) the Contractor certifies to the Architect that the quality, performance capability and functionality (including visual and/or aesthetic effect) of the proposed alternative or substitute will meet or exceed the quality, performance capability and functionality of the item or process specified; and (iii) the Contractor demonstrates to the Architect that the use of the substitution or alternative is appropriate and will not delay completion of the Work or result in an increase to the Contract Price. The Contractor shall submit engineering, Construction, dimension, visual, aesthetic and performance data to the Architect to permit its proper evaluation of the proposed substitution or alternative. If requested by the Architect, Contractor shall promptly furnish any additional information or data regarding a proposed substitution or alternative, which the Architect deems reasonably necessary for the evaluation of the proposed substitution or alternative. The Contractor shall not provide, furnish or install any substitution or alternative without the Architect's review and final action on the proposed substitution or alternative; any alternative or substitution installed or incorporated into the Work without first obtaining the Architect's review and final action of the same shall be subject to removal pursuant to Article 12 hereof. The Architect's decision evaluating the Contractor's proposed substitutions or alternatives shall be final. Neither the Contract Time nor the Contract Price shall be increased on account of any substitution or alternative proposed by the Contractor and which is accepted by the Architect; provided, however, that in the event a substitution or alternative accepted by the Architect and purchase, fabrication and/or installation or such accepted substitution or alternative shall be less expensive than the originally specified item, the Contract Price shall be reduced by the actual cost savings realized by the Contractor's furnishing and/or installation of such approved substitution or alternative. The Contractor shall be solely responsible for all costs and fees incurred by the District to review a proposed substitution or alternative, including without limitation fees of the Architect, of the Architect's consultant(s) and/or governmental agencies to review and/or approve any proposed substitution or alternative. The Contractor shall be solely responsible for any increase in the cost of any accepted substitution or alternative or any Work affected by such alternative or substitution. The foregoing notwithstanding, all requests for the Architect's review and approval of any proposed substitution or alternative and all engineering, Construction

, dimension and performance data substantiating the equivalency of the proposed substitution or alternative shall be submitted by Contractor not later than thirty-five

(35) days following the date of the District's award of the Contract to Contractor by action of the District's Board of Education; any request for approval of proposed alternatives or substitutions submitted thereafter may be rejected summarily. The foregoing process and time limits shall apply to any proposed substitution or alternative regardless of whether the substitute or alternate item is to be provided, furnished or installed by Contractor, any Subcontractor, any Sub-Subcontractor, Material Supplier or Manufacturer.

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

4.8.4. Placement of Material and Equipment Orders. Contractor shall, after award of the Contract, promptly and timely place all orders for materials and/or equipment necessary for completion

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

4.8.5. District's Right to Place Orders for Materials and/or Equipment. Notwithstanding any other provision of the Contract Documents, in the event that the Contractor shall, upon request of

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

4.9. Safety.

4.9.1. Safety Programs. Notwithstanding any action by the District, Project Manager, Project Inspector or Architect, the Contractor shall be solely responsible for initiating, maintaining, supervising and enforcing all safety programs required by the Laws in connection with the performance of the Contract, or otherwise required by the type or nature of the Work. The Contractor's safety program shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code §§8350 et seq.). Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs. Prior to commencement of Work at the Site, the Contractor shall provide the Project Manager and the District with the Contractor's proposed safety program for the Work for review. Such review by the Project Manager and/or the District shall not operate to relieve, impair or otherwise limit the Contractor's responsibility for initiating, maintaining, supervising and enforcing safety programs. Without adjustment of the Contract Price or the Contract Time, the Contractor shall modify and re-submit its proposed safety plan to

incorporate modifications thereto requested by the Project Manager. The Project Manager is authorized to monitor the Contractor's obligation to implement the Contractor's safety program.

4.9.2. Contractor Safety Plan. Prior to commencement of Work at the Site, the Contractor shall submit to the District and the Project Manager, if any, the Contractor's Safety Plan for the Work for review and acceptance by the District. Acceptance by the District is subject to the Safety Plan conforming to requirements of the Laws, conditions at or about the Site and the nature of the Work. The Contractor shall modify its Safety Plan as necessary to obtain the District's acceptance thereof. Notwithstanding the District's acceptance of the Contractor's Safety Plan, the Contractor shall remain solely responsible for implementing the Safety Plan and implementing measures as necessary to maintain safety of persons and property at and about the Site. The District's acceptance of the Contractor's Safety Plan shall not limit, restrict or otherwise modify the Contractor's obligations relating to safety at or about the Site in accordance with the Contract Documents and the Laws.

4.9.3. Safety Precautions. The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or Subcontractors; and (iii) other property or items in, on, about or adjacent to the Site, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of Construction. The Contractor shall take adequate precautions and measures to protect existing roads, sidewalks, curbs, pavement, utilities, utility easements, adjoining property and improvements thereon (including without limitation, protection from settlement or loss of lateral support) and to avoid damage thereto. When use or storage of explosives or other hazardous materials or equipment or other hazardous Construction methods are necessary, the Contractor shall give the District, Project Inspector and Project Manager reasonable advance written notice. At all times the Contractor shall provide an adequate number of fire extinguishers or other approved fire/life-safety devices during Work at the Site. Each fire extinguisher shall be conspicuously displayed and clearly marked with instructions for use. Without adjustment of the Contract Price or the Contract Time, the Contractor shall repair, replace or restore any damage or destruction of the foregoing items as a result of performance or installation of the Work.

4.9.4. Safety Signs, Barricades. The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Districts and users of adjacent sites and utilities.

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

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

4.9.7. Emergencies; First Aid. In an emergency affecting safety of persons or property, the Contractor

shall act, to prevent threatened damage, injury or loss. The Contractor shall maintain stocked emergency first aid kits at the Site which comply with the Laws.

4.9.8. Hazardous Materials.

4.9.8.1. General. In the event that the Contractor, any Subcontractor or anyone employed directly or indirectly by them shall use, at the Site, or incorporate into the Work, any material or substance deemed to be hazardous or toxic under the Laws or interpretation thereof (collectively "Hazardous Materials"), the Contractor shall comply with the Laws and shall exercise all necessary safety precautions relating to the use, storage or disposal thereof.

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

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

4.10. Maintenance of Documents.

4.10.1. Documents at Site. The Contractor shall maintain at the Site: (i) one record copy of the Drawings, Specifications and all addenda thereto; (ii) Change Orders approved by the District and all other

modifications to the Contract Documents; (iii) Submittals reviewed by the Architect; (iv) Record Drawings; (v) Material Safety Data Sheets ("MSDS") accompanying any materials, equipment or products delivered or stored at the Site or incorporated into the Work; and (vi) all Construction and other codes or regulations applicable to the Work, including without limitation, Title 24, Parts 2, 3, 4, 5, 7 and 9 of the California Code of Regulations. During performance of the Work, all documents maintained by Contractor at the Site shall be available upon request to the District, the Project Manager, the Architect, the Project Inspector and DSA for review, inspection or reproduction. Upon completion of the Work, all documents maintained at the Site by the Contractor pursuant to the foregoing shall be assembled and transmitted to the Project Manager and the Architect for delivery to the District.

4.10.2. Maintenance of Record Drawings. During its performance of the Work, the Contractor shall maintain Record Drawings consisting of a set of the Drawings which are marked to indicate all field changes made to adapt the Work depicted in the Drawings to field conditions, changes resulting from Change Orders and all concealed or buried installations, including without limitation, piping, conduit and utility services. All buried or concealed items of Work shall be completely and accurately marked and located on the Record Drawings. The Record Drawings shall be clean and all changes, corrections and dimensions shall be marked in a neat and legible manner in a contrasting color. Record Drawings relating to the Structural, Mechanical, Electrical and Plumbing portions of the Work shall indicate without limitation, circuiting, wiring sizes, equipment/member sizing and shall depict the entirety of the as built conditions of such portions of the Work. The Record Drawings shall be continuously maintained by the Contractor during the performance of the Work. At any time during the Contractor's performance of the Work, upon the request of the District, the Project Inspector, the Project Manager and/or the Architect, the Contractor shall make the Record Drawings maintained hereunder available for the District's review and inspection. The District's review and inspection of the Record Drawings during the Contractor's performance of the Work shall be only for the purpose of generally verifying that Contractor is continuously maintaining the Record Drawings in a complete and accurate manner; any such inspection or review shall not be deemed to be the District's approval or verification of the completeness or accuracy thereof. The failure or refusal of the Contractor to continuously maintain complete and accurate Record Drawings or to make available the Record Drawings for inspection and review by the District may be deemed by the District to be Contractor's default of a material obligation hereunder. Without waiving, restricting or limiting any other right or remedy of the District for the Contractor's failure or refusal to continuously maintain the Record Drawings, the District may, upon reasonably determining that the Contractor has not, or is not, continuously maintaining the Record Drawings in a complete and accurate manner, take appropriate action to cause the continuous maintenance of complete and accurate Record Drawings, in which event all fees and costs incurred or associated with such action shall be charged to the Contractor and the District may deduct the amount of such fees and costs from any portion of the Contract Price then or thereafter due the Contractor. In accordance with Article 8.5.2 of these General Conditions, prior to receipt of the Final Payment, Contractor shall deliver the Record Drawings to the Project Manager for transmittal to the District.

4.10.3. Daily Reports by Contractor. At the end of each work day, the Contractor shall submit a daily report to the Project Manager and the Project Inspector which include at least the following: (i) subcontractors; (ii) number of laborers and classifications of work of laborers for the contractor/subcontractors, (iii) material/equipment deliveries, (iv) special tests or inspections conducted; (v) weather conditions; and (vi) encountered conditions with potential costs or time impacts.

4.11. Site.

4.11.1. Contractor's Use of Site. The Contractor shall confine operations at the Site to areas permitted by the Laws or permits relating to the Work, subject to any restrictions or limitations set forth in the Contract Documents. The Contractor shall not unreasonably encumber the Site or adjoining areas with materials or equipment. The Contractor is solely responsible for providing security at the Site with all such costs included in the Contract Price. The District shall at all times have access to the Site.

4.11.2. Limitations Upon Site Activities. Except in the circumstances of an emergency, no Construction activities shall be permitted at or about the **Site except during the District's hours and days set forth in the Special Conditions. Work performed outside of the hours and days noted in the Special Conditions will not result in adjustment of the Contract Time or the Contract Price; unless Work outside of the hours and days noted in the Special Conditions is expressly authorized by the District.** Additional or premium costs incurred by the District for Work performed outside the hours and days of Work permitted at the Site shall be borne solely and exclusively by the Contractor. The District may deduct such additional or premium costs from the Contract Price then or thereafter due the Contractor.

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

4.13. Access to the Work. The Contractor shall provide the DSA, the District, the Construction Manager, the Project Inspector, the Architect and the Architect's consultant(s) with access to the Work, whether in place, preparation or in progress and wherever located.

4.14. Information and Facilities for the Project Inspector.

4.14.1. Information to Project Inspector. The Contractor shall provide the Project Inspector with access to the Work for obtaining such information as may be necessary to keep the Project Inspector fully informed respecting the progress, quality and character of the Work and materials, equipment or other items incorporated therein. The Contractor shall furnish such other information requested by the Project Inspector as necessary for the Project Inspector's discharge of its duties and responsibilities relating to the Work.

4.14.2. Facilities and Services for Project Inspector. The Contractor shall provide, without adjustment of the Contract Price, for use by the Project Inspector, the District and Project Manager the following: (i) lockable temporary office space consisting of sufficient space to accommodate Project Inspectors assigned to the Project; (ii) furniture and furnishings consisting of desks and chairs for use by Project Inspectors assigned to the Project, file storage, one (1) conference table and seating sufficient to accommodate seating for at least four (4) people; (iii) landline phone; (iv) plain paper fax machine; (v) landline telephone and fax service; (vi) internet service; and (vii) plain paper copier with copy speed of no greater than thirty-five (35) pages per minute. If the Contractor does not provide the foregoing described facilities, furnishings, equipment, or fails to pay timely any charges or fees arising out of the use of the same, the District may, as applicable, procure facilities, furnishings, equipment and services required by the Contract Documents or pay outstanding charges. Contractor shall reimburse the District for all costs, including the District's administrative costs, incurred by the District pursuant to the preceding sentence; in lieu of the Contractor's reimbursement and at the sole and exclusive discretion of the District, such costs may be deducted by the District from any portion of the Contract Price or thereafter due the Contractor.

4.15. Patents and Royalties. The Contractor and the Surety shall defend, indemnify and hold harmless the District and its agents, employees and officers from any claim, demand or legal proceeding arising out of or pertaining, in any manner, to any actual or claimed infringement of patent rights in connection with performance of the Work under the Contract Documents.

4.16. Cutting and Patching. The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make the component parts thereof fit together properly. The Contractor shall not damage or endanger any portion of the Work, or the fully or partially completed Construction of the District or separate contractors by cutting, patching, excavation or other alteration. When modifying new Work or when installing Work adjacent to an existing structure/facility, the Contractor shall match, as closely as conditions of the Site and materials will allow, the finishes, textures and colors of the existing structure/facility and refinish elements of the existing structure/facility. The Contractor shall not cut, patch or otherwise alter the Construction by the District or separate contractor without the prior written consent of the District or separate contractor thereto, which consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold consent to the request of the District or separate contractor to cut, patch or otherwise alter the Work.

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

4.18. Wage Rates; Employment of Labor.

4.18.1. Prevailing Wage Rates.

4.18.1.1. Prevailing Wage Rate Schedules. Pursuant to the provisions of Division 2, Part 7, Chapter

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

4.18.1.2. Payment of Prevailing Rates. There shall be paid each worker of the Contractor and Subcontractors, of any tier, engaged in the Work, not less than the general prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor, of any tier, and such worker.

4.18.1.3. Prevailing Rate Penalty. The Contractor shall, as a penalty, forfeit not more than Two Hundred Dollars ($200.00) to the District for each calendar day or portion thereof, for each worker paid less than the prevailing rates for such work or craft in which such worker is employed for the Work by the Contractor or by any Subcontractor, of any tier, in connection with the Work. The amount of the penalty for failure to pay applicable prevailing wage rates shall be determined and assessed in accordance with the standards established pursuant to Labor Code §1775(a)(2). The amount of the penalty shall be determined based on consideration of both of the following: (i) whether the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the Contractor or Subcontractor; and (ii) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations. The penalty may not be less than forty dollars ($40) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor. The penalty may not be less than eighty dollars ($80) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Contractor or Subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned. The penalty may not be less than one hundred twenty dollars ($120) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1. When the penalty amount due hereunder is collected from the Contractor or Subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that Contractor or Subcontractor shall be satisfied before applying that amount to the penalty imposed on that Contractor or Subcontractor hereunder. The difference between prevailing wage rates and the amount paid to each worker each calendar day, or portion thereof, for which each worker paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

4.18.1.4. Prevailing Wage Rate Monitoring and Enforcement. During the Work and pursuant to Labor Code §1771.4(a)(4), the Department of Industrial Relations shall monitor and enforce the obligation of the Contractor and Subcontractors of every tier to pay laborers performing any portion of the Work the Prevailing Wage Rate established for the classification of work/labor performed.

4.18.2. Payroll Records.

4.18.2.1. Certified Payroll Records. Pursuant to California Labor Code §1776, the Contractor and each Subcontractor, of any tier, shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each person employed for the Work.

4.18.2.2. Certified Payroll Records Submittal to Labor Commissioner. The Contractor and all Subcontractors shall prepare and submit Certified Payroll Records to the Labor Commissioner in compliance with requirements established in Labor Code §1771.4. The form and content of Certified Payroll Records shall be as established by the Labor Commissioner and the frequency of Certified Payroll Records submittal to the Labor Commissioner shall be pursuant to Labor Code §1771.4.

4.18.2.3. Inspection and Copies of Certified Payroll Records. The payroll records shall be certified and available for inspection at all reasonable hours at the principal office of the Contractor on the following basis: (i) a certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his/her authorized representative on request; (ii) a certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement ("DLSE") and the Division of Apprenticeship Standards of the Department of Industrial Relations ("Apprenticeship Council"); (iii) a certified copy of payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, DLSE and the Apprenticeship Council. If the requested payroll records have not been provided, the requesting party shall, prior to being provided the records, reimburse the cost of preparation by the Contractor, Subcontractors and the entity through which the request was made; the public shall not be given access to such records at the principal office of the Contractor; (iv) the Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request; (v) any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Apprenticeship Council or DLSE shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor or any Subcontractor, of any tier, performing a part of the Work shall not be marked or obliterated. The Contractor shall inform the District of the location of payroll records, including the street address, city and county and shall, within five (5) working days, provide a notice of a change or location and address. In the event of noncompliance with the foregoing requirements, the Contractor shall have ten (10) days in which to comply, subsequent to receipt of written notice specifying in what respects the Contractor must comply herewith. Should noncompliance still be evident after such ten (10) day period, the Contractor shall, as a penalty to the District, forfeit One Hundred Dollars ($100.00) for each calendar day, or portion thereof, for each worker, until strict

compliance is effectuated. Upon the request of the Apprenticeship Council or DLSE, such penalties shall be withheld from any portion of the Contract Price then or thereafter due the Contractor. The Contractor is solely responsible for compliance with the foregoing provisions.

4.18.3. Hours of Work.

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

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

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

4.18.4. Apprentices.

4.18.4.1. Employment of Apprentices. Any apprentices employed to perform any of the Work shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which such apprentice is employed, and such individual shall be employed only for the work of the craft or trade to which such individual is registered. Only apprentices, as defined in California Labor Code §3077 who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code §§3070 et seq. are eligible to be employed for the Work. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which such apprentice is training.

4.18.4.2. Apprenticeship Certificate. When the Contractor or any Subcontractor, of any tier, in performing any of the Work employs workers in any Apprenticeable Craft or Trade, the Contractor and such Subcontractor shall apply to the Joint Apprenticeship Committee

administering the apprenticeship standards of the craft or trade in the area of the site of the Work for a certificate approving the Contractor or such Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected, provided, however, that the approval as established by the Joint Apprenticeship Committee or Committees shall be subject to the approval of the Administrator of Apprenticeship. The Joint Apprenticeship Committee or Committees, subsequent to approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or such Subcontractor in order to comply with California Labor Code §1777.5. Prior to the commencement of the Work, the Contractor and Subcontractors shall submit contract award information (on Form DAS-140) to the applicable Joint Apprenticeship Committee which shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed. Concurrently with submission of contract information on Form DAS-140 to the Apprenticeship Council, the Contractor shall deliver a copy of its completed DAS-140 to the District and the Project Manager. There shall be an affirmative duty upon the Joint Apprenticeship Committee or Committees, administering the apprenticeship standards of the crafts or trades in the area of the site of the Work, to ensure equal employment and affirmative action and apprenticeship for women and minorities. Contractors or Subcontractors shall not be required to submit individual applications for approval to local Joint Apprenticeship Committees provided they are already covered by the local apprenticeship standards.

4.18.4.3. Ratio of Apprentices to Journeymen. The ratio of Work performed by apprentices to journeymen, who shall be employed in the Work, may be the ratio stipulated in the apprenticeship standards under which the Joint Apprenticeship Committee operates, but in no case shall the ratio be less than one hour of apprentice work for each five hours of labor performed by a journeyman, except as otherwise provided in California Labor Code §1777.5. The minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeymen. Any ratio shall apply during any day or portion of a day when any journeyman, or the higher standard stipulated by the Joint Apprenticeship Committee, is employed at the site of the Work and shall be computed on the basis of the hours worked during the day by journeymen so employed, except for the land surveyor classification. The Contractor shall employ apprentices for the number of hours computed as above before the completion of the Work. The Contractor shall, however, endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the site of the Work. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a Joint Apprenticeship Committee, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification. The Contractor or any Subcontractor covered by this Article and California Labor Code §1777.5, upon the issuance of the approval certificate, or if it has been previously approved in such craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the Contractor that it employs apprentices in such craft or trade in the State of California on all of its contracts on an annual average of not less than one apprentice to each five journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the Contractor from the 1-to-5 ratio as set

forth in this Article and California Labor Code §1777.5. This Article shall not apply to contracts of general contractors, or to contracts of specialty contractors not bidding for work through a general or prime contractor, involving less than Thirty Thousand Dollars ($30,000.00) or twenty (20) working days. The term "Apprenticeable Craft or Trade," as used herein shall mean a craft or trade determined as an Apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

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

4.18.4.5. Contributions to Trust Funds. The Contractor or any Subcontractor, of any tier, who, performs any of the Work by employment of journeymen or apprentices in any apprenticeable Craft or Trade and who is not contributing to a fund or funds to administer and conduct the apprenticeship program in any such craft or trade in the area of the site of the Work, to which fund or funds other contractors in the area of the site of the Work are contributing, shall contribute to the fund or funds in each craft or trade in which it employs journeymen or apprentices in the same amount or upon the same basis and in the same manner as the other contractors do, but where the trust fund administrators are unable to accept such funds, contractors not signatory to the trust agreement shall, using California Apprenticeship Council Training Fund Contributions Form CAC-2, pay a like amount to the California Apprenticeship Council. DLSE is authorized to enforce the payment of such contributions to such fund(s) as set forth in California Labor Code §227. Such contributions shall not result in an increase in the Contract Price.

4.18.4.6. Contractor's Compliance. The responsibility of compliance with this Article for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Article are subject to the provisions of California Labor Code §3081. If the Contractor willfully fails to comply with the provisions of this Article and California Labor Code §1777.5, pursuant to California Labor Code §1777.7, the Contractor shall: (i) be denied the right to bid on any public works contract for a period of one (1) year from the date the determination of non-compliance is made by the Administrator of Apprenticeship; and (ii) forfeit, as a civil penalty, Fifty Dollars ($50.00) for each calendar day of noncompliance.

Notwithstanding the provisions of California Labor Code §1727, upon receipt of such determination, the District shall withhold such amount from the Contract Price then due or to become due. Any such determination shall be issued after a full investigation, a fair and impartial hearing, and reasonable notice thereof in accordance with reasonable rules and procedures prescribed by the California Apprenticeship Council. Any funds withheld by the District pursuant to this Article shall be deposited in the General Fund or other similar fund of the District. The interpretation and enforcement of California Labor Code §§1777.5 and 1777.7 shall be in accordance with the rules and procedures of the California Apprenticeship Council.

4.18.5. Employment of Independent Contractors. Pursuant to California Labor Code §1021.5, Contractor shall not willingly and knowingly enter into any agreement with any person, as an independent contractor, to provide any services in connection with the Work where the services provided or to be provided requires that such person hold a valid contractors' license issued pursuant to California Business and Professions Code §§7000 et seq. and such person does not meet the burden of proof of his/her independent contractor status pursuant to California Labor Code §2750.5. If the Contractor employs any person in violation of the foregoing, Contractor shall be subject to the civil penalties under California Labor Code §1021.5 and any other penalty provided by law. In addition to the penalties provided under California Labor Code §1021.5, Contractor's violation of this Article 4.18.5 or the provisions of California Labor Code §1021.5 shall be deemed an event of Contractor's default under Article 15.1 of these General Conditions. The Contractor shall require any Subcontractor or Sub-Subcontractor performing or providing any portion of the Work to adhere to and comply with the foregoing provisions.

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

4.20. DSA Construction Oversight. All of the Work is subject to DSA Construction Oversight processes and procedures; a material obligation of the Contractor hereunder is the Contractor's compliance with the processes and procedures established by DSA for the Work. As applicable, the foregoing shall include without limitation, the processes and procedures established under DSA PR 13-01 in effect at the time of performing the Work hereunder. The foregoing shall include:

4.20.1. DSA Approved Documents. The Contractor shall carefully study the DSA approved documents and shall plan a schedule of operations well ahead of time.

4.20.2. Correction of Non-Conforming Work. If at any time it is discovered that Work is not in accordance with the DSA approved Construction documents, the Contractor shall correct the Work immediately.

4.20.3. Verification of DSA 152 Forms. The Contractor shall verify that DSA 152 forms were issued prior to the commencement of Construction.

4.20.4. Test/Inspection Communications. The Contractor shall meet with the Architect, Construction Manager, the Laboratory of Record retained by the District for special tests/inspections and the Project Inspector to mutually communicate and understand the testing and inspection program, and the methods of communication appropriate for the Work.

4.20.5. DSA Form 156 Notifications to Project Inspector. The Contractor shall notify the Project Inspector, in writing, of the commencement of Construction of each and every aspect of the Work at least 48 hours in advance by submitting Commencement/Completion of Work Notification (form DSA 156), or other agreed upon written documents, to the Project Inspector. The Contractor shall notify the Project Inspector of the completion of Construction of each and every aspect of the Work by submitting form DSA 156 (or other agreed upon written documents) to the Project Inspector.

4.20.6. Limitations on Contractor Work. Until the Project Inspector has signed off applicable blocks and sections of the form DSA 152, the Contractor may be prohibited from proceeding with subsequent Construction activities that cover up the unapproved Work. Any subsequent Construction activities, that cover up the unapproved Work, will be subject to a "Stop Work Order" from DSA or the District, and are subject to removal and remediation if found to be in non-compliance with the DSA approved Construction documents.

4.20.7. Final Verified Report. The Contractor shall submit the final Contractor Verified Report. (form DSA 6-C) to DSA and the Project Inspector. The DSA 6-C reports are required to be submitted by the Contractor upon occurrence of any of the following events: (i) the Work is substantially complete (DSA considers the Work to be complete when the Construction is sufficiently complete in accordance with the DSA approved Construction documents so that the owner can occupy or utilize the Work); (ii) Work is suspended for a period of more than one (1) month; (iii) services of the Contractor are terminated for any reason prior to the completion of the Work; or (iv) DSA requests a verified report.

4.21. DSA Verified Reports.

4.21.1. Contractor Actions. The Contractor acknowledges and agrees that a material obligation of the Contractor under the Contract Documents is the completion by the Contractor of all actions and activities which by the Contract Documents or by the Laws are the responsibility of the Contractor relating to DSA reporting requirements pursuant to Education Code §81141 (including amendments thereto) and issuance of DSA's Certificate of Compliance for the Project pursuant to Education Code §81147 (including amendments thereto) upon completion of the Work. The foregoing shall include without limitation, the timely preparation, completion and filing of Verified Reports during Project Construction and the filing of the Final Verified Report with DSA within thirty (30) days of the determination of Final Completion. The Contractor shall provide the District, the Project Inspector, Architect, Construction Manager with copies of all Verified Reports completed by the Contractor and submitted to DSA; such copies shall be provided to the Project Inspector, Architect, the Construction Manager and the District concurrently with the Contractor's submission thereof to DSA.

4.21.2. District Withholdings from Final Payment. Notwithstanding any provision of the Contract Documents to the contrary, the completion and filing of the Final Verified Report with DSA by the Contractor is an express condition precedent to the District's disbursement of the Final Payment. If the Contractor fails to prepare and file the Final Verified Report with DSA within thirty (30) days of the determination of Final Completion, the District may in the sole and exclusive discretion of the District retain and withhold ten percent (10%) of the Final Payment from disbursement to the Contractor as damages for the failure of the Contractor to have timely and completely discharged its obligations hereunder. The Contractor acknowledges and agrees that the foregoing withholdings by the District is a reasonable estimate of the damages and other losses the District will sustain due to the failure of the Contractor to have timely and fully discharged its obligations hereunder.

4.22. Disabled Veteran Business Enterprises (DVBE) Participation Goal.

4.22.1. Continuing Responsibilities. The Contractor shall secure the participation of DVBEs in accordance with the Contractor's DVBE Good Faith Efforts Worksheets submitted with the Contractor's Bid Proposal.

4.22.2. DVBE Participation Reports and Data. During performance of the Work, the Contractor shall maintain complete and accurate records of DVBE participation in executing the Work. From time-to-time, upon the request of the District, the Contractor shall submit reports, in form and content satisfactory to the District, regarding DVBE Participation in the Work of the Contract, including the participation of DVBEs in the performance of approved Changes to the Work (DVBE Reports). The failure or refusal of the Contractor to submit DVBE Reports during performance of the Work within ten (10) days of the District's request for DVBE Reports may be deemed by the District to be the Contractor's default of a material obligation of the Contract Documents and thereupon, the District may exercise any right or remedy provided for under the Contract Documents or at law, including without limitation termination for Contractor default or the withholding of payments otherwise due under the Contract Documents until such DVBE Report(s) is/are received. If requested by the District, upon completion of the Work, the Contractor shall submit a final DVBE Report identifying all DVBEs utilized in the performance of the Work, the type or classification of the Work performed by each such DVBE and the dollar value of the Work performed by each such DVBE. In the event that the District shall request a report of DVBE utilization upon completion of the Work of the Contract, the submission of such report in form and content satisfactory to the District shall be deemed a condition precedent to the District's obligation to make payment of the Final Payment under the Contract Documents. The submission of such final DVBE Report shall be in addition to, and not in lieu of any other conditions precedent set forth in the Contract Documents for the District's obligation to make payment of the Final Payment. The Contractor shall maintain books and records of DVBE Participation in the Work for at least three (3) years following Final Completion; during such time, the District shall have access, upon reasonable advance notice, to such books and records for inspection or reproduction.

4.22.3. Contract Audit. The Contractor agrees that the District, or its designee, shall have the right to review, obtain and/or copy any and all writings, materials, documents and other records pertaining to utilization of DVBEs in performance of the Contract. The shall provide the District, or its designee, access to the Contractor's premises upon reasonable notice, during usual business hours for the purpose of interviewing employees and inspecting and/or copying such writings, materials, documents and other documents which may be relevant to a matter under investigation for the purpose of determining compliance with the DVBE Participation Goal Program Policy.

4.23. Employee Fingerprinting; Contractor's Compliance with Education Code §§ 45125.1 and 45125.2.

4.23.1. General; School Session Requirements. The Contractor acknowledges that the safety of students on or about the Site is of paramount importance and that Contractor's compliance with these provisions is a material obligation of the Contractor under the Contract Documents. To ensure the safety of students on or about the Site, the Contractor agrees that if at any time during performance of any Work at or about the Site occurs when classes are in session at the Site or during school related functions at the Site, no personnel of the Contractor, Subcontractor, Material Supplier or others performing or providing any portion of the Work of the Contract Documents will be permitted access to the Site unless such personnel are specifically identified in the Fingerprint Certificate Attachment. Any personnel at the Site who is not identified in the Fingerprint Certificate Attachment will be immediately removed from the Site and will not be permitted access until a Fingerprint Certification is submitted to the District identifying such personnel in the Fingerprint Certificate Attachment thereto. Neither the Contract Time nor the Contract Price shall be adjusted on account of the removal of any personnel from the Site pursuant to the foregoing.

4.23.2. Non-School Session. If at any time during performance of Work at or about the Site which when classes are not in session at the Site or when there are no other school related functions at the Site, personnel of the Contractor, Subcontractors, Material Suppliers or others performing or providing any portion of the Work will be permitted access to the Site without such personnel being specifically identified in the Fingerprint Certificate Attachment. The foregoing notwithstanding, during such times, the Contractor shall comply with the provisions of Education Code §42125.2 by either: (a) erecting physical barriers to limit contact with students or (b) continual supervision and monitoring of personnel at the Site by a employee of the Contractor who has been verified by the California Department of Justice as not having been convicted of a violent or serious felony. If the Contractor elects the procedure under (b) in the preceding sentence, the Contractor shall submit a Department of Justice verification that such employee has not been convicted of a violent or serious felony and has no felony proceedings pending against her/him. The provisions of Education Code §45125.2 notwithstanding, there will be no surveillance of the personnel of the Contractor, Subcontractors, Material Suppliers or others performing or providing Work at the Site by the personnel of the District, Architect, Project Manager, or the Inspector.

4.24. District Required Identification. In addition to compliance with the foregoing, if the District requires the issuance of identification badges or other means of identification, no person will be permitted access to the Site until the District has issued such person an identification badge or other means of identification. Notwithstanding compliance with the foregoing requirements, if the District requires that identification badges be issued and worn at the Site, any person providing or performing Work at the Site who has not been issued or who is not wearing his/her identification badge will be immediately removed from the Site; such person will not be permitted access to the Site until the District has issued such person an identification badge and/or such person wears her/her identification badge issued by the District. The removal of any personnel from the Site under the foregoing provisions shall not result in adjustment of the Contract Price or the Contract Time.

5. SUBCONTRACTORS

5.1. Subcontracts. Any Work performed for the Contractor by a Subcontractor shall be pursuant to a written agreement between the Contractor and such Subcontractor which specifically incorporates

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

5.2. Contractor and Subcontractor Communication. All written communications between the Contractor and any Subcontractor, Material Supplier or others directly or indirectly engaged by the Contractor to perform or provide any portion of the Work shall be available to the District, the Project Manager and the Architect for review, inspection and reproduction as may be requested from time to time. The foregoing is a material obligation of the Contractor hereunder.

5.3. Subcontractor DIR Contractor Registration.

5.3.1. No Subcontractor Performance of Work Without DIR Registration. No portion of the Work is permitted to be performed by a subcontractor, of any tier, unless the Subcontractor is a DIR Registered contractor. The foregoing DIR contractor registration requirement is applicable for all Subcontractors, including without limitation, lower tier Subcontractors and Subcontractors who are not identified in the Contractor's Subcontractors List.

5.3.2. Contractor Obligation to Verify Subcontractor DIR Registration Status. An affirmative and on-going obligation of the Contractor under the Contract Documents is the Contractor's verification that all Subcontractors are at all times during performance of the Work in full and strict compliance with DIR contractor registration requirements. The Contractor shall not permit or allow any Subcontractor to perform any Work without the Contractor's verification that the Subcontractor is in full and strict compliance with DIR contractor registration requirements.

5.3.3. Contractor Obligation to Request Substitution of Listed Subcontractor Who Is Not DIR Registered Contractor. If Contractor inadvertently identified a Subcontractor in the Contractor's Subcontractors List submitted with the Contractor's proposal for the Work who was not a DIR registered contractor at the time of opening of proposals for the Work or if a Subcontractor's DIR contractor registration lapses prior to or during a Subcontractor's performance of Work, the Contractor shall request the District's consent to substitute the Subcontractor who is not a DIR registered contractor pursuant to Labor Code §1771.1(c)(3) and/or Labor Code §1771.1(d).

5.3.4. Contractor/Subcontractor Penalties Pursuant to Labor Code § 1771.1(g). If the Labor Commissioner or his or her designee determines that the Contractor or Subcontractor engaged

in the performance of any public work contract without having been a DIR registered contractor, the Contractor or Subcontractor shall forfeit, as a civil penalty to the state, one hundred dollars ($100) for each day of work performed in violation of the registration requirement, not to exceed an aggregate penalty of eight thousand dollars ($8,000) in addition to any penalty registration fee assessed pursuant to clause (ii) of subparagraph (E) of paragraph (2) of subdivision (a) of Section 1725.5.

5.3.5. Subcontractor Penalties Pursuant to Labor Code § 1771.1 (h)(1). In addition to, or in lieu of, any other penalty or sanction authorized pursuant to this chapter, a higher tiered contractor or subcontractor who is found to have entered into a subcontract with an unregistered lower tier subcontractor to perform any public work in violation of the requirements of Section 1725.5 shall be subject to forfeiture, as a civil penalty to the state, of one hundred dollars ($100) for each day the unregistered lower tier subcontractor performs work in violation of the registration requirement, not to exceed an aggregate penalty of ten thousand dollars ($10,000).

5.4. Substitution of Listed Subcontractor.

5.4.1. Substitution Process. Any request of the Contractor to substitute a listed Subcontractor will be considered only if such request is in strict conformity with this Article 5.4 and California Public Contract Code §4107. All costs incurred by the District, including without limitation, costs of the Project Inspector, the Architect, the Project Manager or attorneys' fees in the review and evaluation of a request to substitute a listed Subcontractor shall be borne by the Contractor; such costs may be deducted by the District from the Contract Price then or thereafter due the Contractor.

5.4.2. Responsibilities of Contractor Upon Substitution of Subcontractor. The District's consent to the Contractor's substitution of a listed Subcontractor shall not relieve Contractor from its obligation to complete the Work within the Contract Time and for the Contract Price. The substitution of a listed Subcontractor shall not, under any circumstance, result in, or give rise to any to any increase of the Contract Price or the Contract Time on account of such substitution. In the event of the District's consent to the substitution of a listed Subcontractor, the Architect shall determine the extent to which, if any, revised or additional Submittals will be required of the newly substituted Subcontractor. If the Architect determines that revised or additional Submittals are required of the newly substituted Subcontractor, the Architect shall promptly notify the Contractor, in writing, of such requirement. In such event, revised or additional Submittals shall be submitted to Architect not later than thirty (30) days following the date of the Architect's written notice to the Contractor pursuant to the foregoing sentence; provided that if in the reasonable and good faith judgment of the Architect, the progress of the Work or completion of the Work requires submission of additional or revised Submittals by the newly substituted Subcontractor in less than thirty (30) days, the Architect shall so state in its written notice to the Contractor. In the event that the revised or additional Submittals are not submitted by Contractor within thirty (30) days, or such earlier time as determined by the Architect pursuant to the preceding sentence, following the Architect's written notice of the requirement for revised or additional Submittals, Contractor shall be subject to the per diem assessments for late Submittals as set forth in Article 4.7.2.1 of these General Conditions. Any revised or additional Submittals required pursuant to this Article 5.4.2 shall conform with the requirements of Article 4.7 of these General Conditions. The Contractor shall reimburse the District for all fees and costs, including without limitation fees of the Project Manager, Architect and/or any design consultant to the Architect or the District and DSA fees, incurred or associated with the processing, review and evaluation of any revised or additional Submittals required pursuant to this Article 5.4.2; the District may deduct such fees and costs from any portion of the Contract

Price then or thereafter due the Contractor. In the event that additional or revised Submittals are required pursuant to this Article 5.4.2, such requirement shall not result in an increase to the Contract Time or the Contract Price.

5.5. Subcontractors' Work. Whenever the Work of a Subcontractor is dependent upon the Work of the Contractor or another Subcontractor, the Contractor shall require the Subcontractor to: (i) coordinate its Work with the dependent Work; (ii) provide necessary dependent data and requirements; (iii) supply and/or install items to be built into the dependent Work of others; (iv) make appropriate provisions for dependent Work of others; (v) carefully examine and understand the portions of the Contract Documents (including Drawings, Specifications and Field Clarifications) and Submittals relating to the dependent Work; and (vi) examine the existing dependent Work and verify that the dependent Work is in proper condition for the Subcontractor's Work. If the dependent Work is not in a proper condition, the Subcontractor shall notify the Contractor in writing and not proceed with the Subcontractor's Work until the dependent Work has been corrected or replaced and is in a proper condition for the Subcontractor's Work.

6. INSURANCE, BONDS AND INDEMNITY

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

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

6.3. Risk "All-Risk" Insurance. The Contractor, during the progress of the Work and until Final Acceptance of all Work by the District, shall maintain Risk "All-Risk" Completed Value Insurance Coverage on all insurable Work included under the Contract Documents which coverage is to provide extended coverage and insurance against vandalism and malicious mischief, perils of fire, sprinkler leakage, civil authority, sonic boom, collapse and flood upon the entire Work which is the subject of the Contract Documents, and including completed Work and Work in progress to the full insurable value

thereof. Contractor's Risk Insurance shall include coverage and insurance against the perils of earthquake if so indicated in the Special Conditions. Such insurance shall include the District as an additional named insured, and any other person with an insurable interest designated by the District as an additional named insured. The risk of damage to the Work due to the perils covered by the Risk "All Risk" Insurance, as well as any other hazard which might result in damage to the Work, is that of the Contractor and the Surety, and no claims for such loss or damage shall be recognized by the District, nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.

6.4. Contractors' Pollution Liability Insurance. The Contractor shall provide Contractors' Pollution Liability Insurance covering environmental liabilities including, without limitation, those resulting from Construction and remediation operations, whether performed by the contractor or subcontractors and claims alleging improper supervision of subcontractors. If the Work of any Subcontractor involves the Storm Water Pollution Prevention Plan ("SWPPP"), the removal of asbestos, the removal/replacement of underground tanks or the removal of toxic chemicals and substances, such Subcontractor(s), are required to obtain Contractor's Pollution Liability insurance covering the risk of exposure to asbestos, lead and/or toxic/hazardous materials encountered during Construction of the Project.

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

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

6.7. Certificates of Insurance. Prior to commencing the Work, Contractor shall deliver to the District Certificates of Insurance evidencing the insurance coverages required by the Contract Documents. Failure or refusal of the Contractor to deliver Certificates of Insurance may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents, and thereupon the District may proceed to exercise any right or remedy provided for under the Contract Documents or at law. The Certificates of Insurance and the insurance policies required by the Contract Documents shall contain a provision that coverages afforded under such policies will not be

canceled or allowed to expire until at least thirty (30) days prior written notice has been given to the District. The insurance policies required of Contractor hereunder shall also name the District as an additional insured as its interests may appear. The additional Insured acknowledgement shall be submitted as a separate declaration from the Contractor's insurance provider (ACCORD form modifications are not acceptable). Should any policy of insurance be canceled before Final Acceptance of the Work by the District and the Contractor fails to immediately procure replacement insurance as required, the District reserves the right to procure such insurance and to deduct the premium cost thereof and other costs incurred by the District in connection therewith from any sum then or thereafter due the Contractor under the Contract Documents. The Contractor shall, from time to time, furnish the District, when requested, with satisfactory proof of coverage of each type of insurance required by the Contract Documents; failure of the Contractor to comply with the District's request may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents.

6.8. Subcontractors' Insurance. Contractor shall require that every Subcontractor, to obtain and maintain the policies of insurance set forth in Articles 6.1 and 6.2 of these General Conditions; the coverages and limits of liability of such policies of insurance to be obtained and maintained by Subcontractors shall be as set forth in the Special Conditions. The policies of insurance to be obtained and maintained by Subcontractors hereunder are in addition to, and not in lieu of, Contractor obtaining and maintaining such policies of insurance. Each of the policies of insurance obtained and maintained by a Subcontractor hereunder shall conform to the requirements of this Article 6. Upon request of the District, Contractor shall promptly deliver to the District Certificates of Insurance evidencing that the Subcontractors have obtained and maintained policies of insurance in conformity with the requirements of this Article 6. Failure or refusal of the Contractor to provide the District with Subcontractors' Certificates of Insurance evidencing the insurance coverages required hereunder is a material default of Contractor hereunder.

6.9. Maintenance of Insurance. Any insurance bearing on the adequacy of performance of Work shall be maintained after the District's Final Acceptance of all of the Work for the full one year correction of Work period and any longer specific guarantee or warranty periods set forth in the Contract Documents. Should such insurance be canceled before the end of any such periods and the Contractor fails to immediately procure replacement insurance as specified, the District reserves the right to procure such insurance and to charge the cost thereof to the Contractor. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations or performance of the Work under the Contract Documents, including without limitation the Contractor's obligation to pay Liquidated Damages. In no instance will the District's exercise of its option to occupy and use completed portions of the Work relieve the Contractor of its obligation to maintain insurance required under this Article until the date of Final Acceptance of the Work by the District, or such time thereafter as required by the Contract Documents. The insurer providing any insurance coverage required hereunder shall be to the reasonable satisfaction of the District.

6.10. Contractor's Insurance Primary. All insurance and the coverages thereunder required to be obtained and maintained by Contractor hereunder, if overlapping with any policy of insurance maintained by the District, shall be deemed to be primary and non-contributing with any policy maintained by the District and any policy or coverage thereunder maintained by District shall be deemed excess insurance. To the extent that the District maintains a policy of insurance covering property damage arising out of the perils of fire or other casualty covered by the Contractor's Risk Insurance or the Comprehensive General Liability Insurance of the Contractor or any Subcontractor, the District, Contractor and all Subcontractors waive rights of subrogation against the others. The

costs for obtaining and maintaining the insurance coverages required herein shall be included in the Contract Price.

6.11. Payment Bond; Performance Bond. Prior to commencement of the Work, the Contractor shall furnish a Performance Bond as security for Contractor's faithful performance of the Contract and a Labor and Material Payment Bond as security for payment of persons or entities performing work, labor or furnishing materials in connection with Contractor's performance of the Work under the Contract Documents. Unless otherwise stated in the Special Conditions, the amounts of the Performance Bond and the Payment Bond required hereunder shall be one hundred percent (100%) of the Contract Price. Said Labor and Material Payment Bond and Performance Bond shall be in the form and content set forth in the Contract Documents. The Surety on any bond required under the Contract Documents shall be: (i) an Admitted Surety Insurer as that term is defined in California Code of Civil Procedure §995.120; and (ii) A.M. Best rated A-/VII or better. The failure or refusal of the Contractor to furnish either the Performance Bond or the Labor and Material Payment Bond in strict conformity with foregoing may be deemed by the District as a default by the Contractor of a material obligation hereunder.

6.12. Contractor Indemnity. The Contractor shall indemnify, defend and hold harmless the Indemnified Parties who are: (i) the District and its Board of Education, officers, employees, agents and representatives (including the Project Inspector); (ii) the Architect and its Design Consultants and their respective agents and employees; (iii) if one is designated by the District for the Work, the Construction Manager and its agents and employees; and (iv) the Project Inspector. The Contractor's obligations hereunder includes indemnity, defense and hold harmless of the Indemnified Parties from and against any and all damages, losses, claims, demands, liabilities, actions or causes of action which arise, in whole or in part, from the Work, the Contract Documents or the negligent, grossly negligent, reckless or willful acts, omissions or other conduct of the Contractor, any Subcontractor or any person or entity engaged by them for the Work. The Contractor's obligations pursuant to the foregoing include without limitation: (i) injuries to or death of persons; (ii) damage to property; (iii) theft, destruction or loss of property; (iv) Stop Payment Notice claims asserted by any person or entity in connection with the Work; and (v) other losses, liabilities, damages or costs resulting from, in whole or part, negligent, grossly negligent or willful conduct of the Contractor or Subcontractors, of any tier. If any action or proceeding, whether judicial, administrative, arbitration or otherwise, shall be commenced on account of any claim, demand or liability subject to Contractor's obligations hereunder, and such action or proceeding names any of the Indemnified Parties as a party thereto, the Contractor shall, at its sole cost and expense, defend the named Indemnified Parties in such action or proceeding with counsel reasonably satisfactory to the named Indemnified Parties. In the event that there shall be any judgment, award, ruling, settlement, or other relief arising out of any such action or proceeding to which any of the Indemnified Parties are bound by, Contractor shall pay, satisfy or otherwise discharge any such judgment, award, ruling, settlement or relief; Contractor shall indemnify and hold harmless the Indemnified Parties from any and all liability or responsibility arising out of any such judgment, award, ruling, settlement or relief. The Contractor's obligations hereunder are binding upon Contractor's Performance Bond Surety and these obligations shall survive notwithstanding Contractor's completion of the Work or the termination of the Contract until barred by the applicable Statute of Limitations.

7. CONTRACT TIME

7.1. Substantial Completion of the Work Within Contract Time. Unless otherwise expressly provided in the Contract Documents, the Contract Time is the period of time, including authorized adjustments thereto, allotted in the Contract Documents for achieving Substantial Completion of the Work. The date for commencement of the Work is the date established by the Notice to Proceed issued by the

District pursuant to the Agreement, which shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible. The date of Substantial Completion is the date certified by the Architect, Project Manager and the Project Inspector.

7.2. Progress and Completion of the Work.

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

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

7.2.3. Correction or Completion of the Work After Substantial Completion.

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

7.2.3.2. Time for Completing Punch List Items. In addition to setting forth items for correction or completion pursuant to Article 7.2.3.1 Contractor shall promptly and diligently proceed to complete all Punch List items within the time established by the Architect, Project Manager and District. If the Contractor fails or refuses, for any reason, to complete all Punch List items within the time established, the Contractor shall be subject to assessment of Liquidated Damages in accordance with Article 7.4 hereof. The foregoing notwithstanding, if the Contractor fails or refuses to complete all Punch List items, the District may in its sole and exclusive discretion and without further notice to Contractor, elect to cause the completion of all remaining Punch List items provided, however that such election by the District is in addition to and not in lieu of any other right or remedy of the District under the Contract Documents or the Laws. If the District elects to complete Punch List items of the Work, pursuant to the foregoing, Contractor shall be responsible for all costs incurred by the District in connection herewith and the District may deduct such costs from the Contract Price then or thereafter due the Contractor. If these costs exceed the remaining balance of the Contract Price due to the Contractor, the Contractor and the Performance Bond Surety are liable to the District for any such excess costs.

7.2.4. Final Completion. Final Completion is that stage of the Work when all Work has been completed in accordance with the Contract Documents, including without limitation, the performance of

all correction or completion items noted upon Substantial Completion, and obligations of the Contractor under the Contract Documents are fully performed by the Contractor. Final Completion shall be determined by the Architect, Project Manager and the Project Inspector upon request of the Contractor. The good faith and reasonable determination of Final Completion by the Project Inspector, Project Manager and the Architect shall be controlling and final.

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

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

7.3. Construction Schedule.

7.3.1. Preliminary Construction Schedule.

7.3.1.1. Organization and Contents. The purpose of the Preliminary Construction Schedule is to assure adequate planning and execution of the Work so that it is completed within the Contract Time and to permit evaluation of the progress of the Work. The Preliminary Construction Schedule shall be organized into groupings by location, responsibility, specifications, sections, etc. The Preliminary Construction Schedule shall take into consideration and incorporate requirements set forth in the Contract Documents, including without limitation requirements relating to: (i) Construction Phases; (ii) protection of facilities; (iii) temporary facilities and services; (iv) rebate opportunities; (v) utility relocations/renovations; (vii) access to Site; (viii) other concurrent projects adjacent to the Site; (ix) temporary storage; and (x) notifications. Contents of the Preliminary Schedule must include at a minimum the following: (i) indicate the date(s) for commencement and completion of various portions of the Work including without limitation, procurement, fabrication and delivery of major items, materials or equipment, completion of: foundation, building framing/structural elements, mechanical/electrical/ plumbing rough-in, Construction, exterior doors and windows, interior finishes, etc.; (ii) indicate manpower and other resources required for completion of each Construction Schedule activity; (iii) indicate costs for completion of each Construction Schedule activity; (iv) identify each Submittal required by the Contract Documents, the date for the Contractor's submission of each Submittal and the date
for the return of the reviewed Submittal to the Contractor; and (v) indicate sequencing and interdependencies of activities.

7.3.1.2. Incorporation of Rain Days. The Preliminary Construction Schedule must incorporate the number of "Rain Days" as stipulated in the Special Conditions for each month to be

anticipated during the Contract Time. If Rain Days noted in the Special Conditions do not actually occur during the Work, the unused "Rain Days" shall revert to "float time" in the Construction Schedule. The number of Rain Days noted in the Special Conditions must be shown within the critical path of the Preliminary Construction Schedule and the Rain Days shall not extend the Contract Time for achieving Substantial Completion of the Work.

7.3.1.3. Construction Schedule Software. Unless otherwise provided in the Special Conditions, the Construction Schedules required under this Article 7 shall be prepared in a critical path format utilizing the then most recent version of P3e/c™ for Construction, Primavera Project Planner Scheduling Software.

7.3.1.4. Contract Time and Preliminary Schedule. The Contractor may submit a Preliminary Construction Schedule depicting completion of the Work in a duration shorter than the Contract Time; provided that such Preliminary Construction Schedule shall not be a basis for adjustment to the Contract Price if completion of the Work occurs after the time depicted therein, nor shall such Preliminary Construction Schedule be the basis for any extension of the Contract Time, the Contractor's entitlement to any extension of the Contract Time shall be based upon the Contract Time and not on any shorter duration which may be depicted in the Contractor's Preliminary Construction Schedule.

7.3.1.5. "Float" Time. If the Construction Schedules required under this Article 7.3 incorporate therein any "float" time, such float shall be deemed to jointly belong to and owned by the District and the Contractor. As used herein, "float time" shall be deemed to refer to the time between earliest finish date and the latest finish date of each activity shown on the Construction Schedule. The Construction Schedule prepared by the Contractor shall not sequester float through float suppression techniques such as extending activity durations, using preferential logic, etc.

7.3.1.6. DSA Construction Oversight Process. The Contractor's schedule shall take into account the effect of the DSA Construction oversight process on the progression of the Work, including without limitation the prohibition under DSA PR 13-01 from proceeding with subsequent Work prior to the Project Inspector's sign-off of preceding Work. No adjustment of the Contract Time will be considered or allowed for the time necessary to implement and complete the DSA Construction oversight process.

7.3.2. Submittal of Preliminary Construction Schedule. Within fifteen (15) calendar days following execution of the Agreement, the Contractor shall prepare and submit to the District, the Project Manager and the Architect a Preliminary Construction Schedule indicating, in graphic form, the estimated rate of progress and sequence of all Work required under the Contract Documents.

7.3.3. Review of Preliminary Construction Schedule. The District, the Project Manager and the Architect shall review the Preliminary Construction Schedule submitted by the Contractor pursuant to Article

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

7.3.4. Preparation and Submittal of Contract Construction Schedule. Within ten (10) days of the District's return of the Preliminary Construction Schedule to the Contractor pursuant to Article 7.3.2 above, the Contractor shall prepare and submit to the Architect and the Construction Project Manager the Construction Schedule, fully cost and resource loaded, which incorporates therein the comments to the Preliminary Construction Schedule. Upon the Contractor's submittal of such Construction Schedule, the District, the Project Manager and the Architect shall review the same for purposes of determining conformity with the requirements of the Contract Documents. Within fifteen (15) days of the receipt of the Construction Schedule, the District will approve such Construction Schedule or will return the same to the Contractor with comments to the form or content. In the event there are comments to the form or content thereof, the Contractor, shall within seven (7) days of receipt of such comments, revise and resubmit the Construction Schedule incorporating therein such comments. Upon the District's approval of the form and content of a Construction Schedule, the same shall be deemed the "Approved Construction Schedule." The District's approval of a Construction Schedule shall be for the sole and limited purpose of determining conformity with the requirements of the Contract Documents. By the Approved Construction Schedule, the District shall not be deemed to have exercised control over, or approval of, Construction means, methods or sequences, all of which remain the responsibility and obligation of the Contractor in accordance with the terms of the Contract Documents. Further, the Approved Construction Schedule shall not operate to limit or restrict any of Contractor's obligations under the Contract Documents nor relieve the Contractor from the full, faithful and timely performance of such obligations in accordance with the terms of the Contract Documents. The activities, commencement and completion dates of activities, and the sequencing of activities depicted on the Approved Construction Schedule shall not be modified or revised by the Contractor without the prior consent, or direction, of the District and the Architect. Updates to the Approved Construction Schedule pursuant to Article 7.3.6 below shall not be deemed revisions to the Approved Construction Schedule. In the event that the Approved Construction Schedule shall depict completion of the Work in a duration shorter than the Contract Time, the same shall not be a basis for an adjustment of the Contract Time or the Contract Price in the event that actual completion of the Work shall occur after such the time depicted in such Approved Construction Schedule. In such event, the Contract Price shall not be subject to adjustment on account of any additional costs incurred by the Contractor to complete the Work prior to the Contract Time, as adjusted in accordance with the terms of the Contract Documents. Any adjustment of the Contract Time or the Contract Price shall be based upon the Contract Time set forth in the Contract Documents and not any shorter duration which may be depicted in the Approved Construction Schedule.

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

7.3.6. Updates to Approved Construction Schedule. The Contractor shall monitor and update the Approved Construction Schedule on a monthly basis, provide four week rolling schedules on a

weekly basis or more frequently as required by the conditions or progress of the Work, or as may be requested by the District. The Contractor shall provide the District, the Construction Manager and the Architect with updated Approved Construction Schedules indicating progress achieved and activities commenced or completed within the prior updated Approved Construction Schedule. Updates to the Approved Construction Schedule shall not include any revisions to the activities, commencement and completion dates of activities or the sequencing of activities depicted on the Approved Construction Schedule. Any such revisions to the Approved Construction Schedule shall result in the District's rejection of such update and Contractor shall, within seven (7) days of the District's rejection of such update, submit to the Architect and the Construction Manager an Updated Approved Construction Schedule which does not incorporate any such revisions. The Contractor shall also submit, with its updates to the Approved Construction Schedule, a narrative statement including a description of current and anticipated problem areas of the Work, delaying factors and their impact, and an explanation of corrective action taken or proposed by the Contractor. If the progress of the Work is behind the Approved Construction Schedule, the Contractor shall indicate what measures will be taken to place the Work back on schedule. The District may, from time to time, and in the District's sole and exclusive discretion, transmit to the Contractor's Performance Bond Surety the Approved Construction District's election to transmit, or not to transmit such information, to the Contractor's Performance Bond Surety shall not limit the Contractor's obligations under the Contract Documents.

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

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

7.4.1. Excusable Delays. If Substantial Completion of the Work is delayed by Excusable Delays, the Contract Time shall be subject to adjustment for such a reasonable period of time as determined by the Architect; Excusable Delays shall not result in any increase in the Contract Price. Excusable Delays refer to unforeseeable and unavoidable casualties or other unforeseen causes beyond the control, and without fault or neglect, of the Contractor, any Subcontractor, Material Supplier or other person directly or indirectly engaged by the Contractor in performance of any portion of the Work. Excusable Delays include unanticipated and unavoidable labor disputes, unusual and unanticipated delays in transportation of equipment, materials or Construction Equipment reasonably necessary for completion and proper execution of the Work, unanticipated unusually severe weather conditions or applicable orders of public health authorities which prohibit, limit or restrict Work at the Site. Excusable Delay events do not include potential time or costs impacts for procurement, fabrication or delivery of materials/equipment for incorporation into the Work which were known or should have been known by the Contractor at the time of the Contractor's submittal of the Bid Proposal for the Work. Neither the financial resources of the Contractor or any person or entity directly or indirectly engaged by the Contractor in performance of any portion of the Work shall be deemed

conditions beyond the control of the Contractor. If an event of Excusable Delay occurs, the Contract Time shall be subject to adjustment hereunder only if the Contractor establishes: (i) full compliance with all applicable provisions of the Contract Documents relative to the method, manner and time for Contractor's notice and request for adjustment of the Contract Time; (ii) that the event(s) forming the basis for Contractor's request to adjust the Contract Time are outside the reasonable control and without any fault or neglect of the Contractor or any person or entity directly or indirectly engaged by Contractor in performance of any portion of the Work; and (iii) that the event(s) forming the basis for Contractor's request to adjust the Contract Time directly and adversely impacted the critical path of the Work as indicated in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of the claimed event(s) of Excusable Delay. The foregoing provisions notwithstanding, if the Special Conditions set forth a number of "Rain Days" to be anticipated during performance of the Work, the Contract Time shall not be adjusted for rain related unusually severe weather conditions until and unless the actual number of Rain Days during performance of the Work shall exceed those noted in the Special Conditions and such additional Rain Days shall have directly and adversely impacted the critical path of the Work as depicted in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of such additional Rain Days.

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

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

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

7.4.5. Limitations Upon Adjustment of Contract Time on Account of Delays. Any adjustment of the

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

7.5. Liquidated Damages. Should the Contractor neglect, fail or refuse to: (i) submit Submittals in accordance with the Approved Construction Schedule; (ii) achieve Substantial Completion of the Work within the Contract Time, (subject to adjustments authorized under the Contract Documents); or

(iii) complete Punch List items within the time established pursuant to the Contract Documents, the Contractor agrees to pay to the District the amount of per diem Liquidated Damages set forth in the Special Conditions, not as a penalty but as Liquidated Damages, for every day beyond the Contract Time, as adjusted, until Submittals are submitted, Substantial Completion or completion of the Punch List items are achieved. The Liquidated Damages amounts set forth in the Special Conditions are agreed upon by and between the Contractor and the District because of the difficulty of fixing the District's actual damages in the event of delayed submission of Submittals, Substantial Completion or completion of Punch List items. The Contractor and the District specifically agree that said amounts are reasonable estimates of the District's damages in such an event, and that such amounts do not constitute a penalty. Liquidated Damages may be deducted from the Contract Price then or thereafter due the Contractor. The Contractor and the Surety shall be liable to the District for any Liquidated Damages exceeding any amount of the Contract Price then held or retained by the District. In the event that the Contractor shall fail or refuse to complete Punch List items and the District elects to exercise its right to cause completion or correction of such items pursuant to Article 7.2.3.2 hereof, the District's assessment of Liquidated Damages pursuant to the foregoing shall be in addition, and not in lieu of, the District's right to charge Contractor with the cost of completing or correcting such items of the Work, as provided for under Article 7.2.3.2. The Contractor and the District acknowledge and agree that the provisions of this Article 7.5 are reasonable under the circumstances existing at the time of the Contractor's execution of the Agreement.

7.6. District Right to Take-Over Work. Unless caused by the District, Architect, Project Manager or the Project Inspector, if the Contractor fails or refuses, for any reason and at any time, to furnish adequate materials, labor, equipment or services to maintain progress of the Work in accordance with the then current Approved Construction Schedule after twenty-four (24) hour advance written

notice from the Project Manager to the Contractor of its failure or refusal, the District may thereafter furnish or cause to be furnish such materials, labor, equipment or services necessary to maintain progress of the Work in accordance with the then current Construction Schedule. All costs, expenses or other charges (whether direct, indirect and administrative) incurred by the District in furnishing

such materials, labor, equipment or services shall be at the sole cost of the Contractor and the District may deduct the same from the Contract Price then or thereafter due the Contractor. The District's exercise of rights pursuant to the foregoing shall not be deemed a waiver or limitation of any other right or remedy of the District under the Contract Documents or the Laws.

8. CONTRACT PRICE

8.1. Contract Price. The Contract Price is the amount stated in the Agreement as such, and subject to any authorized adjustments thereto in accordance with the Contract Documents, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents. The District's payment of the Contract Price to the Contractor shall be in accordance with the Contract Documents. The Contract Price is inclusive of all expenses, fees, costs or other charges incurred by the Contractor to complete all of the Contractor's obligations under the Contract Documents. The Contract Price shall not be subject to adjustment for costs incurred by the Contractor, including without limitation, extended work-hours or premium labor costs to complete utility tie-ins and/or to avoid disruption of utility services or the District's on-going operations and activities. Rebates obtained by the Contractor or any Subcontractor for materials, equipment or services utilized to complete the Work or incorporated into the Work shall be deemed the property of the District. The Contractor shall completely and accurately account for all rebates arising out of the Work and shall deliver proceeds to the District reflecting the full value of all such rebates.

8.2. Cost Breakdown. Within fifteen (15) days of the execution of the Agreement by Contractor, Contractor shall furnish, on forms provided by the District, a detailed estimate and complete Cost Breakdown of the Contract Price. The Cost Breakdown shall be subject to review and approval by the Project Manager and District of the form and content thereof. In the event that the District shall reasonably object to any portion of the Cost Breakdown, within ten (10) days of the District's receipt of the Cost Breakdown, the District shall notify the Contractor, in writing of the District's objection(s) to the Cost Breakdown. Within five (5) days of the date of the District's and the Project Manager's written objection(s), Contractor shall submit a revised Cost Breakdown to the District and the Project Manager for review and approval. The foregoing procedure for the preparation, review and approval of the Cost Breakdown shall continue until the District and the Project Manager has approved of the entirety of the Cost Breakdown. Once the Cost Breakdown is approved by the District and the Construction Manager, the Cost Breakdown shall not be thereafter modified or amended by the Contractor without the prior consent and approval of the District and the Project Manager, which may be granted or withheld in their sole reasonable discretion.

8.3. Progress Payments.

8.3.1. Applications for Progress Payments. During the Contractor's performance of the Work, the Contractor shall submit monthly, on the first working day of each month, to the Project Manager and the Architect, Applications for Progress Payments, on forms approved or designated by the District, setting forth an itemized estimate of the value of the Work completed in the preceding month for the purpose of the District's making of Progress Payments thereon. Values utilized in the Applications for Progress Payments shall be based upon the District approved Cost Breakdown pursuant to Article 8.2 above and such values shall be only for determining the basis of Progress Payments to Contractor, and shall not be considered as fixing a basis for adjustments, whether additive or deductive, to the Contract Price, or for determining the extent of Work actually completed. In addition to submitting the Application for Progress Payment, the Contractor shall submit with each Application for Progress Payment a detailed summary of (i) the break-down of the Progress Payment requested reflecting the amount of the requested Progress Payment to be retained by the Contractor; (ii) the Subcontractors/Material

Suppliers to whom the remaining balance of the requested Progress Payment will be disbursed to along with the amount to be disbursed to each identified Subcontractor/Material Supplier; and (iii) the amounts disbursed by the Contractor to the Subcontractors/Material Suppliers from the immediately preceding Progress Payment.

8.3.2. District's Review of Applications for Progress Payments. In accordance with Public Contract Code §20104.50, upon receipt of an Application for Progress Payment, the District shall cause the same to be reviewed by the Project Inspector, the Project Manager, if one is designated by the District, and the Architect, as soon as is practicable after receipt of such Application for Progress Payment. Such review shall be for the purpose of determining that the Application for Progress Payment is a proper Progress Payment request. For purposes of this Article 8.3.2, an Application for Progress Payment shall be deemed "proper" only if it is submitted on the form approved by the District, with all of the requested information of such form of Application for Progress Payment completely and accurately provided by the Contractor and such completed Application for Progress Payment is accompanied by: (i) the form of Verification of Certified Payroll Records Submittal to Labor Commissioner, executed under penalty of perjury by the Contractor's Superintendent and/or the Contractor PM; which verifies that all Certified Payroll Records for the Contractor and all Subcontractors for the period of time covered by the Application for Progress Payment have been completed and submitted in strict conformity with Labor Code §1771.4; (ii) duly completed and executed forms of Conditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code §8132 of the Contractor, all Subcontractors of any tier, and Material Suppliers covering the Progress Payment requested; (iii) duly completed and executed forms of Unconditional Waiver and Release of Rights upon Progress Payment in accordance with California Civil Code §8134 of the Contractor, all Subcontractors of any tier, and Material Suppliers covering the Progress Payment received by the Contractor under the prior Application for Progress Payment; (iv) if applicable, a current union statement reflecting that the Contractor and any Subcontractor of any tier, are current in the payment of any supplemental fringe benefits required pursuant to any collective bargaining agreement to which the Contractor or any such Subcontractor is a party to or is otherwise bound by; (v) a certification by the Contractor that it has continuously maintained, or caused to maintained, the Record Drawings reflecting the actual as-built conditions of the Work performed be for which the Progress Payment is requested, it being understood that such certification is subject to verification by the District, Architect or the Project Manager prior to disbursement of the Progress Payment; and (vi) an updated Construction Schedule, reflecting Work actually completed and in progress. In accordance with Public Contract Code §20104.50, an Application for Progress Payment determined by the District not to be a proper Application for Progress Payment shall be returned by the District to the Contractor as soon as is practicable after receipt of the same from the Contractor, but in no event not more than seven (7) days after the District's receipt thereof. The District's return of any Application for Progress Payment pursuant to the preceding sentence shall be accompanied by a written document setting forth the reason(s) why the Application for Progress Payment is not proper.

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

8.3.4. District's Disbursement of Progress Payments.

8.3.4.1. Timely Disbursement of Progress Payments. In accordance with Public Contract Code

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

8.3.4.2. Untimely Disbursement of Progress Payments. In accordance with Public Contract Code §20104.50, in the event that the District shall fail to make any Progress Payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Progress Payment, the District shall pay the Contractor interest on the undisputed amount of such Application for Progress Payment equal to the legal rate of interest set forth in California Code of Civil Procedure §685.010(a). The foregoing notwithstanding, in the event that the District shall determine that any Application for Progress Payment is not proper, pursuant to Article 8.3.2 above, and the District does not return such Application for Progress Payment within the seven (7) day period provided for in Article 8.3.2, the period of time for the District's disbursement of the Progress Payment on such Application for Progress Payment without incurring the interest liability shall be reduced by the number of days exceeding the seven (7) day return period.

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

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

8.3.4.5. Progress Payments for Changed Work. The Contractor's Applications for Progress Payment may include requests for payment on account of Changes in the Work which

have been properly authorized and approved by the Project Inspector, Project Manager and the Architect and all other governmental agencies with jurisdiction over such Change in accordance with the terms of the Contract Documents and for which a Change Order has been issued. Except as provided for herein, no other payment shall be made by the District for Changes in the Work.

8.3.5. Materials or Equipment Not Incorporated into the Work.

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

8.3.5.2. Materials or Equipment Delivered and Stored at the Site. The District may, in its sole and exclusive discretion, make payment for materials or equipment not yet incorporated into the Work if, at or prior to the time of the Contractor's submittal of a an Application for Progress Payment incorporating therein a request for payment of such materials or equipment if all of the following are complied with: (i) the materials or equipment have been delivered to the Site; (ii) adequate arrangements, reasonably satisfactory to the District, have been made by the Contractor to store and protect such materials or equipment at the Site including without limitation, insurance reasonably satisfactory to the District, covering and protecting against the risk of loss, destruction, theft or other damage to such materials or equipment while in storage if such coverage is not afforded under the policy of Risk insurance obtained by the District pursuant to the Contract Documents; and (iii) the establishment of procedures reasonably satisfactory to the District by which title to such materials or equipment will be vested in the District upon the District's payment therefor. The Contractor acknowledges that the discretion to make, or not to make, payment for materials or equipment delivered or stored at the Site pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment for materials or equipment delivered or stored at the Site, but not yet incorporated into the Work shall not be deemed the District's default hereunder. If the District elects to make payment for materials or equipment delivered and stored at the Site, the costs and expenses incurred to comply with the requirements of (ii) and (iii) of this Article 8.3.5.2 shall be borne solely and exclusively by the Contractor and no payment shall be made by the District on account of such costs and expenses.

8.3.5.3. Materials or Equipment Not Delivered or Stored at the Site. No payments shall be made by the District for materials or equipment to be incorporated into the Work where such materials or equipment have not been delivered or stored at the Site. The foregoing notwithstanding, the District may, in its sole and exclusive discretion, elect to make payment for materials or equipment not incorporated into the Work and which are not delivered or stored at the Site at or prior to the time of the Contractor's submittal of an Application for Progress Payment incorporating therein a request for payment of such materials or equipment provided that each and all of the following have been complied with: (i) adequate arrangements, reasonably satisfactory to the District, have been made by the Contractor to store and protect such materials or equipment which include without limitation, insurance reasonably satisfactory to the District, covering and protecting against the risk of loss, destruction, theft or other damage to such materials or equipment while in storage if coverage for the same is not

afforded under the policy of Risk insurance obtained by the District pursuant to the Contract Documents; and (ii) the establishment of procedures reasonably satisfactory to the District by which title to such materials or equipment will be vested in the District upon the District's payment therefor. The Contractor acknowledges that the discretion to make, or not to make, payment for such materials or equipment pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment for such materials or equipment shall not be deemed the District's default hereunder. If the District elects to make payment for materials or equipment not at the Site, the costs and expenses incurred to comply with the requirements of (i) and (ii) of this Article 8.3.5.3 shall be borne solely and exclusively by the Contractor and no payment shall be made by the District on account of such costs and expenses.

8.3.5.4. Materials or Equipment in Fabrication or Transit. The provisions of this Article 8.3.5 notwithstanding, the District shall not make any payment on account of any materials or equipment which are in the process of being fabricated or which are in transit to the Site of or other storage location.

8.3.5.5. Exclusions from Progress Payments. In addition to the District's right to withhold disbursement of any Progress Payment provided for in the Contract Documents, neither the Contractor's Application for Progress Payment shall include, nor shall the District be obligated to disburse any portion of the Contract Price for amounts which the Contractor does not intend to pay any Subcontractor, of any tier, or Material Supplier because of a dispute or any other reason.

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

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

8.5. Final Payment.

8.5.1. Application for Final Payment. When the Contractor has achieved Final Completion of the Work and has otherwise fully performed its obligations under the Contract Documents, the Contractor shall submit an application for Final Payment on such form as approved by the District. Thereupon, the Architect, Construction Manager and the Project Inspector will promptly make a final inspection of the Work and when the Architect, Construction Manager and the Project

Inspector find the Work acceptable under the Contract Documents and that the Contract has been fully performed by the Contractor, the Architect, Project Manager and the Project Inspector will thereupon promptly approve the Application for Final Payment, stating that to the best their knowledge, information and belief, the Work has been completed in accordance with the terms of the Contract Documents. The Final Payment shall include the remaining balance of the Contract Price and any retention from Progress Payments previously withheld by the District.

8.5.2. Conditions Precedent to Disbursement of Final Payment. Neither Final Payment nor any remaining Contract Price shall become due until the Contractor submits to the District each and all of the following, the submittal of which are conditions precedent to the District's obligation to disburse the Final Payment: (i) an affidavit or certification by the Contractor that payrolls, bills for materials and other indebtedness incurred in connection with the Work for which the District or the District's property may or might be responsible or encumbered have been paid or otherwise satisfied; (ii) a certificate evidencing that insurance required by the Contract Documents to remain in force after the Contractor's receipt of Final Payment is currently in effect; (iii) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover any period following Final Payment as required by the Contract Documents; (iv) consent of the Surety on the Labor and Material Payment Bond and Performance Bond, to Final Payment if required; (v) duly completed and executed forms of Conditional or Unconditional Waivers and Releases of rights upon Final Payment of the Contractor, Subcontractors of any tier and Material Suppliers in accordance with California Civil Code §8136 or §8138, with each of the same stating that there are, or will be, no claims for additional compensation after disbursement of the Final Payment; (vi) Operations and Maintenance manuals and separate warranties provided by any manufacturer or distributor of any materials or equipment incorporated into the Work; (vii) the Record Drawings; (viii) the form of Guarantee included in the Contract Documents duly executed by an authorized representative of the Contractor; (ix) any and all other items or documents required by the Contract Documents to be delivered to the District upon completion of the Work; (x) the completion and submittal of all reports required by the Contract Documents, including without limitation, verified reports required by applicable provisions of the California Code of Regulations; (xi) if required by the District, such other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens, stop notices, claims, security interest or encumbrances arising out of the Contract to the extent and in such form as may be required by the District; and (xii) Affidavits of each Subcontractor to the Contractor which affirm that the Subcontractor has made payments to its employees engaged in the Work in accordance with the specified general prevailing wage rate of per diem wages for the classification(s) of labor provided each such employee; such Affidavits shall be in such form and content established by the District and shall be executed under penalty of perjury by an authorized employee or officer of each Subcontractor to the Contractor.

8.5.3. Disbursement of Final Payment. Provided that the District is then in receipt of all documents and other items in Article 8.5.2 above as conditions precedent to the District's obligation to disburse Final Payment, not later than sixty (60) days following Final Acceptance the District shall disburse the Final Payment to the Contractor. Pursuant to California Public Contract Code §7107, if there is any dispute between the District and the Contractor at the time that disbursement of the Final Payment is due, the District may withhold from disbursement of the Final Payment an amount not to exceed one hundred fifty percent (150%) of the amount in dispute. If the Contractor complies with all of the condition's precedent to the District's disbursement of the Final Payment, except for providing reasonably satisfactory written evidence of the Contractor's preparation and filing with DSA of the DSA Final Verified Report,

the District may withhold and retain ten percent (10%) of the Final Payment in accordance with Article 4.21.2 of these General Conditions. In such event, provided that the Contractor has fully complied with and satisfied all other conditions precedent set forth in Article 8.5.2, the District will disburse the remaining balance of the Final Payment (after deduction for failure to file the DSA Final Verified Report) to the Contractor; such disbursement shall constitute the District's full and complete performance of payment obligations to the Contractor hereunder.

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

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

8.6. Withholding of Payments. The District may withhold any Progress Payment or the Final Payment, in whole or in part, or back charge the Contractor to the extent it may deem advisable to protect the District on account of: (i) defective Work or Work not in conformity with the requirements of the Contract Documents which is not remedied; (ii) failure of the Contractor to make payments when due Subcontractors or Material Suppliers for materials or labor; (iii) claims filed or reasonable evidence of the probable filing of claims by Subcontractors, laborers, Material Suppliers, or others performing any portion of the Work under the Contract Documents for which the District may be liable or responsible including, without limitation, Stop Notice Claims filed with the District pursuant to California Civil Code §9350 et seq.; (iv) a reasonable doubt that the Contract can be completed for the then unpaid balance of the Contract Price; (v) tax demands filed in accordance with California Government Code §12419.4; (vi) other claims, penalties and/or forfeitures for which the District is required or authorized to retain funds otherwise due the Contractor; (vii) any amounts due from the Contractor to the District under the terms of the Contract Documents; (viii) violations of the obligations of the Contractor or any Subcontractor relating to the employment of labor in connection with the Work; or (ix) the Contractor's failure to perform any of its obligations under the Contract Documents, including without limitation, its default under the Contract Documents or its failure to maintain adequate progress of the Work. In addition to the foregoing, the District shall not be obligated to process any Application for Progress Payment or Final Payment, nor shall Contractor be entitled to any Progress Payment or Final Payment so long as any lawful or proper direction concerning the Work or the performance thereof or any portion thereof, given by the District, the Project Inspector, the Construction Manager, the Architect or any public authority having jurisdiction over the Work, or any portion thereof, shall not be fully and completely complied with by the Contractor. When the District is reasonably satisfied that the Contractor has remedied any such deficiency, payment shall be made of the amount withheld. In lieu of making payment of withheld amounts to the Contractor, the District may, in its sole exclusive discretion, apply withheld amounts to the payment and satisfactions of debts and obligations of the Contractor relating to the Work. In

doing, the District shall be an agent of the Contractor for the sole and limited purpose of making payment(s) to others for the Work on behalf of the Contractor; payments made by the District pursuant to the foregoing shall be deemed payments to the Contractor and the Contract Price shall be adjusted to reflect such payment(s). The foregoing notwithstanding, if the District withholds and retains ten percent (10%) of the Final Payment pursuant to Articles 4.21.2 and 8.5.3 of these General Conditions, the Contractor shall not be entitled to receipt or payment of any portion of such withholdings and the District is not obligated to disburse such withholdings to the Contractor. The District shall not be liable to the Contractor or others for its good faith decision to make or not make payment(s) of amounts withheld from the Contractor pursuant to the foregoing. If the District elects to make payments to others of amounts withheld from the Contractor, the District may do so without prior judicial determination; the District will render the Contractor a complete and accurate accounting of amounts withheld and paid to others on behalf of the Contractor.

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

9. CHANGES

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

9.1.1. Proposal Request. The District may, without directing or authorizing a Change to the Work, request that the Contractor provide a proposal for adjustment of the Contract Time and/or the Contract Price, in connection with a Change being considered by the District. Such a request will be through the District's form of Proposal Request. Unless otherwise expressly provided in a

Proposal Request issued on behalf of the District to the Contractor, the Contractor shall respond to each Proposal Request within five (5) days of the issuance thereof. If the Contractor fails or refuses to respond to a Proposal Request within said five (5) days and the District elects to proceed with the potential Change noted in a Proposal Request, the reasonable determination of the District of the extent of adjustment of the Contract Price or the Contract Time on account of the potential Change shall be binding and enforceable against the Contractor.

9.1.2. Contractor Cost Proposal. Within five (5) days after the Contractor's receipt of a Proposal Request directing a Change in the Work or furnishing the written notice regarding any oral order directing a Change in the Work, the Contractor shall submit to the Architect, the Project Inspector, the Project Manager and the District a detailed written statement setting forth the general nature of the Change, the amount of any adjustment to the Contract Price and impact to the then current Schedule on account thereof, properly itemized and supported by a detail Schedule analysis and sufficient substantiating data to permit evaluation of the same, and the extent of adjustment of the Contract Time, if any, required by such Change. No claim or adjustment to the Contract Price or the Contract Time shall be allowed if not asserted by the Contractor in strict conformity herewith or if asserted after Final Payment is made under the Contract Documents. The District's form of Cost Proposal shall be used and completed by the Contractor to submit data pursuant to these provisions.

9.2. Change Directive. A Change Directive is a written instrument issued by or on behalf of the District directing a Change to the Work prior to the Contractor and District reaching full agreement on an adjustment of the Contract Time and/or Contract Price on account of such Change. The Contractor shall promptly commence and diligently complete any Change to the Work subject to a Change Directive issued hereunder. The issuance of a Change Order pursuant to this Article 9 in connection with any Change Directive authorized by the District is not a condition precedent to Contractor's obligation to promptly commence and diligently complete any such Change Directive. Upon completion of the Work subject to a Change Directive, if the Contractor and District have not agreed on the adjustment of Contract Time and/or Contract Price for such Change, District shall issue a Unilateral Change Order pursuant to this Article 9.

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

9.4. Contractor Submittal of Data for Work Direction Adjustments. Within ten (10) days after furnishing the written notice required by Article 9.3 regarding any Work Direction, the Contractor shall submit

to the Architect, the Project Inspector, the Project Manager and the District, on the District form of Cost Proposal, a detailed written statement setting forth the general nature of the Change the Contractor deems to be incorporated into a Work Direction, the extent of any adjustment to the Contract Price or the Contract Time on account thereof, properly itemized and supported by a detail Schedule analysis and sufficient substantiating data to permit evaluation of the same, and the extent of adjustment of the Contract Time, if any, required by such Work Direction. No claim or adjustment to the Contract Price or the Contract Time shall be allowed on account of any Work Direction if not asserted by the Contractor in strict conformity herewith or if asserted after Final Payment is made under the Contract Documents.

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

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

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

9.5.1.2. Determination by the District. By the District, whether or not negotiations are initiated pursuant to Article 9.5.1.1 above, based upon actual and necessary costs incurred by the Contractor as determined by the District on the basis of the Contractor's records. If the procedure set forth in this Article 9.5.1.2 is utilized to determine the extent of adjustment to the Contract Price on account of Changes to the Work, promptly upon determining the extent of adjustment to the Contract Price, the District shall notify the Contractor in writing of the same; the Contractor shall be deemed to have accepted the District's determination of the amount of adjustment to the Contract Price on account of a Change to the Work unless Contractor shall notify the District, the Architect and the Project Inspector, in writing, not more than fifteen (15) days from the date of the District's written notice, of any objection to the District's determination. Failure of the Contractor to timely notify the District, the Architect and the Project Inspector of Contractor's objections to the District's determination of the extent of adjustment to the Contract Price shall be deemed Contractor's acceptance of the District's determination and a waiver of any right or basis of the Contractor to thereafter protest or otherwise object to the District's determination. Notwithstanding any objection of the Contractor to the District's determination of the extent of any adjustment to the Contract Price pursuant to this Article 9.5.1.2, Contractor shall, pursuant to Article 9.6 below, diligently proceed to perform and complete any such Change.

9.5.2. Basis for Adjustment of Contract Price. If Changes in the Work require an adjustment of the

Contract Price pursuant to Articles 9.5.1.1 or 9.5.1.2 above, the basis for adjustment of the Contract Price shall be as follows:

9.5.2.1. Allowable Labor Costs. Except in the event adjustment of the Contract Price for a District authorized Change is computed by unit prices, the labor costs allowable for incorporation into a Contract Price adjustment for a Change shall be limited as set forth herein.

9.5.2.1.1. Limitation to Field Labor and Prevailing Wage Rates. The Contract Price adjustment for labor necessary to complete a Change shall be limited to the laborers of the Contractor or Subcontractors actually and necessarily engaged in the performance of the Change and for which there is a prevailing wage rate classification. Wage rates for laborers shall not exceed the applicable prevailing wage rates in the locality of the Site and shall be in the labor classification(s) necessary for the performance of the Change. Use of a labor classification which would increase labor costs associated with any Change shall not be permitted. Overtime labor charges for performing any part of the Change shall only be allowed if authorized in writing by the Architect, Project Manager and the District prior to Contractor's performance of the overtime labor.

9.5.2.1.2. Fringe Benefits, Payroll Taxes and Labor Burdens. The Contractor or Subcontractor may adjust the prevailing wage rate for allowable labor costs to reflect fringe benefits, payroll taxes and labor burdens actually incurred by Contractor and provided to such labor directly engaged in performing a Change. The allowable adjustment for fringe benefit payments, payroll taxes and labor burdens shall not, however, exceed fifteen percent (15%) of the applicable prevailing wage rate and shall not be subject to the additional mark-up set forth in Article 9.5.2.4 and the Special Conditions.

9.5.2.1.3. Excluded Labor Costs. The Contract Price adjustment for labor costs on account of a Change shall exclude costs: (i) for preparing estimate(s) of the costs of the Change; (ii) to maintain records relating to the costs of the Change; (iii) for coordination and assembly of materials and information relating to the Change or performance thereof; (iv) to supervise, coordinate or manage the Work of a Change; or (v) any other general administrative overhead or general conditions costs associated with the Change or performance thereof as such costs are incorporated into the overhead and general conditions mark-up costs set forth in Article 9.5.2.4.

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

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

9.5.2.3. Construction Equipment. Contractor shall be compensated for the actual cost of the necessary and direct use of Construction Equipment in the performance of Changes to the Work. Use of such Construction Equipment in the performance of Changes to the Work shall

be compensated in increments of fifteen (15) minutes. Rental time for Construction Equipment moved by its own power shall include time required to move such Construction Equipment to the site of the Work from the nearest available rental source of the same. If Construction Equipment is not moved to the Site by its own power, Contractor will be compensated for the loading and transportation costs in lieu of rental time. The foregoing notwithstanding, neither moving time or loading and transportation time shall be allowed if the Construction Equipment is used for performance of any portion of the Work other than Changes to the Work. Unless prior approval in writing is obtained by the Contractor from the Architect, the Project Inspector and the District, no costs or compensation shall be allowed for time while Construction Equipment is inoperative, idle or on standby, for any reason. The Contractor shall not be entitled to an allowance or any other compensation for Construction Equipment or tools used in the performance of Changes to the Work where such Construction Equipment or tools have a replacement value of one thousand dollars ($1,000.00) or less. Construction Equipment costs claimed by the Contractor in connection with the performance of any Change to the Work shall not exceed rental rates established by distributors or Construction equipment rental agencies in the locality of the Site; any costs asserted which exceed such rental rates shall not be allowed or paid. Unless otherwise specifically approved in writing by the Architect, the Project Inspector, Project Manager and the District, the allowable rate for the use of Construction Equipment in connection with Changes to the Work shall constitute full compensation to the Contractor for the cost of rental, fuel, power, oil, lubrication, supplies, necessary attachments, repairs or maintenance of any kind, depreciation, storage, insurance, labor (exclusive of labor costs of the Construction Equipment operator), and any all other costs incurred by the Contractor incidental to the use of such Construction Equipment.

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

9.5.4. Contractor Maintenance of Records. If the Contractor is directed to perform any Changes to the Work pursuant to Article 9.1 or 9.2, or should the Contractor encounter Work Conditions which

the Contractor, pursuant to Article 9.8, believes would obligate the District to adjust the Contract Price and/or the Contract Time, Contractor shall maintain detailed records itemizing each element of costs along with substantiating evidence of costs incurred on a daily basis. Such records shall include without limitation hourly records for labor and Construction Equipment and itemized records of materials and equipment used that day in connection with the performance of any Change to the Work. In the event that more than one Change to the Work is performed by the Contractor in a calendar day, Contractor shall maintain separate records of labor, Construction Equipment, materials and equipment for each such Change. If any Subcontractor, of any tier, shall provide or perform any portion of any Change to the Work, Contractor shall require that each such Subcontractor maintain records in accordance with this Article. Each daily record maintained hereunder shall be signed by Contractor Superintendent or Contractor's authorized representative; such signature shall be deemed Contractor's representation and warranty that all information contained therein is true, accurate, complete and relate only to the Change referenced therein. All records maintained by a Subcontractor, of any tier, relating to the costs of a Change to the Work shall be signed by such Subcontractor's authorized representative or Subcontractor's Superintendent. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Architect, the Project Manager or the Project Inspector upon request. If the Contractor fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records and the adjustment to the Contract Price on account of any Change to the Work is determined pursuant to this Article, the District's reasonable good faith determination of the extent of adjustment to the Contract Price on account of such Change shall be final, conclusive, dispositive and binding upon Contractor. Contractor's obligation to maintain records hereunder is in addition to, and not in lieu of, any other Contractor obligation under the Contract Documents with respect to Changes to the Work.

9.6. Adjustment to Contract Time. If any Change to the Work authorized pursuant to this Article 9, the Contract Time affects the critical path of the Work, the Contract Time shall be extended or reduced by Change Order for a period of time commensurate with the time reasonably necessary to perform such Change. The Contractor is solely responsible for submitting scheduling data, analysis and other materials necessary or required by the District to substantiate the Contract Time adjustment requested by the Contractor for a Change. The District is not obligated to consider any adjustment to the Contract Time on account of a Change until the Contractor has submitted such scheduling data, analysis and other materials. In the event that any Change shall require an extension of the Contract Time, the Contractor shall not be subject to Liquidated Damages for such period of time. If completion of the Work is delayed by causes for which the District is responsible and the delay is unreasonable under the circumstances involved, and not within the contemplation of the Contractor and the District at the time of execution of the Agreement, the Contractor shall not be precluded from the recovery of damages arising therefrom.

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

9.8. Change Orders. If the District approves of a Change, a written Change Order prepared by the Architect or the Project Manager on behalf of the District shall be forwarded to the Contractor describing the Change and setting forth the adjustment to the Contract Time and the Contract Price (broken down by costs for labor, materials, equipment, Subcontractor mark-ups and other costs incorporated into the Change Order), if any, on account of such Change. All Change Orders shall be in full payment and final settlement of all claims for direct, indirect and consequential costs, costs of delays or impacts related to, or arising out of, items covered and affected by the Change Order, including without limitation: impacts of any kind; preparation and processing of any and all related RFIs, ASIs, Bulletins, FCDs, Quotes, and/or CCDs; inefficiencies; productivity losses; delay; acceleration; field and home office overhead; and any and all other incidental costs for all of the work described in the Change Order, as well as any and all adjustments to the Contract Time necessitated thereby. Any claim or item relating to any Change incorporated into a Change Order not presented by the Contractor for inclusion in the Change Order shall be deemed waived. The Contractor shall execute the Change Order prepared pursuant to the foregoing; once the Change Order has been prepared and forwarded to the Contractor for execution, without the prior approval of the District which may be granted or withheld in the sole and exclusive discretion of the District, the Contractor shall not modify or amend the form or content of such Change Order, or any portion thereof. The Contractor's attempted or purported modification or amendment of any such Change Order, without the prior approval of the District, shall not be binding upon the District; any such unapproved modification or amendment to such Change Order shall be null, void and unenforceable. Unless otherwise expressly provided for in the Contract Documents or in the Change Order, any Change Order issued hereunder shall be binding upon the District only upon action of the District's Board of Education approving and ratifying such Change Order. In the event of any amendment or modification made by the Contractor to a Change Order for which there is no prior approval by the District, in accordance with the provisions of this Article 9.8, unless otherwise expressly stated in its approval and ratification of such Change Order, any action of the Board of Education to approve and ratify such Change Order shall be deemed to be limited to the Change Order as prepared by the Construction Manager or the Architect; such approval and ratification of such Change Order shall not be deemed the District's approval and ratification of any unapproved amendment or modification by the Contractor to such Change Order. The form and content of Change Orders shall be as set forth in the attachments to the Special Conditions.

9.9. Unilateral Change Order. A Unilateral Change Order is a Change Order issued by the District, in the sole and exclusive discretion of the District, before the Contractor and District have agreed on the extent of adjustment of the Contract Time or the Contract Price relating to a Change. The District may, in its sole discretion, issue a Unilateral Change Order for any Change to the Work authorized by the District when the Contractor and the District have been unable to reach mutual agreement as to the extent of any adjustment to the Contract Price or Contract Time on account of such Change. The Contractor shall proceed to perform the Change to the Work as set forth in Unilateral Change Orders; failure of the Contractor to strictly comply with and perform Changes in accordance with Unilateral Change Orders shall be deemed the Contractor's default of a material obligation hereunder. Any claim of the Contractor for adjustment of the Contract Time or Contract Price beyond the adjustments established by a Unilateral Change Order shall accrue as of the date of the Board of Education' action approving or ratifying a Unilateral Change Order; claims for adjustment of the Contract Time or Contract Price and shall be subject to the claim provisions set forth in Article 16.11. Notwithstanding any provision of the Contract Documents to the contrary, an express condition precedent to the Contractor's exercise of rights and remedies under Article 16.11 relating to a Unilateral Change Order, is the Contractor notification to the District, Architect and Construction Manager, if any, in writing of the Contractor's objections to all or any portion of a Unilateral Change

Order or the basis for adjustment of the Contract Time or Contract Price within ten (10) days after the date of the Board of Education meeting ratifying or approving a Unilateral Change Order; failure of the Contractor to do so is deemed the Contractor's acceptance of the entirety of a Unilateral Change Order, as approved or ratified by the District's Board of Education and an express, unequivocal waiver by the Contractor of any right or remedy of the Contractor, under the Contract Documents or the Laws to: (i) object to the Unilateral Change Order or any portion thereof; or (ii) further adjustment of the Contract Time or the Contract Price on account of the Change(s) incorporated into a Unilateral Change Order.

9.10. Contractor Notice of Changes. If the Contractor should claim that any instruction, RFI, FCD, ASI, Bulletin, request, the Drawings, the Specifications, action, condition, omission, default, or other situation (collectively "Work Conditions") obligates the District to increase the Contract Price or to extend the Contract Time, the Contractor shall notify the Project Inspector, the Construction Manager and the Architect, in writing, of such claim within ten (10) days from the date of its actual or Contractor's notice of the factual basis supporting the same. The District shall consider any such claim of the Contractor only if sufficient supporting documentation is submitted with the Contractor's notice to the Project Inspector, the Construction Manager and the Architect. Time is of the essence in Contractor's written notice pursuant to the preceding sentence so that the District can promptly investigate and consider alternative measures to address such Work Conditions. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice (with sufficient supporting documentation to permit the District's review and evaluation) within ten (10) days of its actual or Constructive knowledge of any Work Conditions for which the Contractor believes there should an adjustment of the Contract Time or the Contract Price shall be deemed Contractor's waiver, release, discharge and relinquishment of any right to assert or claim any entitlement to an adjustment of the Contract Time or the Contract Price on account of any such Work Conditions. If the District determines that the Contract Price or the Contract Time are subject to adjustment based upon the events, circumstances and supporting documentation submitted with the Contractor's written notice submitted hereunder, any such adjustment shall be determined in accordance with the provisions of Articles 9.5.1 and 9.5.2.

9.11. Disputed Changes. In the event of any dispute or disagreement between the Contractor and the District, the Project Manager or the Architect regarding the characterization of any item as a Change to the Work or as to the appropriate adjustment of the Contract Price or the Contract Time on account thereof, the Contractor shall promptly proceed with the performance and completion of such item of the Work, subject to a subsequent resolution of such dispute or disagreement in accordance with the terms of the Contract Documents. The Contractor's failure or refusal to proceed with such Work is the Contractor's default of a material obligation of the Contractor under the Contract Documents.

9.12. Emergencies. In an emergency affecting or threatening the safety of persons, or which affects or threatens the Work, or other property, the Contractor, without special instruction or prior authorization from the District, the Project Manager or the Architect, is permitted to act at its discretion to prevent such threatened loss or injury. Any compensation claimed by the Contractor on account of such emergency work shall be submitted and determined in accordance with this Article 9.

9.13. Minor Changes in the Work. The Architect or the Construction Manager may order minor Changes in the Work not involving an adjustment in the Contract Price or the Contract Time and not inconsistent with the intent of the Contract Documents. Such Changes shall be effected by written order and shall be binding on the District and the Contractor. The Contractor shall carry out such orders promptly.

9.14. Unauthorized Changes. Any Work beyond the extent of Work shown on the Contract Documents, or any extra Work performed or provided by the Contractor without notice to the Architect, the Construction Manager and the Project Inspector in the manner and within the time set forth in Articles
9.2 or 9.8 shall be considered unauthorized and at the sole expense of the Contractor. Work so done will not be measured or paid for, no extension to the Contract Time will be granted on account thereof and any such Work may be ordered removed at the Contractor's sole cost and expense. The failure of the District to direct or order removal of such Work shall not constitute acceptance or approval of such Work nor relieve the Contractor from any liability on account thereof.

10. SEPARATE CONTRACTORS

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

10.2. District's Coordination of Separate Contractors. The District shall provide for coordination of the activities of the District's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their respective Construction Schedules when directed to do so. The Contractor shall make any revisions to the Approved Construction Schedule for the Work hereunder deemed necessary after a joint review and mutual agreement. The Construction Schedules shall then constitute the Construction Schedules to be used by the Contractor, separate contractors and the District until subsequently revised.

10.3. Mutual Responsibility. The Contractor shall afford the District and separate contractors a reasonable opportunity for storage of their materials and equipment and performance of their activities at the Site and shall connect and coordinate the Contractor's Work, Construction and operations with theirs as required by the Contract Documents.

10.4. Discrepancies or Defects. If part of the Contractor's Work depends for proper execution or results upon Construction or operations by the District or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect, the Project Manager and the Project Inspector any apparent discrepancies or defects in such other Construction that would render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acknowledgment that the District's or separate Contractors' completed or partially completed Construction is fit and proper to receive the Contractor's Work, except as to defects not then discoverable by the Contractor's reasonable diligence.

10.5. District's Right to Withhold for Delay to Separate Contractors.

10.5.1. Progress of Work. Unless caused by the District, Architect, Construction Manager, Project Inspector, or separate contractor, if the Contractor fails or refuses, for any reason and at any time, to furnish adequate materials, labor, equipment, tools and/or services to maintain progress of the Work in accordance with the then current Construction Schedule thereby delaying the Work of separate contractor(s), the District may, after forty-eight (48) hours advance written notice from the District to the Contractor of its failure or refusal, direct, instruct and authorize

the separate contractor(s) to furnish or cause to be furnished such materials, labor, equipment, tools and/or services necessary to maintain progress of the Work in accordance with the then current Construction Schedule.

10.5.2. District's Right to Withhold. If the work of a separate contractor to the District on the Project is delayed by the acts or omissions of the Contractor, any and all costs, expenses, and/or other charges incurred by the District for the work of such separate contractor(s) resulting from such acts or omissions of the Contractor shall be the sole responsibility of, and be borne by, the Contractor, and the District may deduct the amount of any and all such costs, expenses, and/or other charges from the Contract Price then or thereafter due the Contractor. If the Contract Price then or thereafter due the Contractor is insufficient to cover such amounts, the Contractor and the Performance Bond Surety shall be jointly and severally liable to the District for such amounts in excess of the Contract Price, provided that the liability of the Performance Bond Surety shall be limited to the penal sum of the Performance Bond. The assessment and/or withholding of the amount of such costs, expenses, and/or other charges shall be in addition to, and not in lieu of, any liquidated damages assessed and/or withheld from Contractor under Article 7.5 hereof.

10.5.3. Non-exclusive Remedy. The District's exercise of rights pursuant to the foregoing shall not be deemed a waiver or limitation of any other right or remedy of the District under the Contract Documents, or arising by operation of the Laws.

11. TESTS AND INSPECTIONS

11.1. Tests; Inspections; Observations.

11.1.1. Contractor's Notice; Request for Construction Inspection. If the Contract Documents, the Laws or any public authority with jurisdiction over the Work requires the Work, or any portion thereof, to be specially tested, inspected or approved, the Contractor shall give the Architect, the Project Manager and the Project Inspector written notice of the readiness of such Work for observation, testing or inspection at least two (2) working days prior to the time for the conducting of such test, inspection or observation. If inspection, testing or observation is by authority other than the District, the Contractor shall inform the Project Inspector and the Construction Manager not less than two (2) working days prior to the date fixed for such inspection, test or observation. When requesting special tests, inspections or approvals, the Contractor shall complete and submit the District's form of Request for Construction Inspection. The Contractor shall not cover up any portion of the Work subject to tests, inspections or observations prior to the completion and satisfaction of the requirements of such test, inspection or observation. In the event that any portion of the Work subject to tests, inspection or approval shall be covered up by Contractor prior to completion and satisfaction of the requirements of such tests, inspection or approval, Contractor shall be responsible for the uncovering of such portion of the Work as is necessary for performing such tests, inspection or approval without adjustment of the Contract Price or the Contract Time on account thereof.

11.1.2. Cost of Tests and Inspections. The District will pay for fees, costs and expenses for the initial tests/inspections of materials/equipment forming a part of the Work which are conducted at the Site or a location within a one hundred (100) mile radius of the Site. All fees, costs or expenses for subsequent tests/inspections or for tests/inspections conducted at a location situated more than a one hundred (100) mile radius from the Site (including without limitation, travel and travel-related expenses) shall be borne solely and exclusively by the Contractor. The foregoing notwithstanding, if the portion(s) of the Work subject to tests/inspections is/are not ready for such test/inspection at the time indicated in the Contractor's notice under Article

11.1.1 or if upon completion of such test/inspection, the portion(s) of the Work subject to such test/inspection do not meet or exceed the minimum requirements of such test/inspection, the Contractor shall be solely responsible for the payment of all fees, costs or expenses arising out of or related in any manner to subsequent tests/inspections of such portion(s) of the Work, and resulting delays, disruptions or other impacts to completion of the Project. Further, notwithstanding the District's payment of fees, costs or expenses for conducting initial tests/inspections, if any actions or failures to act of the Contractor or person or entity providing or performing Work under the direction or control of the Contractor require tests/inspections to be conducted over a period of more than eight (8) hours per day by any single person or on weekends/holidays, the Contractor shall be solely responsible for the payment of fees, costs or expenses which result from test/inspection services which exceed eight (8) hours per day by any single person or on weekends/holidays.

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

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

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

11.3. Timeliness of Tests, Inspections and Approvals. Tests or inspections required and conducted pursuant to the Contract Documents shall be made or arranged by Contractor to avoid delay in the progress of the Work.

12. UNCOVERING AND CORRECTION OF WORK

12.1. Inspection of the Work**.**

12.1.1. Access to the Work. All Work and all materials and equipment forming a part of the Work or incorporated into the Work are subject to inspection by the District, the Project Manager, the Architect and the Project Inspector for conformity with the Contract Documents. The Contractor shall, at its cost and without adjustment to the Contract Price or the Contract Time, furnish any

facilities necessary for sufficient and safe access to the Work for purposes of inspection by the District, the Construction Manager, the Architect, the Project Inspector, DSA or any other public or quasi-public authority with jurisdiction over the Work or any portion thereof.

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

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

12.3. Rejection of Work. Prior to the District's Final Acceptance of the Work, any Work or materials or equipment forming a part of the Work or incorporated into the Work which is Defective or Non-Conforming Work may be rejected by the District, the Project Manager, the Architect or the Project Inspector and the Contractor shall correct such rejected Work without any adjustment to the Contract Price or the Contract Time, even if the Work, materials or equipment have been previously inspected by the Architect or the Project Inspector and the Defective or Non-Conforming Work was not observed.

12.4. Correction of Defective or Non-Conforming Work. The Contractor shall promptly correct any Defective or Non-Conforming Work whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting Defective or Non-Conforming Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby. The Contractor shall bear all costs of correcting destroyed or damaged Construction Work, whether completed or partially completed, of the District or separate contractors, caused by the Contractor's correction or removal of Defective or Non-Conforming Work.

12.5. Removal of Non-Conforming or Defective Work. The Contractor shall, at its sole cost and expense, remove from the Site all Defective or Non-Conforming Work which is neither corrected by the Contractor nor accepted by the District.

12.6. Failure of Contractor to Correct Defective or Non-Conforming Work. If the Contractor fails to commence to correct Defective or Non-Conforming Work within three (3) days of notice by or on behalf of the District of such condition and promptly thereafter complete the same within a reasonable time, the District may correct it in accordance with the Contract Documents. If the Contractor does not proceed with correction of such Defective or Non-Conforming Work within the time fixed herein, the District may remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage after written notice, the District may sell such materials or equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including without limitation compensation for the Project Manager's services, the Architect's services, attorneys' fees and other expenses made necessary thereby. If such proceeds

of sale do not cover costs which the Contractor should have borne, the Contract Price shall be reduced by the deficiency. If payments of the Contract Price then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor and the Surety shall promptly pay the difference to the District.

12.7. Acceptance of Defective or Non-Conforming Work. The District may, in its sole and exclusive discretion, elect to accept Defective or Non-Conforming Work instead of requiring its removal and correction, in which case the Contract Price shall be reduced as appropriate and equitable. The District's determination of the extent of reduction of the Contract Price on account of Defective or Non-Conforming Work accepted by the District shall be binding, conclusive, dispositive and not subject to appeal or other dispute resolution procedures, unless such determination is manifestly unreasonable.

13. WARRANTIES

13.1. Workmanship and Materials. The Contractor warrants to the District that (i) the Work and all materials and equipment incorporated therein conform to requirements of the Contract Documents; (ii) all materials and equipment incorporated into the Work are new, of good quality and of the most suitable grade and quality for the purpose intended, unless otherwise specified in the Contract Documents and (iii) all Work and workmanship shall be of good quality, free from faults and defects and in conformity with the requirements of the Contract Documents. If required by the Architect, Project Inspector, the Project Manager or the District, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. Any Work, or portion thereof not conforming to these requirements, including substitutes or alternatives not properly approved in accordance with the Contract Documents may be deemed defective. Where there is an approved substitution of, or alternative to, material or equipment specified in the Contract Documents, the Contractor warrants to the District that such installation, Construction, material, or equipment will equally perform the function and have the quality of the originally specified material or equipment. The Contractor expressly warrants the merchantability, the fitness for use, and quality of all substitute or alternative items in addition to any warranty given by the manufacturer or supplier of such item.

13.2. Warranty Work. If, within one (1) year after the date of Final Acceptance, or such other time frame set forth elsewhere in the Contract Documents, any of the Work or workmanship is found to be defective or not in accordance with the requirements of the Contract Documents, or otherwise contrary to the warranties contained in the Contract Documents, the Contractor shall commence all necessary corrective action not more than seven (7) days after receipt of a written notice from the District to do so, and to thereafter diligently complete the same. If the Contractor fails or refuses to commence correction of any such item within said seven (7) day period or to diligently prosecute such corrective actions to completion, the District may, without further notice to Contractor, cause such corrective Work to be performed and completed. In such an event, Contractor and Contractor's Performance Bond Surety shall be responsible for all costs in connection with such corrective Work, including without limitation, general administrative overhead costs of the District in securing and overseeing such corrective Work. Nothing contained herein shall be construed to establish a period of limitation with respect to any obligation of the Contractor under the Contract Documents. The obligations of the Contractor hereunder shall be in addition to, and not in lieu of, any other obligations imposed by any special guarantee or warranty required by the Contract Documents, guarantees or warranties provided by any manufacturer of any item or equipment forming a part of, or incorporated into the Work, or otherwise recognized, prescribed or imposed by law. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor

the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve the Contractor or the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for Defective or Non-Conforming Work, or materials, equipment and workmanship incorporated therein.

13.3. Guarantee. Upon completion of the Work, Contractor shall execute and deliver to the District the form of Guarantee included within the Contract Documents at Section 00 65 36. The Contractor's execution and delivery of the form of Guarantee is an express condition precedent to any obligation of the District to disburse the Final Payment to the Contractor and any right of the Contractor to Final Payment.

13.4. Survival of Warranties; Surety Obligations. The Contractor's warranty obligations hereunder shall survive the Contractor's completion of Work under the Contract Documents, the District's Final Acceptance or the termination of the Contract. The obligations of the Surety issuing the Performance Bond shall include assumption and discharge of the Contractor's warranty obligations if the Contractor fails or refuses to perform its warranty obligations hereunder in strict conformity herewith.

14. SUSPENSION OF WORK

14.1. District's Right to Suspend Work. The District may, without cause, and without invalidating or terminating the Contract, order the Contractor, in writing, to suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine. When all or a portion of the Work is to be suspended for any reason, the Contractor and each Subcontractor shall cover over, and securely fasten down all coverings, to protect the Work from damage, destruction or deterioration from any cause. The Contractor shall resume and complete the Work suspended by the District in accordance with the District's directive, whether issued at the time of the directive suspending the Work or subsequent thereto.

14.2. Adjustments to Contract Price and Contract Time. If the District orders suspension of the Work, an adjustment shall be made to the Contract Price for increases in the direct cost of performance of the Work of the Contract Documents, actually caused by suspension, delay or interruption ordered by the District; provided however that no adjustment of the Contract Price shall be made to the extent: (i) that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible under the Contract Documents; (ii) that an equitable adjustment is made or denied under another provision of the Contract Documents; or (iii) the suspension is determined to be reasonably necessary to comply with an order, instruction or similar directive of local, regional, state-wide or federal public health authorities. In the event of the District's suspension of the Work, the Contract Time shall be equitably adjusted.

15. TERMINATION

15.1. Termination for Cause.

15.1.1. District's Right to Terminate. The District may terminate the Contract by written notice to the Contractor upon the occurrence of any one or more of the following events of the Contractor's default: (i) if the Contractor refuses or fails to prosecute the Work with diligence as will insure Substantial Completion of the Work within the Contract Time, or if the Contractor fails to substantially Complete the Work within the Contract Time; (ii) if the Contractor becomes bankrupt or insolvent, or makes a general assignment for the benefit of creditors, or if the Contractor or a third party files a petition to reorganize or for protection under any bankruptcy or similar laws, or if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property on account of the Contractor's insolvency, and the Contractor or its

successor in interest does not provide adequate assurance of future performance in accordance with the Contract Documents within ten (10) days of receipt of a request for such assurance from the District; (iii) if the Contractor repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment; (iv) if the Contractor repeatedly fails to make prompt payments to any Subcontractor, of any tier, or Material Suppliers or others for labor, materials or equipment; (v) if the Contractor disregards the Laws or requirements of any public entity having jurisdiction over the Work; (vi) if the Contractor disregards proper directives of the Architect, the Project Manager, the Project Inspector or District; (vii) Defective/Non-Conforming Work which the Contractor neglects or refuses to correct; or (viii) if the Contractor otherwise violates in any material way any provisions or requirements of the Contract Documents. Once the District determines that sufficient cause exists to justify the action, the District may terminate the Contract without prejudice to any other right or remedy the District may terminate the Contract for the Contractor's default by written notice to the Contractor. The Contract shall be deemed terminated for Contractor default as of the effective date set forth in the District's written notice of termination. The District shall have the sole discretion to permit the Contractor to remedy the cause(s) for the termination without waiving the District's right to terminate the Contract, or otherwise waiving, restricting or limiting any other right or remedy of the District under the Contract Documents or the Laws arising out of the Contractor's default(s).

15.1.2. District's Rights Upon Termination. If the Contract is terminated pursuant to this Article 15.1, the District may take over the Work and prosecute it to completion, by contract or otherwise, and may exclude the Contractor from the Site. The District may take possession of the Work and of all of the Contractor's tools, appliances, Construction equipment, machinery, materials, and plant which may be on the Site, and use the same to the full extent they could be used by the Contractor without liability to the Contractor. In exercising the District's right to prosecute the completion of the Work, the District may also take possession of all materials and equipment stored at the Site or for which the District has paid the Contractor but which are stored elsewhere, and finish the Work as the District deems expedient. In exercising the District's right to prosecute the completion of the Work, the District shall have the right to exercise its sole discretion as to the manner, methods, and reasonableness of the costs of completing the Work and the District shall not be required to obtain the lowest figure for completion of the Work. In the event that the District takes bids for remedial Work or completion of the Work, the Contractor shall not be eligible for the award of such contract(s).

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

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

15.1.5. Costs of Completion. In the event of termination under this Article 15.1, the Contractor shall not be entitled to receive any further payment of the Contract Price until the Work is completed. If the unpaid balance of the Contract Price as of the date of termination exceeds the District's direct and indirect costs and expenses for completing the Work, including without limitation,

attorneys' fees, fees for additional professional and consultant services, and the District's administrative costs, such excess shall be used to pay the Contractor for the cost of the Work performed prior to the effective date of termination with a reasonable allowance for overhead and profit. If the District's costs and expenses to complete the Work exceed the unpaid Contract Price, the Contractor and the Surety are jointly and severally liable to the District for the difference between costs and expenses to complete the Work and the unpaid Contract Price as of the date of termination.

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

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

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

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

16. MISCELLANEOUS

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

16.2. Marginal Headings; Capitalized Headings; Interpretation. The titles of the various Articles of these General Conditions and elsewhere in the Contract Documents are used for convenience of reference only and are not intended to, and shall in no way, enlarge or diminish the rights or obligations of the District or the Contractor and shall have no effect upon the Construction or interpretation of the Contract Documents. Except as otherwise expressly provided, capitalized terms used in the Contract Documents shall have the meaning and definition for such terms as set forth in the Contract Documents. The Contract Documents shall be construed as a whole in accordance with their fair

meaning and not strictly for or against the District or the Contractor.

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

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

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

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

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

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

16.9. Notices. Notices under this Agreement shall be delivered by United States Mail, Certified, Return Receipt Requested with postage fully prepaid or by email. Notices delivered by United States Mail shall be deemed effective the third (3rd) working day after the postmark date. Notices delivered by email before 12:00 PM on District work days shall be deemed effective four (4) hours after delivery to the recipient's email server. Emails delivered to the recipient's email server after 12:00 PM on a District work day or on District holiday days shall be deemed effective as of 12:00 PM the ensuing workday. The recipients and addresses for notices may be modified by the Parties by notice to the other. Notices shall be addressed as set forth in the Agreement.

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

dispute or disagreement.

16.11. Dispute/Claims Resolution.

16.11.1. Contractor Continuation of Work. Notwithstanding any claim, dispute, disagreement or other matter in controversy between the District and the Contractor relating to the Contract Documents and/or the Work, the Contractor shall continue to diligently prosecute and perform the Work in accordance with requirements of the Contract Documents, pending any final determination or decision regarding any such claim, dispute, disagreement or matter in controversy.

16.11.2. Public Contract Code §9204 Claims Resolution Procedures. Claims of the Contractor are subject to the non-binding dispute resolution procedures set forth in Public Contract Code §9204 ("Section 9204") provided, however, that the Contractor's initiation of Section 9204 procedures is expressly subject to the Contractor's prior full and timely compliance with requirements and procedures of the Contract Documents relating to procedures for resolution of claims, change orders, disputes and other matters in controversy under the Contract Documents.

16.11.3. Claim Defined. The term "Claim" shall be as defined in Section 9204.

16.11.3.1. Claim Documentation. The Contractor shall furnish reasonable documentation to support each Claim. "Reasonable documentation" includes, without limitation: (i) contractual and legal basis establishing Claim entitlement or merit; (ii) factual basis establishing District liability for the Claim; (iii) detailed breakdown of labor, materials, equipment and other costs included in the Claim; and (iv) detailed basis, including Schedule analysis and fragnets supporting any Contract Time adjustment or Liquidated Damages relief included in the scope of a Claim.

16.11.3.2. District Claim Review Statement. Within forty five(45) days (or such other time mutually agreed to by the District and the Contractor) after receipt of a properly submitted and properly documented Claim, the District will conduct a reasonable review of the Claim and provide the Contractor with a written statement identifying the disputed and undisputed portions of the Claim ("Claim Review Statement"). If the District does not provide the Contractor with the Claim Review Statement for any Claim within forty five (45) days (or other time mutually agreed to by the District and the Contractor) after receipt of a properly submitted and properly documented Claim, the Claim is deemed rejected in its entirety and thereupon, the Contractor may initiate the Meet and Confer process described below. A Claim deemed rejected pursuant to the foregoing does not constitute an adverse finding of Claim merit or the Contractor's responsibility or qualifications. If the Claim Review Statement identifies any undisputed portion of a Claim ("Undisputed Claim") and payment is due from the District on the Undisputed Claim, the District shall process and make payment on the Undisputed Claim within sixty (60) days after the issuance date of the Claim Review Statement.

16.11.4. Meet and Confer.

16.11.4.1. Meet and Confer Demand. If the Contractor disputes any portion of the Claim Review Statement, or if a Claim is deemed rejected by the District not providing the Contractor with the Claim Review Statement within the time permitted under Section 9204, the Contractor may demand an informal conference to meet and confer with the District for settlement of the issues in dispute ("Meet and Confer"). The Contractor's Meet and

Confer request must be submitted to the District: (i) in writing; (ii) by registered mail or certified mail, return receipt requested; and (iii) within ten (10) days after the Claim Review Statement is submitted to the Contractor or within ten (10) days after the date the Claim is deemed rejected, as applicable. Failure of the Contractor to strictly comply with the foregoing is deemed a waiver of the Contractor's right to request the Meet and Confer and the Non-Binding Mediation procedures under Section 9204. If the Contractor strictly complies with the foregoing, the District will schedule the Meet and Confer conference within thirty (30) days of the Contractor's Meet and Confer request for settlement of disputed portions of the Claim Review Statement.

16.11.4.2. Meet and Confer Statement. Within ten (10) business days after conclusion of the Meet and Confer conference, if any portion of a Claim remains disputed, the District shall provide the Contractor a written statement identifying the disputed and undisputed portions of the Claim ("Meet and Confer Statement"). If the Meet and Confer Statement identifies any Undisputed Claim and payment is due from the District on the Undisputed Claim, the District shall process and make payment on the Undisputed Claim within sixty (60) days after date the Meet and Confer Statement is issued

16.11.5. Non-Binding Mediation.

16.11.5.1. Contractor Initiation. The Contractor may request non-binding mediation ("Mediation") of disputed portions of a Claim identified in the Meet and Confer Statement. The Contractor's Mediation demand must be submitted to the District: (i) in writing; (ii) by registered mail or certified mail, return receipt requested; (iii) within ten (10) days after the Meet and Confer Statement is submitted to the Contractor; and (iv) with specific identification of the disputed Claims issues subject to Mediation. Failure of the Contractor to strictly comply with the foregoing is deemed a waiver of the Contractor's right to demand Mediation procedures under Section 9204.

16.11.5.2. Mediator Selection. The District and Contractor shall mutually agree to a mediator within ten (10) business days after the date of the Contractor's demand for Mediation. If the District and Contractor do not mutually agree to a mediator, the District and Contractor shall each select a mediator and the District/Contractor selected mediators shall select a qualified neutral third party to mediate the disputed portion of the Claim.

16.11.5.3. Mediation Procedures. Mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the District and Contractor in dispute resolution through negotiation or by issuance of an evaluation.

16.11.5.4. Mediation Costs. All costs, fees and expenses of the mediator(s) and mediation administration shall be shared equally by the District and Contractor. The foregoing notwithstanding, the Contractor and District shall each bear the costs, fees and expenses of their own attorneys, experts and consultants.

16.11.5.5. Post-Mediation Disputed Claims. Any Claims issues in dispute after Mediation shall be resolved in accordance with the applicable provisions of the Contract Documents.

16.11.5.6. Waiver. The District and Contractor may mutually agree to waive, in writing, Mediation under Section 9204 and subject to the Contractor's compliance with Government Code Claim requirements, proceed directly to commencement of a civil action or binding arbitration.

16.11.6. Payments of Undisputed Claims. If a payment due from the District for Undisputed Claims identified in the Claim Review Statement or the Meet and Confer Statement issued for a Claim is not made within the time established under Section 9204 the overdue portion of such payment shall bear interest at the rate of seven percent (7%) per annum from the date due. The District's credit application of any amount due for an Undisputed Claim against amounts due from the Contractor under the Contract Documents shall be deemed payment of the Undisputed Claim.

16.11.7. Subcontractor Claims.

16.11.7.1. Subcontractor Claim Submittal. If a Subcontractor, of any tier (collectively "Subcontractor") lacks legal standing to assert a Claim against the District because privity of contract does not exist, the Contractor may present the District a Claim on behalf of the Subcontractor ("Subcontractor Claim"). Each Subcontractor requesting submittal of a Subcontractor Claim to the District shall furnish reasonable documentation to support the Subcontractor Claim. Within forty-five (45) days of receipt of a Subcontractor's written request to submit a Subcontractor Claim, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the Subcontractor Claim to the District. If the Contractor did not present the Subcontractor Claim, the Contractor shall provide the Subcontractor with a statement of the reasons for not having done so.

16.11.7.2. Contractor Certification of Subcontractor Claim. The District's review of Subcontractor Claims is expressly subject to the Contractor's submittal of a duly completed and executed form of Contractor Certification of Subcontractor Claim certifying that the Contractor has thoroughly reviewed the Subcontractor Claim and based on the Contractor's review, certify that: (i) the Subcontractor Claim is made by the Subcontractor in good faith; (ii) the Subcontractor Claim is supported by reasonable documentation establishing entitlement to the relief requested and District liability therefor; and (iii) the Subcontractor Claim does not incorporate any request constituting a False Claim under applicable law, including the California False Claim Act (Government Code §12650 et seq). The form of Contractor Certification of Subcontractor Claim is included in the Contract Documents.

16.11.7.3. District Review of Subcontractor Claim. Subcontractor Claims presented by the Contractor to the District are subject to the Section 9204 non-binding dispute resolution procedures set forth above, as modified herein. Requests for the District to conduct Meet and Confer and/or non-binding mediation procedures must be submitted jointly by the Contractor and the Subcontractor submitting the Subcontractor Claim. If Mediation proceedings are initiated in connection with a Subcontractor Claim, mediator and mediation administration fees and costs shall be borne equally by the District, Contractor and Subcontractor.

16.11.7.4. Disputed Subcontractor Claims. Subcontractor Claims which are not fully resolved by the Section 9204 non-binding dispute resolution procedures shall be resolved by Section 20104.4 Dispute Resolution Procedures or binding arbitration, as applicable. Commencement of Section 20104.4 Dispute Resolution Procedures or binding arbitration proceedings in connection with any Subcontractor Claim is subject to compliance with Government Code Claims requirements.

16.11.8. Government Code Claim Requirements. Pursuant to Government Code §930.6, any claim, demand, dispute, disagreement or other matter in controversy asserted by the Contractor,

whether on behalf of itself or a Subcontractor, against the District for money or damages, including without limitation Claims or portions thereof remaining in dispute after completion of the Section 9204 non-binding dispute resolution procedures described above are deemed a "suit for money or damages'' and shall be subject to the provisions of Government Code §§945.4, 945.6 and 946 ("Government Code Claims Process"). An express condition precedent to the Contractor's initiation of Section 20104.4 Dispute Resolution Procedures or binding arbitration proceedings pursuant to the following is the Contractor's compliance with the Government Code Claims Process, including without limitation, presentation of the claim, demand, dispute, disagreement or other matter in controversy between the Contractor and the District seeking money or damages to the District and acted upon or deemed rejected by the District in accordance with Government Code §900, et seq.

16.11.9. Section 20104.4 Dispute Resolution Procedures; Claims Less Than $375,000. Any Claim, or portion thereof, in dispute after completion of the Section 9204 non-binding dispute resolution procedures and the Government Code Claims Process which is equal to or less $375,000 shall be resolved in accordance with the civil action procedures established in Public Contract Code §20104.4. Unless otherwise agreed to by the District and the Contractor in writing, the mediation conducted pursuant to Section 9204 procedures shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

16.11.10. Binding Arbitration of Claims Exceeding $375,000.

16.11.10.1. AAA Arbitration. Any Claim, or portion thereof in dispute after completion of the Section 9204 procedures and the Government Code Claims Process which exceeds $375,000 and any other claims, disputes, disagreements or other matters in controversy between the District and the Contractor arising out of, or related, in any manner, to the Contract Documents, or the interpretation, clarification or enforcement thereof shall be resolved by binding arbitration conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association ("AAA") in effect as of the date that a Demand for Arbitration is filed, except as expressly modified herein. The locale for any arbitration commenced hereunder shall be the regional office of the AAA closest to the Site.

16.11.10.2. Demand for Arbitration. A Demand for Arbitration shall be filed and served within a reasonable time after the occurrence of the claim, dispute or other disagreement giving rise to the Demand for Arbitration, but in no event shall a Demand for Arbitration be filed or served after the date when the institution of legal or equitable proceedings based upon such claim, dispute or other disagreement would be barred by the applicable statute of limitations. If more than one Demand for Arbitration is filed by either the District or the Contractor relating to the Work or the Contract Documents, all Demands for Arbitration shall be consolidated into a single arbitration proceeding, unless otherwise agreed to by the District and the Contractor. The Contractor's Surety, a Subcontractor or Material Supplier to the Contractor and other third parties may be permitted to join in and be bound by an arbitration commenced hereunder if required by the terms of their respective agreements with the Contractor, except to the extent that such joinder would unduly delay or complicate the expeditious resolution of the claim, dispute or other disagreement between the District and the Contractor, in which case an appropriate severance order shall be issued by the Arbitrator(s).

16.11.10.3. Discovery. In connection with any arbitration proceeding commenced hereunder, the discovery rights and procedures provided for in California Code of Civil Procedure §1283.05 shall be applicable, and the same shall be deemed incorporated herein by this reference.

16.11.10.4. Arbitration Award. The award rendered by the Arbitrator ("Arbitration Award") shall be final and binding upon the District and the Contractor only if the Arbitration Award is: (i) supported by substantial evidence; (ii) based on applicable legal standards in effect that the time the Arbitration Award is issued; and (iii) supported by written findings of fact and conclusions of law in conformity with California Code of Civil Procedure §1296. Any Arbitration Award that does not conform to the foregoing is invalid and unenforceable. The District and Contractor hereby expressly agree that the Court shall, subject to California Code of Civil Procedure §§1286.4 and 1296, vacate the Arbitration Award if, after review, the Court determines either that the Arbitration Award does not fully conform to the foregoing. The confirmation, enforcement, vacation or correction of an arbitration award rendered hereunder shall be made by the Superior Court of the State of California for the county in which the Site is situated. The substantive and procedural rules for such post-award proceedings shall be as set forth in California Code of Civil Procedure §1285 et seq.

16.11.10.5. Arbitration Fees and Expenses. The expenses and fees of the Arbitrator shall be divided equally among all of the parties to the arbitration. Each party to any arbitration commenced hereunder shall be responsible for and shall bear its own attorneys' fees, witness fees and other costs or expenses incurred in connection with such arbitration. The foregoing notwithstanding, the Arbitrator may award arbitration costs, including Arbitrator's fees but excluding attorneys' fees, to the prevailing party. By this arbitration provision, the District and the Contractor acknowledge and agree that neither shall recover from the other any attorneys' fees associated with or arising out of any legal, administrative or other proceedings filed or instituted in connection with or arising out of the Contract Documents or the performance of either the District or the Contractor thereunder. The limited exceptions in the Contract Documents that provide attorneys' fees for specific issues shall neither be construed as applying to this arbitration provision under California Civil Code §1717(a) nor be deemed to be "authorized by the Laws."

16.11.10.6. Limitation on Arbitrator. The Superior Court for the State of California for the County in which the Project Site is situated has the sole and exclusive jurisdiction, and an arbitrator has no authority, to hear and/or determine a challenge to the commencement or maintenance of an arbitration proceeding on the grounds that: (i) the subject matter of the arbitration proceeding is barred by the applicable statute of limitations; (ii) the subject matter of the arbitration proceeding is barred by a provision of the California Government Claims Act; (iii) the subject matter of the arbitration proceeding is outside the scope of the arbitration clause; (iv) the Contractor has failed to satisfy all conditions precedent to commencement or maintenance of an arbitration proceeding; (v) waiver of the right to compel arbitration; (vi) grounds exist for the revocation of the arbitration agreement; and/or, (vii) there is the prospect that a ruling in arbitration would conflict or potentially with a ruling in a pending proceeding regarding the Project on a common issue of law or fact.

16.11.10.7. Inapplicability to Bid Bond. The arbitration proceedings described above are not applicable to disputes, disagreements or enforcement of rights or obligations under

the Bid Bond. All claims, disputes and actions to enforce rights or obligations under the Bid Bond shall be adjudicated only by judicial proceedings commenced in a court of competent jurisdiction.

16.12. Limitation on Special/Consequential Damages. In the event of the District's breach or default of its obligations under the Contract Documents, the damages, if any, recoverable by the Contractor shall be limited to general damages which are directly caused by the breach or default of the District and shall exclude any and all special or consequential damages, if any. The Contractor expressly acknowledges the foregoing limitation to recovery of only general damages from the District if the District is in breach or default of its obligations under the Contract Documents; the Contractor expressly waives and relinquishes any recovery of special or consequential damages from the District.

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

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

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

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

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

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

[END OF SECTION]

SPECIAL PROVISIONS/SPECIAL CONDITIONS

1. **Application of Special Conditions**. These Special Conditions form a part of the Contract Documents for the Work generally described as:

   Bid# 10MOT26 Installation of Playground and Shade Structures at Will Rogers Elementary Schools

2. **Notice to Proceed; Commencement of Contract Time**. The Contractor shall commence Work and the Contract Time shall be deemed to commence on the date stated in the Notice to Proceed issued by or on behalf of the District to the Contractor. The Contractor shall achieve Substantial Completion of the Work within the Contract Time set forth in the Agreement.

3. **Project Manager**. The LUSD Project Manager for the Work is Susan Trevizo.

4. **Liquidated Damages**.

   4.1 Liquidated Damages Scheduled. If the Contractor does not achieve Completion of the Work, the Contractor shall be assessed Liquidated Damages in the amount of Four hundred Dollars ($400.00) per day, until completion of the work is achieved.

5. **Hours and Days of Work at the Site**.

   5.1 Noise Ordinance Work Hours/Days. In addition to requirements established in other portions of the Contract Documents and by the Laws, the Contractor's performance of Work at the Site shall comply with and limited by Landscaping activity limitations and/or Landscaping noise limitations established by ordinance, rule or regulation by the City of Lynwood. The foregoing notwithstanding, the Contractor is solely responsible for: (i)determining municipal ordinances, rules or regulations relating to Landscaping activities/ Landscaping noise limitations; and (ii)compliance with such ordinances, rules or regulations without adjustment of the Contract Price or the Contract Time. The City of Lynwood Noise Ordinance is enforced between 7:00pm - 7:00am.

   5.2 Limitations on Work Hours/Days.

   Work activities at the Site will be limited or prohibited on days (i) devoted to student testing or when testing of students may be adversely affected by Work activities at the Site; or (ii)when other special events or functions are scheduled. The contractor shall familiarize itself with District activities at the Site to avoid Work activity interferences or disturbances to such District activities. The Contractor's Landscaping schedule shall take into account District activities which limit or preclude Work activities at the Site.

6. **Insurance Coverage Limits**.

   6.1 Contractor Insurance. Pursuant to Article 6 of the General Conditions, the Contractor shall obtain and maintain the following insurance coverages with minimum coverage limits as set forth below:

Policy of Insurance	Minimum Coverage Limits
Commercial General Liability Insurance	Per Occurrence: $1,000,000.00
	Aggregate: $2,000,000.00
Workers Compensation	In accordance with the Laws
Employers Liability	One Million Dollars ($1,000,000)
Contractor's Pollution Liability	Per Occurrence: N/A
	Aggregate: N/A

6.2 Subcontractor Insurance. Pursuant to Article 6 of the General Conditions, each Subcontractor shall obtain and maintain the following insurance coverages with minimum coverage limits as set forth below:

Policy of Insurance	Minimum Coverage Limits
Commercial General Liability Insurance	Per Occurrence: **$**1,000,000.00
	Aggregate: **$** 2,000,000.00
Workers Compensation	In accordance with the Laws
Employers Liability	One Million Dollars ($1,000,000)
Contractor's Pollution Liability (As applicable, if Subcontractor's work involves SWPPP, the removal of asbestos, the removal/replacement of underground tanks or the removal of toxic chemicals and substances)	Per Occurrence: N/A.
	Aggregate: N/A

6.3 Additional Insured. "The Lynwood Unified School District, its Board, officers, agents and employees are named additional insured." The wording indicated above must be included in all ISO forms.

7. District Provided Temporary Utilities. Pursuant to Article 4.3.4 of the General Conditions, during the Contractor's performance of the Work, the District will provide the Contractor with utility services. If the District provides any utility services for use by the Contractor: (i) the District may discontinue, limit or condition use of such services by a Contractor if the District reasonably determines that the Contractor has wasted such utilities, and (ii) the District shall not be liable to the Contractor, nor shall the Contract Time or the Contract Price be increased if any District provided temporary utility service is discontinued or disrupted for any reason other than the District's non-payment of undisputed utility charges. If provided by the District, the Contractor may use the temporary electrical power and domestic potable water service in connection with the Work provided that: (i) the District may discontinue, limit or condition use of such services by a Contractor if the District reasonably determines that the Contractor has wasted such utilities, and (ii) the District shall not be liable to the Contractor, nor shall the Contract Time or the Contract Price be increased if any District provided temporary utility service is discontinued or disrupted for any reason other than the District's non-payment of undisputed utility charges. Notwithstanding any provision of the Contract Documents to the contrary, the Contractor shall not use District provided water supply in connection with any earthwork or grading operations; water supply for earthwork or grading operations shall be obtained by the Contractor, without adjustment of the Contract Time or the Contract Price, from an offsite source or mobile water delivery service. Further, notwithstanding the District providing a point of connection for the Contractor's telephone/data service at the Site, the Contractor is solely responsible for the payment of utility service charges therefor.

8. **Critical Submittals**. Critical Submittals are Contractor prepared shop drawings, product data or samples that are critical to the achieving Substantial Completion of the Work within the Contract Time. Critical Submittals may include, but not be limited to, steel shop drawings, concrete precast panel shop drawings, DSA required Deferred Approval submittals, or any submittals in conjunction with activities within the first TWENTY (20) days of the **PROJECT** Schedule or long lead fabrication/procurement item requiring Submittals. Notwithstanding any provision of the Contract Documents to the contrary, Critical Submittals must be submitted by the Contractor within seven (7) business days of the commencement date for the Work as set forth in the Notice to Proceed issued by or on behalf of the District. If there is a dispute or disagreement between the District and the Contractor as to whether any Submittal is deemed a Critical Submittal, the determination of the Project Manager and the Architect shall be final and binding on the Contractor and the District.

9. **Contractor Personnel Parking**. Personnel of the Contractor, Subcontractors and others performing Work at the Site will be allowed to park, with a valid District parking permit, in the parking spaces at a location designated by the District. The foregoing notwithstanding, the extent or location of parking for such personnel may be modified by the District as reasonably necessary to facilitate and accommodate necessary parking for the District's activities and functions in and about the Site. Neither the Contract Price nor the Contract Time shall be adjusted as a result of any such District

10. **Project Signage and Barricades**. In addition to safety signage required per General Conditions 4.9.3, the Contractor shall furnish and install and maintain additional project signage as set forth in the Contract Documents. Contractor shall provide temporary utilities, barricade, enclosures, temporary signs, storage units, chutes, hoist, scaffolds railing, and other facilities or services as required. Prior to Application for Final Payment, Contractor shall remove all temporary facilities, utilities and equipment from the site. Contractor shall clean, repair and/or reconstruct, as necessary, the site so as to restore it to the condition as found at the point of Notice to Proceed.

11. **Mark-Ups on Changes to the Work**. In the event of Changes to the Work, pursuant to Article 9 of the General Conditions, the mark-up for all overhead (including home and field office overhead), general conditions costs and profit, shall not exceed the percentage of allowable direct actual costs for performance of the Change as set forth below.

    11.1 Subcontractor Performed Changes. For the portion of any Change performed by Subcontractors of any tier, the percentage mark-up on allowable actual direct labor and materials costs incurred by all Subcontractors, the foregoing mark-up shall not be applied to the Subcontractor mark-up.

11.2 Blank Intentionally

    11.3 Bond Premium Costs. A bond premium expense in an amount equal to the lesser of the Contractor's actual bond premium rate of the total actual direct costs of labor and materials (before Subcontractor and Contractor mark-ups) will be allowed.

    11.4 Exclusions from Mark-Up of Actual Costs. Mark-ups on the actual cost of materials/equipment incorporated into a Change or for purchase/rental of Landscaping Equipment shall not be applied to any portion of such costs which are for sales, use or other taxes arising out of the purchase of materials/equipment and/or for purchase/rental of Landscaping Equipment.

12. **Rain Days.** Pursuant to Article 7.4.1 of the General Conditions, the number of Rainy Days(including inclement weather) for this Contract is **7days.** Include a critical path activity entitled "Remaining Inclement Weather Days" on the initial Contract Schedule. This activity shall have an initial duration of seven (7) work days and shall be the last activity in the schedule prior to the activity entitled "Completion". All predecessor activities must pass through the Inclement Weather day's activity. The contractor shall request use of the Inclement Weather Day when a critical path activity has been delayed due to inclement weather. This request must occur in the same month as the inclement weather delay and must be approved by a Change Order. Inclement Weather Delays to non-critical activities will note considered. If, at completion, there are inclement weather days still remaining, the Completion date shall not be adjusted. If at or near completion, additional inclement weather days are required, the completion date shall be adjusted accordingly by processing a Change Order for a non-compensable time extension.

13. **Blank Intentionally**

14. ~~**Waste and Recycling Report Acknowledgement**. As required by the Laws, the District collects data and submits reports of all waste and recycling streams. As a part of this effort, the District requires the Contractor to submit reports on all painting generated waste, including soils exports, Landscaping generated debris, and all general Landscaping debris ("Waste/Recycling Report").~~

SPECIAL PROVISIONS/SPECIAL CONDITIONS

SP-1. Cooperation. Contract shall recognize that the District Administration will remain in operation during progress of the work. Contractor shall cooperate at all times with the administration to provide minimum inconvenience to the District's employees and visitors on the site. Adequate notice shall be given to the administration of any interruption of utilities or services required for the proper completion of the work. Contractor shall notify District 72 hours in advance of interrupting any utilities including heating, Air Conditioning, Plumbing and Electrical.

SP-2. Protection.

A. All existing improvements adjacent to work shall be protected from damage. Contractor shall exercise all required precautions necessary to protect the District's property from damage. The contractor shall be responsible for and bear all expenses for any damage to District's property occasioned on account of operations under the contract. Contractor shall provide temporary gates and barricades to protect work areas. Such protection shall remain in place during the extent of this Contract, or

SP-3. Special Clean-Up. When Contractor is required to perform work in rooms or areas after regular working hours, in these rooms or areas, the following cleaning shall be done upon completion of work each day:

A. Remove debris and unused materials on a daily basis.
B. Contractor shall cleanup all debris, resulting from Landscaping.
C. Contractor shall perform all work so as to avoid unnecessary inconvenience on the School Site Facilities Buildings, staff and students.
D. Cleanup and dust palliation shall be performed as required and all rubbish and debris shall be disposed of frequently off district property.
E. The contractor is responsible of dust control on and off the Project site. When work operations produce dust the Project site and/or streets shall be sprinkled with water to minimize the generation of dust.

SP-4. Work Site Designation for Staging Areas, Temporary Facilities and Parking:

A. The Contractor shall be responsible for installing and maintaining barricades to protect workers and the public.

B. Contractor shall provide temporary storage bins and temporary Portable Toilets, scaffolds, railing and other facilities or service as required.

C. Prior to Application for Final Payment, the Contractor shall remove all temporary facilities, utilities and equipment from the site. Contractor shall clean, repair and/or reconstruct, as necessary, the site so as to restore it to the condition as found at the point of Notice to Proceed.

D. Contractor shall not use the District's trash containers.

E. Contractor's trash bins are to be covered with lids and locked to prevent vandalism

F. All contractor and subcontractors shall park off site unless otherwise approved by the District

G. Contractor shall not block or obstruct intersections, traffic lanes, driveways or parking lot entrances.

H. When moving equipment, Contractor to provide a Spotter and backup warning devices.

SP-5. Badges for Construction Related Work.

A. The Contractor shall provide company Logo vest or T-shirts for all employees and subcontractors working in the project.

SP-6. Security. In addition to the security requirements set forth elsewhere in the Contract Documents, the Contractor must adhere to the following:

A. Locked Door Policy. No building, room or site gate shall be left unsecured for any period of time when not occupied by the Contractor and/or after the Contractor's daily work hours.

B. Parking Facilities. Any movement of vehicles on district property, including trucks and passenger

vehicles for construction purposes, shall be approved by district authorities. Parking in parking lots, if required, shall be arranged in advance with proper authorities.

SP-7. Protection of Persons and Property

i. Safety plan for each site.

b. Covering and Cleaning: Cover and protect the District's property within the project limits, as required to prevent soiling or damage by dust, dirt, water, fumes, or otherwise as deemed necessary by the District or Project Manager.

c. Repair or replace any damage to existing structures, improvements and equipment caused by Contractor's operations, at Contractor's expense, with District approval.

d. Repair or replace damaged work with new materials, to restore the damaged areas and surfaces equal to and matching, the conditions which existed prior to damage, or at start of the work of this Contract, at no cost to the District upon District approval.

e. Prior to start of work, Contractor, and Facilities Project Manager shall conduct an on-site inspection of existing conditions and the Contractor shall clearly document and report damaged conditions to the District. Items not reported to the District at time of inspection will be assumed to be the result of Contractor's work, whose responsibility it will be to repair or replace those items. Contractors shall include, along with his report to the District, digital, dated photographs.

SP-8. Working Hours.

Work hours are subject to standard construction hours per the Noise Ordinance set by the City of Lynwood. Contractor is expected to work days and times as necessary, to complete the work within the specified time of completion without any additional cost to the District**.**

Will Rogers Elementary Schools

Legal and Local Holidays:

Friday, June 19, 2026

Saturday, July 4, 2026

Summer Recess TBD

Other Important Dates:

First Day of School: Wednesday, August 12, 2026

Teacher work day: Monday & Tuesday August 10 & 11, 2026

0.8.1 During performance of this Contract, the school site will remain occupied at various buildings on campus. The immediate classrooms & office will be close during the summer months for a total 6 weeks for this work to get done. Work outside buildings will be permitted during work hours, provided that they are not disruptive and safe access to and exits from buildings are maintained while students and office personal are on site. **Temporary barriers shall be erected around construction and work areas starting the week of August 5th if the project is not completed by the contract date**.

0.8.2 If any work performed during business hours (7:00 a.m. to 4:30 p.m.) is found to be disruptive (as determined by the District), the contractor will be required to re-schedule subject work to

occur during non-working hours and or weekends without any additional cost to the District.

0.8.2 Alternate shift is defined as work performed after business hours. Business hours are from 7:00 AM to 4:30 PM, Monday through Friday. Any work going beyond start of 1st day of school must be done after hours or weekend. **Any weekend work that will require inspector to be on site, the Contractor will be responsible for inspector weekend service fees.**

0.8.3 Work hours are subject to standard construction hours per the Noise Ordinance set by the City of Lynwood. Contractor is expected to work weekends and holidays, as necessary, to complete the work within the specified time of completion without any additional cost to the District. At the District's request, Contractor shall modify the working hours for the Contract without adjustment of the Contract Time or Contract Price. (Reference General Conditions Article 8.2).

SP-9. Operational Constraints

A. The Contractor is required to furnish all materials, labor, equipment, power, and maintenance to provide temporary power during power shutdowns. These shutdowns may have to occur after normal working hours and extended schedules and or weekend or holidays due to district activities to prevent interruption to critical operations. All utility (gas, electric & water) shutdowns must be carefully coordinated with the district. Temporary power shall be provided to maintain services to critical loads such as computers, freezers, coolers, fire alarm, security, etc.

SP-10. Work Sequence

Conduct work smoothly without interfering or delaying work under this contract or other contacts of other parties with the District.

SP-11. District's Project Manager

The District's Project Manager is Susan Trevizo.

SP-12 Award of Contract.
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.

SP-13 Number of Contract Documents.
The number of executed copies of the **Agreement is Two (2),** the number of **Performance Bonds and Payment Bonds** required is **Two (2).**

SP-14 **Site Examination**. Before bidding on this work, the Contractor shall make a careful examination of the premises and existing equipment and services. By act of submitting a proposal from the work indicated in this contract, the Contractor shall be deemed to have made such study and examination, and that he is familiar with and accepts all conditions at the site.

Part 1 GENERAL

1.01. MEASUREMENTS AND DRAWINGS

A. Drawings or measurements included with Contract Documents are for the convenience of the Contractor. Complete responsibility for detailed dimensions lies with the Contractor. Contractor shall

verify all dimensions with the actual on-site conditions. Where the work of Contractor is to join another trade, Contractor's shop drawings shall show actual dimensions and method of joining work of those trades.

1.02. CODES AND ORDINANCES

A. All work covered by these Contract Documents is to be done in full accord with national, state and local codes, ordinances, and safety regulations as are in effect at time of Contract award.

1.03. LABOR LAWS

A. Contractor and its Subcontractors performing work under this Contract shall comply with applicable provisions of all federal, state, and local labor laws.

1.10. ASSIGNMENTS OF PAYMENT

A. Neither party to this Contract shall assign Contract or sublet it as a whole without written consent of the other party, nor shall Contractor assign any payment due him or to become due to him hereunder without previous written consent of Owner.

1.11. ADVERTISING

A. Advertising privileges will be retained by Owner. It is the duty of the Contractor to keep premises free from posters, signs, decorations, etc., unless specifically approved by Owner.

1.12. PROTECTION OF WORK AND PROPERTY

A. Contractor shall continuously maintain adequate protection of all its work from damage and shall protect Owner property from injury or loss arising out of this Contract. Contractor shall make good any such damages, injury, or loss, except such as may be directly caused by agents, subcontractors, or employees of the Owner. Design of barricades in public areas shall be approved by Owner prior to fabrication and installation.

B. If Contract includes work which would be disruptive during normal business operations or would be dangerous to building occupants, said work shall be performed during hours as building management dictates. Examples of such work include, without limitation, saw cutting of concrete, jack hammering, welding, metal cutting, pouring concrete, erecting steel or hoisting equipment over occupied portions of the building, or performing tests. Contractor shall perform such work during off-hours and shall include all costs in its quotation.

C. Portable fire extinguishers shall be provided throughout the Contractor's area of work and shall be placed so as to be accessible at all times. Extinguishers shall be multi-purpose dry chemical type, provided on a basis of one 2A-20BC rated unit for each 3,000 square feet of floor area. Extinguishers to remain the property of the Contractor.

D. Contractor shall keep the noise level below 80 dB level during normal building hours. When it is necessary to produce noise above this level, the Contractor shall advise building management of such needs and times will be scheduled as directed. The Contractor shall anticipate and schedule excessive noise-generating procedures and include allowance for the same in its quotation and schedule.

1.13. ACCIDENT REPORTS

A. In the event of accidents of any kind, the Contractor shall furnish the Owner with copies of all accident reports. Reports shall be sent without delay and at same time that they are forwarded to any other

parties.

1.14. STORAGE OF MATERIALS

All materials and equipment furnished and in use must be stored at the end of each working day in a secure storage container provided by the Contractor. Any flammable materials must be stored in the original container identifying the materials and in the storage bin.

1.15. MATERIALS AND WORKMANSHIP

All materials and equipment furnished shall be new and best quality. Installation shall be accurate, workmanlike, and subject to approval of the Project Manager. All materials and equipment provided shall conform to regulations of enforcement bodies having jurisdiction. Contractor shall furnish material samples for approval.

1.16. SUPERVISION

A. Contractor shall assign a competent Project Manager, superintendent, and on-site foreman for a project satisfactory to the Owner and Project Manager. Such persons shall represent Contractor and all instructions given to them shall be binding as if given to Contractor.

1.17. ROUTINE BUSINESS

A. After award of Contract all business relating to required work shall be transacted through Project Manager unless otherwise directed.

1.20. LIENS AND AFFIDAVITS

A. Neither final payment nor any part of billing retention shall become due until Contractor shall deliver to Owner a complete release of all liens arising out of this Contract, or receipts marked paid in full in lieu thereof. In addition, the Contractor shall furnish an affidavit to the Owner that so far as he has knowledge or information, releases or receipts include all labor and materials for which a lien could be filed. If any lien remains unsatisfied after all payments are made by Owner, Contractor shall refund to Owner all monies the latter may be compelled to pay in discharging such a lien, including all costs and reasonable attorney's fees.

1.21. CLAIMS FOR EXTRA COST

A. Contractor claims for extra cost due to additions or changes to required work shall be submitted to Project Manager in writing within a reasonable time after such additions or changes identified or are requested and, in any event, before proceeding with required work. No such claim shall be valid unless so made. Maximum charge for additions/changes to work shall be Contractor cost +10% handling fee + 15% for overhead and profit. Contractors' cost shall be verifiable from actual supplier invoices, purchase orders, time tickets, etc. Contractor shall make no additions, changes alterations, or omissions, or perform extra work, without receipt of written authorization of Owner.

1.22. DELAYS AND EXTENSION OF TIME

A. If Contractor progress is delayed due to acts of Owner, Project Manager, acts of other Contractors, fire, floods, or other casualties beyond the control or without fault or negligence of Contractor, time for completion of the work shall be extended for a period determined by Owner/
Project Manager to be equivalent to time of such delay. Contractor must notify the Project Manager, in writing, of such delay within 48 hours after delay commences or no extension of time will be granted. Extension of time without written request within said period on one or more occasions shall not be deemed a waiver of provisions of this article.

1.23. PROGRESS OF WORK

A. Upon award, verbally or in writing, Contractor shall reconfirm in writing the starting and completion schedule including equipment delivery dates based upon the information submitted on its bid form.

B. Contractor shall submit, in writing, monthly reports with payment request, including current equipment delivery dates and anticipated completion dates for individual units and groups of units.

1.24 OTHER CONTRACT WORK OR DISTRICT OWNED EQUIPMENT

A. The District will be in contract for **re-roofing** of the two buildings where the new play structure and shade shelter work is to be installed. Coordination of the two projects will need to coordinate activities that may be disruptive to the tasks. The contractor(s) shall participate with other separate contractors and the District in reviewing their respective schedules when directed to do so.

B. The District purchased the Miracle play structure & shade shelter equipment for contractor installation. Contractor will be responsible to pick up Miracle equipment from District storage area warehouse within 2 miles from the installation school site. Contractor to take inventory of all pieces at pick up and notify District immediately of any missing parts or damaged parts.

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COMMUNITY WORKFORCE AGREEMENT

BY AND BETWEEN THE

LYNWOOD UNIFIED SCHOOL DISTRICT

AND

LOS ANGELES AND ORANGE COUNTIES
BUILDING AND CONSTRUCTION TRADES COUNCIL

AND

THE SIGNATORY CRAFT COUNCILS AND UNIONS

FOR

CONSTRUCTION, REPAIR, UPGRADE, RENOVATION,
MODERNIZATION, EXPANSION, REHABILITATION AND IMPROVEMENT WORK

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LYNWOOD UNIFIED SCHOOL DISTRICT
COMMUNITY WORKFORCE AGREEMENT
FOR CONSTRUCTION, REPAIR, UPGRADE, RENOVATION, MODERNIZATION, EXPANSION, REHABILITATION AND IMPROVEMENT WORK

This Community Workforce Agreement ("Agreement") is entered into by and among the Board of Education of the Lynwood Unified School District ("District"), the Los Angeles/ Orange Counties Building and Construction Trades Council ("Council"), and the signatory Craft Councils and Unions signing this Agreement (hereinafter together with the Council, collectively, the "Union" or "Unions"). This Agreement establishes the labor relations guidelines and procedures for the District and for the Contractors and craft employees represented by the Unions and engaged in Project Work. The District, Council and Unions are hereinafter referred to herein, as the context may require, as "Party" or "Parties."

The Parties to this Agreement understand that if this Agreement is acceptable to the District, the policy of the District will be for Project Work to be contracted exclusively to Contractors who agree to execute and be bound by the terms of this Agreement, directly or through the Letter of Assent (a form of which is attached as "**Attachment A**"), and to require each of its subcontractors, of whatever tier, to become bound. The District shall include, directly or by incorporation by reference, the requirements of this Agreement in the advertisement of and/or specifications for each and every contract for Project Work to be awarded by the District.

The District shall actively administer and enforce the obligations of this Agreement to ensure that the benefits envisioned from it flow to all signatory Parties, the Contractors and crafts persons working under it, and the residents and students of the District. The District shall therefore designate a "Community Workforce Coordinator," either from its own staff or an independent entity acting on behalf of the District, to monitor compliance with this Agreement; assist, as the authorized representative of the District, in developing and implementing the programs referenced herein, all of which are critical to fulfilling the intent and purposes of the Parties and this Agreement; and to otherwise implement and administer this Agreement.

The term "Apprentice" as used in this Agreement shall mean those employees registered and participating in Joint Labor/Management Apprenticeship Programs approved by the Division of Apprenticeship Standards, Department of Industrial Relations of the State of California.

The term "Contractor" as used in this Agreement includes any individual, firm, partnership, or corporation, or combination thereof, including joint ventures, which as an independent Contractor has entered into a contract with the District with respect to the Project Work, or with another Contractor as a subcontractor of whatever tier utilized by such Contractors for Project Work.

The term "Joint Labor/Management Apprenticeship Program" as used in this Agreement means a joint Union and Contractor administered apprenticeship program certified by the Division of Apprenticeship Standards, Department of Industrial Relations of the State of California.

The term "Letter of Assent" as used in this Agreement means the document that each Contractor (of any tier) must sign and submit to the Community Workforce Coordinator and the

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Council, before beginning any Project Work, which formally binds them to adhere to all the forms, requirements and conditions of this Agreement, in the letter attached hereto as Attachment A.

The term "Project" or "Project Work" as used in this Agreement means the District's Construction, Repair, Upgrade, Renovation, Modernization, Expansion, Rehabilitation and Improvement work and new construction projects which exceed the thresholds set forth in Section 2.2 of this Agreement and are contracted out by the District.

The term "Master Labor Agreements" as used in this Agreement, means the local collective bargaining agreements of the signatory Unions having jurisdiction over the Project Work and which have signed this Agreement.

The term "Subscription Agreement" means the contract between a Contractor and a Union's Labor/Management Trust Fund(s) that allows the Contractor to make the appropriate fringe benefit contributions in accordance with the terms of MLA.

The Union and all Contractors agree to abide by the terms and conditions of this Agreement and agree that this Agreement represents the complete understanding of the Parties. No Contractor is or will be required to sign or otherwise become a party to any other collective bargaining agreement with a signatory Union as a condition of performing work within the scope of this Agreement, except as may be required under Section 2.7.2.

The Parties agree that this Agreement will be made available to, and will fully apply to, any successful bidder for Project Work, without regard to whether that successful bidder performs work at other sites on either a union or non-union basis. This Agreement shall not apply to any work of any Contractor other than that on Project Work specifically covered by this Agreement.

The use of masculine or feminine gender or titles in this Agreement should be construed as including both genders and not as gender limitations unless the Agreement clearly requires a different construction. Further, the use of Article titles and/or Section headings are for information only, and carry no legal significance.

ARTICLE 1
INTENT AND PURPOSE

Section 1.1 Background: The District's new construction and major rehabilitation projects will affect the school buildings and offices that are owned, leased or controlled by the District. The goal of this Project is to provide new construction and rehabilitation of the District's facilities so as to provide sufficient facilities and technologies to educate properly the children within the District's boundaries. The District, therefore, wishing to utilize the most modern, efficient and effective procedures for construction, including assurances of a sufficient supply of skilled craftsperson's, and the elimination of disruptions or interference with Project Work, adopts this Agreement in the best interests of the students, parents, District staff, and the taxpayers of the District to meet the District's goal that Project Work be completed on time and within budget.

Section 1.2 Identification and Retention of Skilled Labor and Employment of District Residents: The vast amount of new school construction, substantial rehabilitation, and capital improvement work scheduled to be performed by the District will require large numbers of craft personnel and other supporting workers. The parties understand and intend to use the opportunities provided by the extensive amount of work to be covered by this Agreement to identify and promote, through cooperative efforts, programs and procedures (which may include, for example, programs to prepare persons for entrance into formal apprenticeship programs, or outreach programs to the community describing opportunities available as a result of the Project), the interest and involvement of District residents in the construction industry; assist them in entering the construction trades, and through utilization of the joint labor/management sponsored apprenticeship programs, provide training opportunities for those District residents and other individuals wishing to pursue a career in construction. Further, with assistance of the Community Workforce Coordinator, the District, the contractors, the Unions and their affiliated regional and national organizations, will work jointly to develop and implement procedures promptly for the identification of craft needs, the scheduling of work to facilitate the utilization of available craft workers, and to secure the services of craft workers in sufficient numbers to meet the high demands of the Project Work to be undertaken.

Section 1.3 Encouragement of Local and Small Business: The Project will provide many opportunities for local and small business enterprises to participate as contractors or suppliers, and the parties therefore agree that they will cooperate with all efforts of the District, the Community Workforce Coordinator, and other organizations retained by the District for the purpose of encouraging and assisting the participation of local and small businesses in Project Work. Each party agrees that it shall employ demonstrable efforts to encourage utilization in an effort to achieve such goals. This may include, for example, participation in outreach programs, education and assistance to businesses not familiar with working on a project of this scope, and the encouragement of local residents to participate in Project Work through programs and procedures jointly developed to prepare and encourage such local residents for apprenticeship programs and formal employment on the Project through the referral programs sponsored and/or supported by the parties to this Agreement. Further, the Parties will attempt to ensure that the provisions of this Agreement do not inadvertently establish impediments to the participation of local and small businesses, and residents of the District.

Section 1.4 Project Cooperation: The parties recognize that the construction to take place under this Agreement involves unique and special circumstances which dictate the need for the parties to develop specific procedures to promote high quality, rapid and uninterrupted construction methods and practices. The smooth operation and successful and timely completion of the work is vitally important to the parents and the students of the District. The parties therefore agree that maximum cooperation among all parties involved is required; and that with construction work of this magnitude, with multiple contractors and crafts performing work on multiple sites of over an extended period of time, all parties agree to work in a spirit of harmony and cooperation, and with an overriding commitment to maintain the continuity of Project Work. Further, the parties recognize that an Act of God or on Act of War could require the District to partially or fully suspend Project Work. The parties shall fully cooperate with any request by the District to redirect their equipment, skills and expertise to support the District's efforts necessitated by such events.

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Section 1.5 Peaceful Resolution of All Disputes: In recognition of the special needs of the Project and to maintain a spirit of harmony, labor-management peace and stability during the term of this Community Workforce Agreement, the parties agree to establish effective and binding methods for the settlement of all misunderstandings, disputes and grievances; and in recognition of such methods and procedures, the unions agree not to engage in any strike, slowdowns or interruptions or disruption of Project Work, and the contractors agree not to engage in any lockout, or any other action impairing or impeding the Project Work.

Section 1.6 Binding Agreement on Parties: By executing this Agreement, the District, Council, Unions and Contractors agree to be bound by each and all of the provisions of this Agreement.

ARTICLE 2
SCOPE OF AGREEMENT

Section 2.1 General: This Agreement shall apply and is limited to all of the District's Project Work, as specified in Section 2.2 of this Article, performed by those Contractor(s) of whatever tier that have contracts awarded for such work, for the development of the District's facilities which, jointly, constitute the Project, and have been designated by the District for construction or rehabilitation.

Section 2.2 Specific: The Project is defined and limited to:

2.2.1 All Project work pursuant to prime multi-trade construction contracts that exceed seven hundred fifty thousand dollars ($750,000.00) and all subcontracts flowing from these prime multi-trade contracts; and;

2.2.2 All prime specialty contracts for Project Work that exceed two hundred twelve thousand five hundred dollars ($212,500), and all subcontracts flowing from these specialty contracts.

2.2.3 The Parties understand that the District may at any time, and at its sole discretion, determine to build segments of the Project under this Agreement which were not currently proposed, or to modify or not to build any one or more particular segments proposed to be covered and that the District may at any time, and at its sole discretion, add additional projects under this Agreement not otherwise covered by this Agreement.

Section 2.3 Bundling of Contracts: The Parties understand that, to the maximum extent feasible, and consistent with goals of the District to (i) utilize this Agreement as the Labor Relations Policy for its construction and rehabilitation program, and (ii) fully utilize the services of small and local business enterprises for such construction and rehabilitation work:

2.3.1 The District, in its sole discretion, will seek to group (or "bundle") for bidding, contracts not meeting the thresholds of Section 2.2.1 or 2.2.2 above. (Small contracts for like types of work, scheduled to be undertaken at the same school, in the same District or on the same project site, and within the same timeframe, will be considered for such bundling, consistent with economies of scale, and the purposes of this Agreement); and

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2.3.2 Project Work will not be split, divided or otherwise separated for contract award purposes to avoid application of this Agreement.

Section 2.4 Exclusions: Items specifically excluded from the Scope of this Agreement include the following:

2.4.1 Work of non-manual employees, including but not limited to: superintendents; administrators; teachers; supervisors; time keepers, mail carriers, clerks, office workers, messengers; guards, safety personnel, emergency medical and first aid technicians; and other professional, engineering, administrative, supervisory and management employees;

2.4.2 Equipment and machinery owned or controlled and operated by the District;

2.4.3 All off-site manufacture and handling of materials, equipment or machinery, including transportation of materials to and from a Project site; provided, however, that lay down or storage areas for equipment or material and manufacturing (prefabrication) sites, dedicated solely to the Project or Project Work, and the movement of materials or goods between locations on a Project site are within the scope of this Agreement;

2.4.4 All employees of the District, Community Workforce Coordinator, design teams (including, but not limited to architects engineers and master planners), or any other consultants for the District (including, but not limited to, project managers and construction managers and their employees not engaged in Project Work) and their sub-consultants, and other employees of professional service organizations, not performing manual labor within the scope of this Agreement; provided, however, that it is understood and agreed that Surveyors and Building/Construction Inspector and Field Soils and Materials Testers ("Inspector") are a covered craft under the CWA. This inclusion applies to the scope of work defined in the State of California Wage Determination for said Craft. This shall also specifically include such work where it is referred to by utilization of such terms as "quality control" or "quality assurance." Every Inspector performing under the Wage classification of Surveyor and Building/ Construction Inspector and Field Soils and Material Testers under a professional services agreement of a construction contract shall be bound to all applicable requirements of the CWA. Project Work as defined by this Agreement shall be performed pursuant to the terms and conditions of this Agreement regardless of the manner in which the work was awarded;

2.4.5 Any work performed on or near or leading to or into a site of work covered by this Agreement and undertaken by state, county, city or other governmental bodies, or their Contractors; or by public utilities, or their Contractors; and/or by the District or its Contractors (for work for which is not within the scope of this Agreement);

2.4.6 Off-site maintenance of leased equipment and on-site supervision of such work;

2.4.7 It is recognized that certain materials, equipment and systems of a highly technical and specialized nature will have to be installed at the Project. The nature of the materials, equipment and systems, together with requirements of manufacturer's or vendor's warranty, may dictate that it be prefabricated, pre-piped, and/or pre-wired and that it be installed

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under the supervision and direction of Owner's and/or manufacturer's personnel. The Unions agree to install such material, equipment and systems without incident. The intent of Section 2.4.7 is to ensure that no warranty could be voided as a result of the labor obligations of this Agreement;

2.4.8 Non-construction support services contracted by the District, Community Workforce Coordinator, or Contractor in connection with this Project;

2.4.9 Off-site laboratory work for testing.

Section 2.5 Awarding of Contracts:

2.5.1 The District and/or the Contractors, as appropriate, have the absolute right to award contracts or subcontracts on this Project to any Contractor notwithstanding the existence or non-existence of any agreements between such Contractor and any Union parties, provided only that such Contractor is ready, willing and able to execute and comply with this Community Workforce Agreement should such Contractor be awarded work covered by this Agreement.

2.5.2 It is agreed that all Contractors and subcontractors of whatever tier, who have been awarded contracts for work covered by this Agreement, shall be required to accept and be bound to the terms and conditions of this Community Workforce Agreement, and shall evidence their acceptance by the execution of the Letter of Assent set forth in **Attachment "A"** hereto, prior to the commencement of work. At the time that any Contractor enters into a subcontract with any subcontractor of any tier providing for the performance on the construction contract, the Contractor shall provide a copy of this Agreement to said subcontractor and shall require the subcontractor, as a part of accepting the award of a construction subcontract, to agree in writing in the form of a Letter of Assent to be bound by each and every provision of this Agreement prior to the commencement of work on the Project. No Contractor or subcontractor shall commence Project Work without having first provided a copy of the Letter of Assent as executed by it to the Community Workforce Coordinator and to the Council forty-eight (48) hours before the commencement of Project Work, or within forty-eight (48) hours after the award of Project Work to that Contractor (or subcontractor), whichever occurs later.

2.5.3 The District agrees that to the extent permitted by law and consistent with the economy and efficiency of construction and operation, it will use its best efforts to purchase materials, equipment and supplies which will not create labor strife. Under all circumstances, however, the District shall retain the absolute right to select the lowest reliable and responsible bidder for the award of contracts on all projects.

Section 2.6 Coverage Exception: This Agreement shall not apply if the District receives funding or assistance from any Federal, State, local or other public entity for the Construction Contract if a requirement, condition or other term of receiving that funding or assistance, at the time of the awarding of the contract, is that the District not require, bidders, contractors, subcontractors or other persons or entities to enter into an agreement with one or more labor organizations or enter into an agreement that contains any of the terms set forth herein. The District agrees that it will make every effort to establish the enforcement of this Agreement with any governmental agency or granting authority.

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Section 2.7 Master Labor Agreements:

2.7.1 The provisions of this Agreement, including the Master Labor Agreements (which are the local collective bargaining agreements of the signatory Unions having jurisdiction over the work on the Project, as such may be changed from time-to-time and which are incorporated herein by reference) shall apply to the work covered by this Agreement, notwithstanding the provisions of any other local, area and/or national agreement which may conflict with or differ from the terms of this Agreement. However, such does not apply to work performed under the National Cooling Tower Agreement, the National Stack Agreement, the National Transit Division Agreement (NTD), or within the jurisdiction of the International Union of Elevator Constructors and all instrument calibration and loop checking work performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians except that Articles dealing with Work Stoppages and Lock-Outs, Work Assignments and Jurisdictional Disputes, and Settlement of Grievances and Disputes shall apply to such work. It is specifically agreed that no later agreement shall be deemed to have precedence over this Agreement unless signed by all Parties signatory hereto who are then currently employed or represented at the Project. Where a subject covered by the provisions of this Agreement is also covered by a Master Labor Agreements, the provisions of this Agreement shall apply. Where a subject is covered by a provision of a Master Labor Agreements and not covered by this Agreement, the provisions of the Master Labor Agreements shall prevail. Any dispute as to the applicable source between this Agreement and any Master Labor Agreements for determining the wages, hours of working conditions of employees on this Project shall be resolved under the procedures established in Article 9.

2.7.2 It is understood that this Agreement, together with the referenced Master Labor Agreements, constitutes a self-contained, stand-alone agreement and by virtue of having become bound to this Community Workforce Agreement, the Contractor will not be obligated to sign any other local, area or national collective bargaining agreement as a condition of performing work within the scope of this Agreement (provided, however, that the Contractor may be required to sign an uniformly applied, non-discriminatory "Subscription Agreement" or "Participation Agreement" at the request of the trustees or administrator of a trust fund established pursuant to Section 302 of the Labor Management Relations Act, and to which such Contractor is bound to make contributions under this Agreement, provided that such Participation Agreement does not purport to bind the Contractor beyond the terms and conditions of this Agreement and/or expand its obligation to make contributions pursuant thereto). It shall be the responsibility of the prime Contractor to have each of its subcontractors sign such Agreement with the appropriate Craft Union prior to the subcontractor beginning Project Work.

Section 2.8 Binding Signatories Only: This Agreement shall only be binding on the signatory Parties hereto, and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such Party.

Section 2.9 Other District Work: This Agreement shall be limited to the construction work within the Scope of this Agreement including, specifically, site preparation and related demolition work, and new construction and major rehabilitation work for new or existing facilities referenced in Section 2.2 above. Nothing contained herein shall be interpreted to

prohibit, restrict, or interfere with the performance of any other operation, work or function not covered by this Agreement, which may be performed by District employees or contracted for by the District for its own account, on its property or in and around a Project site.

Section 2.10 Separate Liability: It is understood that the liability of the Contractor(s) and the liability of the separate Unions under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employment status between or among the District or Community Workforce Coordinator and/or any Contractor.

Section 2.11 Completed Project Work: As areas of Project Work are accepted by the District, this Agreement shall have no further force or effect on such items or areas except where the Contractor is directed by the District or its representatives to engage in repairs, modification, check-out and/or warranties functions required by its contract(s) with the District.

ARTICLE 3
UNION RECOGNITION AND EMPLOYMENT

Section 3.1 Recognition: The Contractor recognizes the Council and the Unions as the exclusive bargaining representative for the employees engaged in Project Work.

Section 3.2 Contractor Selection of Employees: The Contractor shall have the right to determine the competency of all employees, the number of employees required, the duties of such employees within their craft jurisdiction, and shall have the sole responsibility for selecting employees to be laid off, consistent with Section 3.3 and Section 4.3, below. The Contractor shall also have the right to reject any applicant referred by a Union for any reason, subject to any reporting pay required by Section 6.6; provided, however, that such right is exercised in good faith and not for the purpose of avoiding the Contractor's commitment to employ qualified workers through the procedures endorsed in this Agreement.

Section 3.3 Referral Procedures:

3.3.1 For signatory Unions now having a job referral system contained in a Master Labor Agreements, the Contractor agrees to comply with such system and it shall be used exclusively by such Contractor, except as modified by this Agreement. Such job referral system will be operated in a nondiscriminatory manner and in full compliance with federal, state, and local laws and regulations which require equal employment opportunities and non-discrimination. All of the foregoing hiring procedures, including related practices affecting apprenticeship, shall be operated so as to consider the goals of the District to encourage employment of District residents and utilization of small local businesses on the Project, and to facilitate the ability of all Contractors to meet their employment needs.

3.3.2 The Unions will exert their best efforts to recruit and refer sufficient numbers of skilled craft workers to fulfill the labor requirements of the Contractor, including specific employment obligations to which the Contractor may be legally and/or contractually obligated; and to refer apprentices as requested to develop a larger, skilled workforce. The Unions will work with their affiliated regional and national unions, and jointly with the Community Workforce Coordinator and others designated by the District, to identify and refer competent

craft persons as needed for Project Work, and to identify and hire individuals, particularly residents of the District, for entrance into joint labor/management apprenticeship programs, or to participation in other identified programs and procedures to assist individuals in qualifying and becoming eligible for such apprenticeship programs, all maintained to increase the available supply of skilled craft personnel for Project Work and future construction of maintenance work to be undertaken by the District.

3.3.3 The Union shall not knowingly refer an employee currently employed by a Contractor on Project Work to any other Contractor.

3.3.4 The Parties are aware of the District's policy that Contractors and other employers shall not employ, on Project Work when minors may be present on or around the site of such Project Work during working hours, a person who would not be eligible for employment by the District under California Educational Code section 45123. The Parties shall endeavor to employ persons under this Article in compliance with this policy, and the Contractors agree to remove such an individual in their employ from the particular Project site at the request of the District or the Community Workforce Coordinator.

Section 3.4 Non-Discrimination in Referral, Employment, and Contracting: The Unions and Contractors agree that they will not discriminate against any employee or applicant for employment in hiring and dispatching on the basis of race, color, religion, sex, gender, national origin, age, membership in a labor organization, sexual orientation, political affiliation, marital status or disability.

Section 3.5 Employment of District Area Residents:

3.5.1 The Unions and Employers agree that, to the extent allowed by law, and as long as they possess the requisite skills and qualifications, the Unions will exert their best efforts to refer and/or recruit sufficient numbers of qualified area residents, as well as Veterans, regardless of their place of residence, to fulfill the requirements of the Employers. In recognition of the fact that the District and the communities surrounding Project Work will be impacted by the construction of the Project Work, the parties agree to support the hiring of workers from the residents of these surrounding areas ("Area Residents"), as well as Veterans and students which have graduated from the District, regardless of where they reside. Towards that end, the Unions agree that they will exert their best efforts to encourage and provide referrals and utilization of qualified workers:

(i) First, Area Residents residing in those first tier zip codes which cover the District service area, as reflected on the attached list of zip codes on Attachment B, as well as Veterans, students which have graduated from the District, and individuals who have successfully completed the Building Trades Multi-Craft Core Curriculum (MC3) Pre-Apprenticeship Program ("MC3 Graduates") , regardless of where they reside;

(ii) If the Unions cannot provide the Employers in the attainment of a sufficient number of qualified workers from paragraph (i), above, the Unions will exert their best efforts to then recruit and identify for referral qualified workers residing within a ten (10) mile

radius from the District's headquarters, as reflected on the attached list of zip codes on "Attachment B."

(iii) If the Unions still have not provided the Employers in the attainment of a sufficient number of qualified workers from paragraphs (i) and (ii), above, the Unions will then exert their best efforts to recruit and identify for referral qualified workers residing within the remainder of the Counties of Los Angeles and Orange.

Qualified workers residing within any of these three (3) areas described above, as well as Veterans and student graduates, regardless of where they reside, shall be referred to as "Local Residents."

3.5.2 A goal of 30% of all of the labor and craft hours shall be from Local Residents described in 3.5.1, above. To facilitate the dispatch of Local Residents, all Contractors will be required to utilize the Craft Employee Request Form whenever they are requesting the referral of any employee from a Union referral list for any Project Work, a sample of which is attached as **Attachment "C**." When Local Residents are requested by the Contractors, the Unions will refer such workers regardless of their place in the Unions' hiring halls' list and normal referral procedures. Work performed by residents of states other than California shall not be included in the calculation of the labor and craft positions for purposes of the percentage requirements set forth above.

3.5.3 The Community Workforce Coordinator shall work with the Unions and Contractors in the administration of this Local Resident preference; and the Contractors and Unions shall cooperate by maintaining adequate records to demonstrate to the Community Workforce Coordinator that such preferences have been pursued.

3.5.4 Hours worked by residents of states other than California shall not be included in the calculation of total hours of Project Work for purposes of the percentage requirements set forth above.

Section 3.6 Helmets to Hardhats: The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the Parties. For purposes of this Agreement, the term "Eligible Veteran" shall have the same meaning as the term "veteran" as defined under Title 5, Section 2108(1) of the United States Code as the same may be amended or re-codified from time to time. It shall be the responsibility of each qualified District resident to provide the Unions with proof of his/her status as an Eligible Veteran.

The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and

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employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

Section 3.7 Core Employees:

3.7.1 Except as otherwise provided in separate collective bargaining agreement(s) to which the Contractor is signatory, Contractors may employ, as needed, first, a member of his core workforce, then an employee through a referral from the appropriate Union hiring hall, then a second core employee, then a second employee through the referral system, and so on until a maximum of five (5) core employees are employed, thereafter, all additional employees in the affected trade or craft shall be requisitioned from the craft hiring hall in accordance with Section 3.3. In the laying off of employees, the number of core employees shall not exceed one-half plus one of the workforce for an employer with ten (10) or fewer employees, assuming the remaining employees are qualified to undertake the work available. This provision applies only to Contractors who are not directly signatory to a current Master Labor Agreement for the craft worker in its employ and is not intended to limit the transfer provisions of the Master Labor Agreement of any trade. As part of this process, and in order to facilitate the contract administration procedures, as well as appropriate fringe benefit fund coverage, all Contractors shall require their core employees and any other persons employed other than through the referral process, to register with the appropriate Union hiring hall, if any, prior to their first day of employment at a project site.

3.7.2 The core work force is comprised of those employees whose names appeared on the Contractor's active payroll for sixty (60) of the one hundred (100) working days immediately before award of Project Work to the Contractor; who possess any license required by state or federal law for the Project Work to be performed; who have the ability to safely perform the basic functions of the applicable trade; and have worked a total of at least two thousand (2,000) hours in the specific construction craft during the prior four (4) years.

3.7.3 Prior to each Contractor performing any work on the Project, each Contractor shall provide a list of his core employees to the Community Workforce Coordinator and the Council. Failure to do so will prohibit the Contractor from using any core employees. Upon request by any Party to this Agreement, the Contractor hiring any core employee shall provide satisfactory proof (i.e., payroll records, quarterly tax records, driver's license, voter registration, postal address and such other documentation) evidencing the core employee's qualification as a core employee to the Community Workforce Coordinator and the Council.

Section 3.8 Time for Referral: If any Union's registration and referral system does not fulfill the requirements for specific classifications requested by any Contractor within forty-eight (48) hours (excluding Saturdays, Sundays and holidays), that Contractor may use employment sources other than the Union registration and referral services, and may employ applicants meeting such standards from any other available source. The Contractors shall inform the Union of any applicants hired from other sources within forty-eight (48) hours of such applicant being hired, and such applicants shall register with the appropriate hiring hall, if any.

Section 3.9 Lack of Referral Procedure: If a signatory Union does not have a job referral system as set forth in Section 3.3 above, the Contractors shall give the Union equal opportunity

to refer applicants. The Contractors shall notify the Union of employees so hired, as set forth in Section 3.5.

Section 3.10 Union Membership: Employees are not required to become or remain union members or pay dues or fees as a condition of performing Covered Work under this Agreement. Employers shall make and transmit all deductions for union dues, fees, and assessments that have been authorized by employees in writing in accordance with the applicable Master Agreement. Nothing in this Section 3.10 is intended to supersede independent requirements of applicable Master Agreements as to those Employers otherwise signatory to such Master Agreements and as to the employees of those Employers who are performing Covered Work.

Section 3.11 Individual Seniority: Except as provided in Section 4.3, individual seniority shall not be recognized or applied to employees working on the Project; provided, however, that group and/or classification seniority in a Union's Master Labor Agreement as of the effective date of this Agreement shall he recognized for purposes of layoffs.

Section 3.12 Foremen: The selection and number of craft foreman and/or general foreman shall be the responsibility of the Contractor. All foremen shall take orders exclusively from the designated Contractor representatives. Craft foreman shall be designated as working foreman at the request of the Contractors.

Section 3.13 District Security Requirements: The Parties are aware of the District's policy that Contractors and other employers shall not employ a person who would not be eligible for employment by the District under California Education Code, Section 45123. All persons working on Project Work, including all employees hired by a Contractor (or referred by a Signatory Union) to work on Project Work, shall be required to comply with all criminal background check certification requirements and policies of District for those persons who may come in contact with, or work in close proximity to, minors in the course of performing work on a Project. Contractors may refuse to employ any person who declines to comply with District's background check requirements or who is otherwise determined to be disqualified from participating in Project Work because of a disqualifying conviction. Similarly, District may ban or order the immediate removal of any person disqualified from working in the presence of, or in close proximity to, minors.

ARTICLE 4
UNION ACCESS AND STEWARDS

Section 4.1 Access to Project Sites: Authorized representatives of the Union shall have access to Project Work, provided that they do not interfere with the work of employees and further provided that such representatives fully comply with posted visitor, security and safety rules.

Section 4.2 Stewards:

4.2.1 Each signatory Union shall have the right to dispatch a working journeyperson as a steward for each shift, and shall notify the Contractor in writing of the identity of the designated steward or stewards prior to the assumption of such person's duties as steward. Such

designated steward or stewards shall not exercise any supervisory functions. There will be no non-working stewards. Stewards will receive the regular rate of pay for their respective crafts.

4.2.2 In addition to his/her work as an employee, the steward should have the right to receive, but not to solicit, complaints or grievances and to discuss and assist in the adjustment of the same with the employee's appropriate supervisor. Each steward should he concerned only with the employees of the steward's Contractor and, if applicable, subcontractor(s), and not with the employees of any other Contractor. A Contractor will not discriminate against the steward in the proper performance of his/her Union duties.

4.2.3 When a Contractor has multiple, non-contiguous work locations at one site, the Contractor may request and the Union shall appoint such additional working stewards as the Contractor requests to provide independent coverage of one or more such locations. In such cases, a steward may not service more than one work location without the approval of the Contractor.

4.2.4 The stewards shall not have the right to determine when overtime shall be worked or who shall work overtime.

Section 4.3 Steward Layoff/Discharge: The relevant Contractor agrees to notify the appropriate Union twenty-four (24) hours before the layoff of a steward, except in the case of disciplinary discharge for just cause. If the steward is protected against such layoff by the provisions of the applicable Master Labor Agreement, such provisions shall be recognized when the steward possesses the necessary qualifications to perform the remaining work. In any case in which the steward is discharged or disciplined for just cause, the appropriate Union will be notified immediately by the Contractor, and such discharge or discipline shall not become final (subject to any later filed grievance) until twenty-four (24) hours after such notice has been given.

Section 4.4 Employees on Non-Project Work: On work where the personnel of the District may be working in close proximity to the construction activities covered by this Agreement, the Union agrees that the Union representatives, stewards, and individual workers will not interfere with the District personnel, or with personnel employed by the any other employer not a Party to this Agreement.

ARTICLE 5
WAGES AND BENEFITS

Section 5.1 Wages: All employees covered by this Agreement shall be classified in accordance with work performed and paid by the Contractors the hourly wage rates for those classifications in compliance with the applicable prevailing wage rate determination established pursuant to applicable law. If a prevailing rate increases under law, the Contractor shall pay that rate as of its effective date under the law. Notwithstanding any other provision of this Agreement, this Agreement does not relieve Contractors directly signatory to one or more of the Master Labor Agreements from paying all wages set forth in such Agreements.

Section 5.2 Benefits:

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5.2.1 Contractors shall pay contributions to the established employee benefit funds in the amounts designated in the appropriate Master Labor Agreement and make all employee authorized deductions in the amounts designated in the appropriate Master Labor Agreement; provided, however, that such contributions shall not exceed the contribution amounts set forth in the applicable prevailing wage determination. Notwithstanding any other provision of this Agreement, Contractors directly signatory to one or more of the Master Labor Agreements are required to make all contributions set forth in those Master Labor Agreements without reference to the forgoing. Bona fide benefit plans with joint trustees or authorized employee deduction programs established or negotiated under the applicable Master Labor Agreement or by the Parties to this Agreement during the life of this Agreement may be added.

5.2.2 The Contractor adopts and agrees to be bound by the written terms of the applicable, legally established, trust agreement(s) specifying the detailed basis on which payments are to be made into, and benefits paid out of, such trust funds for its employees. The Contractor authorizes the Parties to such trust funds to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor.

5.2.3 Each Contractor and subcontractor is required to certify to the Community Workforce Coordinator that it has paid all benefit contributions due and owing to the appropriate Trust(s) prior to the receipt of its final payment and/or retention. Further, upon timely notification by a Union to the Community Workforce Coordinator, the Community Workforce Coordinator shall work with any prime Contractor or subcontractor who is delinquent in payments to assure that proper benefit contributions are made, to the extent of requesting the District or the prime Contractor to withhold payments otherwise due such Contractor, until such contributions have been made or otherwise guaranteed.

Section 5.3 Wage Premiums: Wage premiums, including but not limited to pay based on height of work, hazard pay, scaffold pay and special skills shall not be applicable to work under this Agreement, except to the extent provided for in any applicable prevailing wage determination.

Section 5.4 Compliance with Prevailing Wage Laws: The Parties agree that the Community Workforce Coordinator shall monitor the compliance by all Contractors and subcontractors with all applicable federal and state prevailing wage laws and regulations, and that such monitoring shall include Contractors engaged in what would otherwise be Project Work but for the exceptions to Agreement coverage in Section 2.2. All complaints regarding possible prevailing wage violations shall be referred to the Community Workforce Coordinator for processing, investigation and resolution, and if not resolved within thirty (30) calendar days, may be referred by any party to the state labor commissioner.

ARTICLE 6
WORK STOPPAGES AND LOCK-OUTS

Section 6.1 No Work Stoppages or Disruptive Activity: The Council and the Unions agree that neither they, and each of them, nor their respective officers or agents or representatives, shall

incite or encourage, condone or participate in any strike, walk-out, slow-down, picketing, observing picket lines or other activity of any nature or kind whatsoever, for any cause or dispute whatsoever with respect to or in any way related to Project Work, or which interferes with or otherwise disrupts Project Work, or with respect to or related to the District or Contractors or subcontractors, including, but not limited to economic strikes, unfair labor practice strikes, safety strikes, sympathy strikes and jurisdictional strikes whether or not the underlying dispute is subject to arbitration. Any such actions by the Council, or Unions, or their members, agents, representatives or the employees they represent shall constitute a violation of this Agreement. The Council and the Union shall take all steps necessary to obtain compliance with this Article and neither should be held liable for conduct for which it is not responsible.

Section 6.2 Employee Violations: The Contractor may discharge any employee violating Section 6.1 above and any such employee will not be eligible for rehire under this Agreement.

Section 6.3 Standing to Enforce: The District, the Community Workforce Coordinator, or any Contractor affected by an alleged violation of Section 6.1 shall have standing and the right to enforce the obligations established therein.

Section 6.4 Expiration of Master Labor Agreements: If the Master Labor Agreement, or any local, regional, and other applicable collective bargaining agreements expire during the term of the Project, the Union(s) agree that there shall be no work disruption of any kind as described in Section 6.1 above as a result of the expiration of any such agreement(s) having application on this Project and/or failure of the involved Parties to that agreement to reach a new contract. Terms and conditions of employment established and set at the time of bid shall remain established and set. Otherwise to the extent that such agreement does expire and the Parties to that agreement have failed to reach concurrence on a new contract, work will continue on the Project on one of the following two (2) options, both of which will be offered by the Unions involved to the Contractors affected:

6.4.1 Each of the Unions with a contract expiring must offer to continue working on the Project under interim agreements that retain all the terms of the expiring contract, except that the Unions involved in such expiring contract may each propose wage rates and employer contribution rates to employee benefit funds under the prior contract different from what those wage rates and employer contributions rates were under the expiring contracts. The terms of the Union's interim agreement offered to Contractors will be no less favorable than the terms offered by the Union to any other employer or group of employers covering the same type of construction work in Los Angeles County.

6.4.2 Each of the Unions with a contract expiring must offer to continue working on the Project under all the terms of the expiring contract, including the wage rates and employer contribution rates to the employee benefit funds, if the Contractor affected by that expiring contract agrees to the following retroactive provisions: if a new Master Labor Agreement, local, regional or other applicable labor agreement for the industry having application at the Project is ratified and signed during the term of this Agreement and if such new labor agreement provides for retroactive wage increases, then each affected Contractor shall pay to its employees who performed work covered by this Agreement at the Project during the hiatus between the effective dates of such expired and new labor agreements, an amount equal to any such retroactive wage

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increase established by such new labor agreement, retroactive to whatever date is provided by the new labor agreement for such increase to go into effect, for each employee's hours worked on the Project during the retroactive period. All Parties agree that such affected Contractors shall be solely responsible for any retroactive payment to its employees.

6.4.3 Some Contractors may elect to continue to work on the Project under the terms of the interim agreement option offered under paragraph 6.4.1, above and other Contractors may elect to continue to work on the Project under the retroactivity option offered under paragraph 6.4.2, above. To decide between the two options, Contractors will be given one week after the particular labor agreement has expired or one week after the Union has personally delivered to the Contractors in writing its specific offer of terms of the interim agreement pursuant to paragraph 6.4.1 above, whichever is the later date. If the Contractor fails to timely select one of the two options, the Contractor shall be deemed to have selected option 6.4.2.

Section 6.5 No Lockouts: Contractors shall not cause, incite, encourage, condone or participate in any lock-out of employees with respect to Project Work during the term of this Agreement. The term "lock-out" refers only to a Contractor's exclusion of employees in order to secure collective bargaining advantage, and does not refer to the discharge, termination or layoff of employees by the Contractor for any reason in the exercise of rights pursuant to any provision of this Agreement, or any other agreement, nor does "lock-out" include the District's decision to stop, suspend or discontinue any Project Work or any portion thereof for any reason.

Section 6.6 Best Efforts to End Violations:

6.6.1 If a Contractor contends that there is any violation of this Article or Section 7.3, it shall notify, in writing, the Executive Secretary of the Council, the Senior Executive of the involved Union(s) and the Community Workforce Coordinator. The Executive Secretary and the leadership of the involved Union(s) will immediately instruct, order and use their best efforts to cause the cessation of any violation of the relevant Article.

6.6.2 If the Union contends that any Contractor has violated this Article, it will notify the Contractor and the Community Workforce Coordinator, setting forth the facts which the Union contends violate the Agreement, at least twenty-four (24) hours prior to invoking the procedures of Section 7.8. The Community Workforce Coordinator shall promptly order the involved Contractor(s) to cease any violation of the Article.

Section 6.7 Withholding of services for failure to pay wages and fringe benefits: Notwithstanding any provision of this Agreement to the contrary, it shall not be a violation of this Agreement for any Union to withhold the services of its members (but not the right to picket) from a particular Contractor who:

6.7.1 fails to timely pay its weekly payroll; or

6.7.2 fails to make timely payments to the Union's Joint Labor/Management Trust Funds in accordance with the provisions of the applicable Master Labor Agreements. Prior to withholding its members' services for the Contractor's failure to make timely payments to the Union's Joint Labor/Management Trust Funds, the Union shall give at least ten (10) days (unless

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a lesser period of time is provided in the Union's Master Labor Agreement, but in no event less than forty-eight (48) hours) written notice of such failure to pay by registered or certified mail, return receipt requested, and by facsimile transmission to the involved Contractor and the District. Union will meet within the ten (10) day period to attempt to resolve the dispute.

6.7.3 Upon the payment of the delinquent Contractor of all monies due and then owing for wages and/or fringe benefit contributions, the Union shall direct its members to return to work and the Contractor shall return all such members back to work.

Section 6.8 Expedited Enforcement Procedure: Any party, including the District, which is an intended beneficiary of this Article, or the Community Workforce Coordinator, may institute the following procedures, in lieu of or in addition to any other action at law or equity, when a breach of Section 6.1, 6.5 or Section 7.3 is alleged.

6.8.1 The party invoking this procedure shall notify Najeeb Khoury, who has been selected by the negotiating Parties, and whom the Parties agree shall be the permanent arbitrator under this procedure. If the permanent arbitrator is unavailable at any time, the party invoking this procedure shall notify one of the alternates selected by the Parties, in that order on an alternating basis. Notice to the arbitrator shall be by the most expeditious means available, with notices to the Parties alleged to be in violation, and to the Council if it is a Union alleged to be in violation. For purposes of this Article, written notice may be given by telegram, facsimile, hand-delivery or overnight mail and will be deemed effective upon receipt.

6.8.2 Upon receipt of said notice, the arbitrator named above or his/her alternate shall sit and hold a hearing within twenty-four (24) hours if it is contended that the violation still exists, but not sooner than twenty-four (24) hours after notice has been dispatched to the Council of the involved Union(s) and/or Contractor as required by Section 8.6, above.

6.8.3 The arbitrator shall notify the Parties of the place and time chosen for this hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all Parties. A failure of any Party or Parties to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

6.8.4 The sole issue at the hearing shall be whether or not a violation of Sections 6.1, 6.5 or Section 7.3 has in fact occurred. The arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages. The Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without an opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The arbitrator may order cessation of the violation of the Article and other appropriate relief, and such Award, upon issuance, shall be served on all Parties by hand or registered mail.

6.8.5 Such Award shall be final and binding on all Parties and may be enforced by any court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to herein above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In any judicial proceeding to obtain a temporary order enforcing the arbitrator's Award as issued under Section 6.8(d) of this Article,

all Parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any Party's right to participate in a hearing for a final order of enforcement. The court's order or orders enforcing the arbitrator's award shall be served on all Parties by hand or by delivery to their address as shown on this Agreement (for a Union), as shown in their business contract for work under this Agreement (for a Contractor) and to the representing Union (for an employee), by certified mail by the Party or Parties first alleging the violation.

6.8.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance hereto are hereby waived by the Parties to whom they accrue.

6.8.7 The fees and expenses of the arbitrator shall be equally divided between the party or Parties initiating this procedure and the respondent Party or Parties.

ARTICLE 7
WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

Section 7.1 Assignment of Work: The assignment of Project Work will be solely the responsibility of the Employer performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

Section 7.2 The Plan: All jurisdictional disputes on this Project between or among the building and construction trades Unions and the Employers parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Employers and Unions parties to this Agreement.

Section 7.3 If a dispute arising under this Article involves the Western States Regional Council of Carpenters or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Robert Hirsch, and Thomas Pagan, and the Arbitrator's hearing on the dispute shall be held at the offices of the applicable Building and Construction Trades Council within fourteen (14) days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

Section 7.4 No Work Disruption Over Jurisdiction: All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Employer's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

Section 7.5 Pre-Job Conferences: As provided in Article 16, each Employer will conduct a pre-job conference with the Council prior to commencing work. The Primary Employer and the Owner will be advised in advance of all such conferences and may participate if they wish. Pre-job conferences for different Employers may be held together.

Section 7.6 Resolution of Jurisdictional Disputes: If any actual or threatened strike, sympathy strike, work stoppage, slow down, picketing, hand-billing or otherwise advising the public that a labor dispute exists, or interference with the progress of Project Work by reason of a jurisdictional dispute or disputes occurs, the Parties shall exhaust the expedited procedures set forth in the Plan, if such procedures are in the plan then currently in effect, or otherwise as in Article 6 above.

ARTICLE 8
MANAGEMENT RIGHTS

Section 8.1 Contractor Rights: The Contractors retain the full and exclusive authority for the management of their operations, as set forth in this Article, unless expressly limited or required by a specific provision of this Agreement or an applicable Master Labor Agreement. The Contractor's rights include, but are not limited to, the right to:

8.1.1 Plan, direct and control operations of all work;

8.1.2 Hire, promote, transfer and layoff their own employees, respectively, as deemed appropriate to satisfy work and/or skill requirements;

8.1.3 Promulgate and require all employees to observe reasonable job rules and security and safety regulations;

8.1.4 Discharge, suspend or discipline their own employees for just cause;

8.1.5 Utilize, in accordance with District approval, any work methods, procedures or techniques, and select, use and install any types or kinds of materials, apparatus or equipment, regardless of source of manufacture or construction; assign and schedule work at their discretion; and

8.1.6 Assign overtime, determine when it will be worked and the number and identity of employees engaged in such work, subject to such provisions in the applicable Master Labor Agreement(s) requiring such assignments be equalized or otherwise made in a nondiscriminatory manner.

Section 8.2 Specific District Rights: In addition to the following and other rights of the District enumerated in this Agreement, the District expressly reserves its management rights and all the rights conferred on it by law. The District's rights (and those of the Contractor Administrator on its behalf) include but are not limited to the right to:

8.2.1 Inspect any construction site or facility to ensure that the Contractor follows the applicable safety and other work requirements;

8.2.2 Require Contractors to establish a different work week or shift schedule for particular employees as required to meet the operational needs of the Project Work at particular locations;

8.2.3 At its sole option, terminate, delay and/or suspend any and all portions of the Project Work at any time; prohibit some or all work on certain days or during certain hours of the day to accommodate the ongoing operations of the District's educational facilities and/or to mitigate the effect of ongoing Project Work on businesses and residents in the neighborhood of the Project site; and/or require such other operational or schedule changes it deems necessary, in its sole judgment, to effectively maintain its primary mission and remain a good neighbor to those in the area of its facilities. (In order to permit the Contractors and Unions to make appropriate scheduling plans, the District will provide the Community Workforce Coordinator, and the affected Contractor(s) and Union(s) with reasonable notice of any changes it requires pursuant to this section; provided, however, that if notice is not provided in time to advise employees not to report for work, show-up pay shall be due pursuant to the provisions of the applicable Master Labor Agreement);

8.2.4 Approve any work methods, procedures and techniques used by Contractors whether or not these methods, procedures or techniques are part of industry practices or customs; and

8.2.5 Investigate and process complaints, through its Community Workforce Coordinator, in the matters set forth in Articles 6 and 9.

Section 8.3 Use of Materials: There should be no limitations or restriction by Union upon a Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and utilization, of equipment, machinery, packaging, precast, prefabricated, prefinished, or preassembled materials, tools or other labor saving devices, subject to the application of the State Public Contracts and Labor Codes as required by law in reference to offsite construction. Generally, the onsite installation or application of such items shall be performed by the craft having jurisdiction over such work. The District and its Community Workforce Coordinator shall advise all Contractors of, and enforce as appropriate, the off-site application of the prevailing wage law as it affects Project Work.

Section 8.4 Special Equipment, Warranties and Guaranties:

8.4.1 It is recognized that certain equipment of a highly technical and specialized nature may be installed at Project Work sites. The nature of the equipment, together with the requirements for manufacturer's warranties, may dictate that it be prefabricated, pre-piped and/or pre-wired and that it be installed under the supervision and direction of the District's and/or manufacturer's personnel. The Unions agree to install such equipment without incident.

8.4.2 The Parties recognize that the Contractor will initiate from time to time the use of new technology, equipment, machinery, tools, and other labor-savings devices and methods of performing Project Work. The Union agrees that they will not restrict the implementation of such devices or work methods. The Unions will accept and will not refuse to handle, install or work with any standardized and/or catalogue: parts, assemblies, accessories, prefabricated items, preassembled items, partially assembled items, or materials whatever their source of manufacture or construction.

8.4.3 If any disagreement between the Contractor and the Unions concerning the methods of implementation or installation of any equipment, or device or item, or method of work, arises, or whether a particular part or pre-assembled item is a standardized or catalog part or item, the work will precede as directed by the Contractor and the Parties shall immediately consult over the matter. If the disagreement is not resolved, the affected Union(s) shall have the right to proceed through the procedures set forth in Article 9.

ARTICLE 9
SETTLEMENT OF GRIEVANCES AND DISPUTES

Section 9.1 Cooperation and Harmony on Site:

9.1.1 This Agreement is intended to establish and foster continued close cooperation between management and labor. The Council shall assign a representative to this Project for the purpose of assisting the Unions, and working with the Community Workforce Coordinator, together with the Contractors, to complete the construction of the Project economically, efficiency, continuously and without any interruption, delays or work stoppages.

9.1.2 The Community Workforce Coordinator, the Contractors, Unions, and employees collectively and individually, realize the importance to all Parties of maintaining continuous and uninterrupted performance Project Work, and agree to resolve disputes in accordance with the grievance provisions set forth in this Article or, as appropriate, those of Article 7 or 8.

9.1.3 The Community Workforce Coordinator shall oversee the processing of grievances under this Article and Articles 6 and 7, including the scheduling and arrangements of facilities for meetings, selection of the arbitrator from the agreed-upon panel to hear the case, and any other administrative matters necessary to facilitate the timely resolution of any dispute; provided, however, it is the responsibility of the principal parties to any pending grievance to insure the time limits and deadlines are met.

Section 9.2 Processing Grievances: Any questions arising out of and during the term of this Agreement involving its interpretation and application, which includes applicable provisions of the Master Labor Agreements, but not jurisdictional disputes or alleged violations of Section 6.1 and 6.5 and similar provisions, shall be considered a grievance and subject to resolution under the following procedures.

Step 1. Employee Grievances: When any employee subject to the provisions of this Agreement feels aggrieved by an alleged violation of this Agreement, the employee shall, through his Union business representative or, job steward, within ten (10) working days after the occurrence of the violation, give notice to the work site representative of the involved Contractor stating the provision(s) alleged to have been violated. A business representative of the Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within ten (10) working days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party may, within ten (10) working days thereafter, pursue Step 2 of this grievance procedure provided the grievance is reduced to writing, setting forth the relevant information, including a short description thereof, the date on which the alleged violation occurred, and the provision(s) of the Agreement alleged

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to have been violated. Grievances and disputes settled at Step 1 shall be non-precedential except as to the parties directly involved.

Union or Contractor Grievances: Should the Union(s) or any Contractor have a dispute with the other Party(ies) and, if after conferring within ten (10) working days after the disputing Party knew or should have known of the facts or occurrence giving rise to the dispute, a settlement is not reached within five (5) working days, the dispute shall be reduced to writing and processed to Step 2 in the same manner as outlined in 1(a) above for the adjustment of an employee complaint.

Step 2. The business manager of the involved Union or his designee, together with the site representative of the involved Contractor, and the labor relations representative of the Community Workforce Coordinator, shall meet within seven (7) working days of the referral of the dispute to this second step to arrive at a satisfactory settlement thereof. If the Parties fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days after the initial meeting at Step 2.

Step 3. (a) If the grievance shall have been submitted but not resolved under Step 2, either the Union or Contractor Party may request in writing to the Community Workforce Coordinator (with copy (ies) to the other Party (ies)) within seven (7) calendar days after the initial Step 2 meeting, that the grievance be submitted to an arbitrator selected from the agreed upon list below, on a rotational basis in the order listed. Those arbitrators are: (1) Najeeb Khoury; (2) Andrea Dooley; (3) Fredric Horowitz; (4) Sara Adler; and (5) David Weinberg. The decision of the arbitrator shall be final and binding on all Parties and the fee and expenses of such arbitrations shall be borne equally by the involved Contractor(s) and the involved Union(s).

(b) Failure of the grieving Party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the Parties involved at the particular step where the extension is agreed upon. The arbitrator shall have the authority to make decisions only on issues presented and shall not have the authority to change, amend, add to or detract from any of the provisions of this Agreement.

(c) The fees and expenses incurred by the arbitrator, as well as those jointly utilized by the Parties (i.e., conference room, court reporter, etc.) in arbitration, shall be divided equally by the Parties to the arbitration, including Union(s) and Contractor(s) involved.

Section 9.3 Limit on Use of Procedures: Procedures contained in this Article shall not be applicable to any alleged violation of Articles 6 or 7, with a single exception that any employee discharged for violation of Section 6.2, or Section 7.3, may resort to the procedures of this Article to determine only if he/she was, in fact, engaged in that violation.

Section 9.4 Notice: The Community Workforce Coordinator (and the District, in the case of any grievance regarding the Scope of this Agreement) shall be notified by the involved Contractor of all actions at Steps 2 and 3, and further, the Community Workforce Coordinator shall, upon its own request, be permitted to participate fully as a party in all proceedings at such steps.

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ARTICLE 10
REGULATORY COMPLIANCE

Section 10.1 Compliance with All Laws: The Council and all Unions, Contractors, subcontractors and their employed shall comply with all applicable federal and state laws, ordinances and regulations including, but not limited to, those relating to safety and health, employment and applications for employment. All employees shall comply with the safety regulations established by the District, the Community Workforce Coordinator or the Contractor. Employees must promptly report any injuries or accidents to a supervisor.

Section 10.2 Monitoring Compliance: The Parties agree that the District shall require, and that the Community Workforce Coordinator and Council shall monitor, compliance by all Contractors and subcontractors with all federal and state laws regulation that, from time to time may apply to Project Work. It shall be the responsibility of both the Council and the Community Workforce Coordinator (on behalf of the District) to investigate or monitor compliance with these various laws and regulations. The Council may recommend to the Community Workforce Coordinator and/or the District procedures to encourage and enforce compliance with these laws and regulations.

Section 10.3 Prevailing Wage Compliance: The Council or Union shall refer all complaints regarding any potential prevailing wage violation to the Community Workforce Coordinator, who on its own, or with the assistance of the District's labor compliance program, shall process, investigate and resolve such complaints, consistent with Article 5, Section 5.4. The Council or Union, as appropriate, shall be advised in a timely manner with regard to the facts and resolution, if any, of any complaint. It is understood that this Section does not restrict any individual rights as established under the State Labor Code, including the rights of an individual to file a complaint with the State Labor Commissioner or to file a grievance for such violation under the grievance procedure set forth in this Agreement.

Section 10.4 Violations of Law: Based upon a finding of violation by the District of a federal and state law, and upon notice to the Contractor that it or its subcontractors are in such violation, the District, in the absence of the Contractor or subcontractor remedying such violation, shall take such action as it is permitted by law or contract to encourage that Contractor to come into compliance, including, but not limited to, assessing fines and penalties, and/or removing the offending Contractor from Project Work. Additionally, in accordance with the Agreement between the District and the Contractor, the District may cause the Contractor to remove from Project Work any subcontractor who is in violation of state or federal law.

ARTICLE 11
SAFETY AND PROTECTION OF PERSON AND PROPERTY

Section 11.1 Safety:

11.1.1 It shall be the responsibility of each Contractor to ensure safe working conditions and employee compliance with any safety rules contained herein or established by the District, the Community Workforce Coordinator or the Contractor. It is understood that employees have

an individual obligation to use diligent care to perform their work in a safe manner and to protect themselves and the property of the Contractor and the District.

11.1.2 Employees shall be bound by the safety, security and visitor rules established by the Contractor, the Community Workforce Coordinator and/or the District. These rules will be published and posted. An employee's failure to satisfy his/her obligations under this section will subject him/her to discipline, up to and including discharge.

11.1.3 The Parties to this Agreement adopt the Los Angeles/Orange Counties Building and Construction Trades Council Approved Drug and Alcohol Testing Policy, a copy of which is attached hereto as **Attachment "D,"** and which shall be the policy and procedure utilized under this Agreement.

Section 11.2 Suspension of Work for Safety: A Contractor may suspend all or a portion of the job to protect the life and safety of employees. In such cases, employees will be compensated only for the actual time worked; provided, however, that where the Contractor requests employees to remain at the site and be available for work, the employees will be compensated for stand-by time at their basic hourly rate of pay.

Section 11.3 Water and Sanitary Facilities: The Contractor shall provide adequate supplies of drinking water and sanitary facilities for all employees as required by state law or regulation.

ARTICLE 12
TRAVEL AND SUBSISTENCE

Travel expenses, travel time, subsistence allowances, zone rates and parking reimbursements shall be paid in accordance with the applicable Master Labor Agreement unless superseded by the applicable prevailing wage determination.

ARTICLE 13
APPRENTICES

Section 13.1 Importance of Training: The Parties recognize the need to maintain continuing support of the programs designed to develop adequate numbers of competent workers in the construction industry, the obligation to capitalize on the availability of the local work force in the area served by the District, and the opportunities to provide continuing work under the construction program. To these ends, the Parties will facilitate, encourage, and assist local residents to commence and progress in Labor/Management Apprenticeship and/or training Programs in the construction industry leading to participation in such apprenticeship programs. The District, the Community Workforce Coordinator, other District consultants, and the Council, will work cooperatively to identify, or establish and maintain, effective programs and procedures

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for persons interested in entering the construction industry and which will help prepare them for the formal joint labor/management apprenticeship programs maintained by the signatory Unions.

Section 13.2 Use of Apprentices:

13.2.1 Apprentices used on Projects under this Agreement shall be registered in Joint Labor Management Apprenticeship Programs approved by the State of California. Apprentices may comprise up to thirty percent (30%) of each craft's work force at any time, unless the standards of the applicable joint apprenticeship committee confirmed by the Division of Apprenticeship Standards ("DAS"), establish a lower or higher maximum percentage, and where such is the case, the applicable Union should use its best efforts with the Joint Labor Management apprenticeship committee and, if necessary, the DAS to permit up to thirty percent (30%) apprentices on the Project.

13.2.2 The Unions agree to cooperate with the Contractor in furnishing apprentices as requested up to the maximum percentage. The apprentice ratio for each craft shall be in compliance, at a minimum, with the applicable provisions of the Labor Code relating to utilization of apprentices. The District shall encourage such utilization, and, both as to apprentices and the overall supply of experienced workers, the Community Workforce Coordinator will work with the Council to assure appropriate and maximum utilization of apprentices and the continuing availability of both apprentices and journey persons.

13.2.3 The Parties agree that apprentices will not be dispatched to Contractors working under this Agreement unless there is a journeymen working on the project where the apprentice is to be employed who is qualified to assist and oversee the apprentice's progress through the program in which he is participating.

13.2.4 All apprentices shall work under the direct supervision of a journeyman from the trade in which the apprentice is indentured. A journeyman shall be defined as set forth in the California Code of Regulations, Title 8 [apprenticeship], Section 205, which defines a journeyman as a person who has either completed an accredited apprenticeship in his or her craft, or has completed the equivalent of an apprenticeship in length and content of work experience and all other requirements in the craft which has workers classified as journeyman in the apprenticeship occupation. Should a question arise as to a journeyman's qualification under this subsection, the Contractor shall provide adequate proof evidencing the worker's qualification as a journeyman to the Construction Manager and the Council.

ARTICLE 14
WORK OPPORTUNITIES PROGRAM

Section 14.1 The Parties to this Agreement support the development of increased numbers of skilled construction workers from among Area Residents to meet the labor needs of the Project, specifically, and the requirements of the local construction industry generally. Towards that end the Parties agree to cooperate respecting the establishment of a work opportunities program for Area Residents, the primary goals of which shall be to maximize construction work opportunities for traditionally underrepresented members of the community. In furtherance of the foregoing, the Unions specifically agree to:

14.1.1 Encourage the referral and utilization, to the extent permitted by law and hiring hall practices, of qualified Area Residents as journeymen, and apprentices on the Project and entrance into such qualified apprenticeship and training programs as may be operated by signatory Unions; and

14.1.2 Work together to promptly develop at the outset of each Project procedures for the identification of craft needs, the scheduling of work to facilitate the utilization of available craft employees, and the securing of services of craft employees in sufficient numbers to meet the demand of the Project work undertaken; and

14.1.3 Work cooperatively with the District and other District consultants to identify, or establish and maintain, effective programs, events and procedures for persons interested in entering the construction industry; and

14.1.4 Participate in District based job fairs, career days and outreach events; and

14.1.5 Provide speakers to speak at District programs and Academies as requested; and

14.1.6 Assist Area Residents in contacting pre-apprenticeship programs that utilize the Building Trades multi-craft core curriculum (MC3) and the Apprenticeship Training Committees for the crafts and trades they are interested in. The Unions shall assist Area Residents who are seeking Union jobs on the Project and Union membership in assessing their work experience and giving them credit for provable past experience in their relevant craft or trade, including experience gained working for non-union Contractors. The Unions shall put on their rolls qualified bona fide Area Residents for work on this Project; and

14.1.7 Allow tours of their JACs as requested; and

14.1.8 Provide a contact information list for all Union representatives and Joint Apprenticeship Committee representatives; and

14.1.9 Support local events and programs designed to recruit and develop adequate numbers of competent workers in the construction industry.

ARTICLE 15
WORKING CONDITIONS

Section 15.1 Meal and Rest Periods: There will be no non-working times established during working hours except as may be required by applicable state law or regulations. Meal periods and Rest periods shall be as provided for in Wage Order 16. Individual coffee containers will be permitted at the employees' work location; however, there will be no organized coffee breaks.

Section 15.2 Work Rules: The District, the Community Workforce Coordinator, and/or relevant Contractor shall establish such reasonable work rules as they deem appropriate and not inconsistent with this Agreement. These rules will be posted at the work sites by the Contractor

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and may be amended thereafter as necessary. Failure to observe these rules and regulations by employees may be grounds for discipline up to an including discharge.

Section 15.3 Emergency Use of Tools and Equipment: There should be no restrictions on the emergency use of any tools by any qualified employee or supervisor, or on the use of any tools or equipment for the performance of work within the jurisdiction, provided the employee can safely use the tools and/or equipment involved and is compliance with applicable governmental rules and regulations.

Section 15.4 Access Restrictions for Cars: Recognizing the nature of the work being conducted on the site, employee access by a private automobile may be limited to certain roads and/or parking areas.

ARTICLE 16
PRE-JOB CONFERENCES

Each Contractor will conduct a pre-job conference with the Unions not later than fourteen (14) calendar days prior to commencing work. The purpose of the conference will be to, among other things, determine craft manpower needs, schedule of work for the contract and project work rules/owner rules. The Council, the Community Workforce Coordinator, and the District shall be advised in advance of all such conferences and may participate if they wish. All work assignments shall be disclosed by the Prime Contractor and all Contractors at a pre-job conference. Should there be Project Work that was not previously discussed at the pre-job conference, or additional project work be added, the contractors performing such work will conduct a separate pre-job conference for such newly included work. Any Union in disagreement with the proposed assignment shall notify the Contractor of its position in writing, with a copy to Community Workforce Coordinator, within seven (7) calendar days thereafter. Within seven (7) calendar days after the period allowed for Union notices of disagreement with the Contractor's proposed assignments, but prior to the commencement of any work, the Contractor shall make final assignments in writing with copies to the Council and to the Community Workforce Coordinator.

ARTICLE 17
LABOR/MANAGEMENT COOPERATION

Section 17.1 Joint Committee: The Parties to this Agreement may establish a six (6) person Joint Administrative Committee (JAC). This JAC shall be comprised of three (3) representatives selected by the District and three (3) representatives selected by the Council to monitor compliance with the terms and conditions of this Agreement. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement.

Section 17.2 Functions of Joint Committee: The Committee shall meet on a schedule to be determined by the Committee or at the call of the joint chairs, to discuss the administration of the Agreement, the progress of the Project, general labor management problems that may arise, and any other matters consistent with this Agreement. Substantive grievances or disputes arising

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under Articles 6, 7 or 9 shall not be reviewed or discussed by this Committee, but shall be processed pursuant to the provisions of the appropriate Article. The Community Workforce Coordinator shall be responsible for the scheduling of the meetings, the preparation of the agenda topics for the meetings, with input from the Unions the Contractors and the District. Notice of the date, time and place of meetings, shall be given to the Committee members at least three (3) days prior to the meeting. The District should be notified of the meetings and invited to send a representative(s) to participate. The Community Workforce Coordinator shall prepare quarterly reports on apprentice utilization and the training and employment of District residents, and a schedule of Project Work and estimated number of craft workers needed. The Committee or an appropriate subcommittee, may review such reports and make any recommendations for improvement, if necessary, including increasing the availability of skilled trades, and the employment of local residents or other individuals who should be assisted with appropriate training to qualify for apprenticeship programs.

Section 17.3 Subcommittees: The Committee may form subcommittees to consider and advise the full Committee with regard to safety and health issues affecting the Project and other similar issues affecting the overall Project, including any workers' compensation program initiated under this Agreement.

ARTICLE 18
SAVINGS AND SEPARABILITY

Section 18.1 Savings Clause: It is not the intention of the District, the Community Workforce Coordinator, Contractor or the Union parties to violate any laws governing the subject matter of this Agreement. The Parties hereto agree that in the event any provision of this Agreement is finally held or determined to be illegal or void as being in contravention of any applicable law or regulation, the remainder of the Agreement shall remain in full force and effect unless the part or parts so found to be void are wholly inseparable from the remaining portions of this Agreement. Further, the Parties agree that if and when any provision(s) of this Agreement is finally held or determined to be illegal or void by a court of competent jurisdiction, the Parties will promptly enter into negotiations concerning the substantive effect of such decision for the purposes of achieving conformity with the requirements of any applicable laws and the intent of the Parties hereto. If the legality of this Agreement is challenged and any form of injunctive relief is granted by any court, suspending temporarily or permanently the implementation of this Agreement, then the Parties agree that all Project Work that would otherwise be covered by this Agreement should be continued to be bid and constructed without application of this Agreement so that there is no delay or interference with the ongoing planning, bidding and construction of any Project Work.

Section 18.2 Effect of Injunctions or Other Court Orders: The Parties recognize the right of the District to withdraw, at its absolute discretion, the utilization of the Agreement as part of any bid specification should a Court of competent jurisdiction issue any order, or any applicable statute which could result, temporarily or permanently in delay of the bidding, awarding and/or construction on the Project. Notwithstanding such an action by the District, or such court order or statutory provision, the Parties agree that the Agreement shall remain in full force and the fact on covered Project Work to the maximum extent legally possible.

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ARTICLE 19
WAIVER

A waiver of or a failure to assert any provisions of this Agreement by any or all of the Parties hereto shall not constitute a waiver of such provision for the future. Any such waiver shall not constitute a modification of the Agreement or change in the terms and conditions of the Agreement and shall not relieve, excuse or release any of the Parties from any of their rights, duties or obligations hereunder.

ARTICLE 20
AMENDMENTS

The provisions of this Agreement can be renegotiated, supplemented, rescinded or otherwise altered only by mutual agreement in writing, hereafter signed by the negotiating Parties hereto.

ARTICLE 21
DURATION OF THE AGREEMENT

Section 21.1 Duration:

21.1.1 This Agreement shall be effective from the date signed by all Parties and shall remain in effect for a period of five (5) years and shall continue in effect from year to year thereafter unless either Party provides written notice of its intent to terminate, sent no earlier than ninety (90) days or later than sixty (60) days prior to the termination date or successor termination date. Any covered Project awarded during the term of this Agreement shall continue to be covered hereunder, until completion of the Project, notwithstanding the expiration date of this Agreement.

21.1.2 This Agreement may be extended by mutual consent of the District and the Unions for such further periods as the Parties shall agree to.

Section 21.2 Turnover and Final Acceptance of Completed Work:

21.2.1 Construction of any phase, portion, section, or segment of Project Work shall be deemed complete when such phase, portion, section or segment has been turned over to the District by the Contractor and the District has accepted such phase, portion, section, or segment. As areas and systems of the Project are inspected and construction-tested and/or approved and accepted by the District or third parties with the approval of the District, the Agreement shall have no further force or effect on such items or areas, except when the Contractor is directed by the District to engage and repairs or modifications required by its contract(s) with the District.

21.2.2 Notice of each final acceptance received by the Contractor will be provided to the Council with the description of what portion, segment, etc. has been accepted. Final acceptance may be subject to a "punch" list, and in such case, the Agreement will continue to apply to each such item on the list until it is completed to the satisfaction of the District and Notice of Acceptance is given by the District or its representative to the Contractor. At the request of the Union, complete information describing any "punch" list work, as well as any additional work

required of a Contractor at the direction of the District pursuant to (a) above, involving otherwise turned-over and completed facilities which have been accepted by the District, will be available from the Community Workforce Coordinator.

IN WITNESS whereof the Parties have caused this Community Workforce Agreement to be executed as of the date and year above stated.

LYNWOOD UNIFIED SCHOOL DISTRICT

By: _____

Dated: 2/19/25

LOS COUNTIES ANGELES/ORANGE BUILDING & CONSTRUCTION TRADES COUNCIL

By: _____
Ernesto Medrano, Executive Secretary

Dated: _____

LOS ANGELES/ORANGE COUNTIES BUILDING AND CONSTRUCTION TRADES COUNCIL CRAFT UNIONS AND DISTRICT COUNCILS

Asbestos Heat & Frost Insulators (Local 5)	DocuSigned by: Mike Patterson 6C3223100AE94D4...
Boilermakers (Local 92)	DocuSigned by: Luis Miramontes 83A563BEFB6E48F...
Bricklayers & Allied Craftworkers (Local 4)	DocuSigned by: Lupe Aldaco EA7AF8519EAE486...
Cement Masons (Local 600)	DocuSigned by: Ricardo Gonzales 59C2DDBBFF7F442...
Electricians (Local 11)	DocuSigned by: 61A6FAEF4F17461...
Elevator Constructors (Local 18)	DocuSigned by: Tony Gazzaniga B59D61C5C8BB417...
Gunite Workers (Local 345)	DocuSigned by: Ed Learn AEBFEA548C1F413...
Iron Workers (Reinforced – Local 416)	DocuSigned by: Frankie Jimenez 5E6E642A5F94466...
Iron Workers (Structural – Local 433)	DocuSigned by: CE417CA25EB4CC...
District Council of Laborers	DocuSigned by: Jon Preciado 85151D075BAB44A...
Laborers (Local 300)	DocuSigned by: SERGIO RASCON 9D9520D1C3F9449...
Laborers (Local 1184)	DocuSigned by: 1184 B569A3D2C62940C...
Operating Engineers (Local 12)	
Operating Engineers (Local 12)	
Operating Engineers (Local 12)	
Painters & Allied Trades DC 36	DocuSigned by: Ernesto Toscano 23762C55EA67401...
Pipe Trades (Local 250)	DocuSigned by: Ben Clayton B9F38A583E60494...
Pipe Trades (Local 345)	DocuSigned by: Ricardo Perez 8C144FFD6F5F464...
Pipe Trades (Plumbers Local 78)	DocuSigned by: Jeremy Diaz CADA1827CFED474...
Pipe Trades (Sprinkler Fitters Local 709)	DocuSigned by: Todd Golden 6D88CFF28138497...
Plasterers (Local 200)	DocuSigned by: Christian Betancourt 84A53707BA3143B...
Plaster Tenders (Local 1414)	DocuSigned by: Jose Sanchez 9DED4589AFE64A7...
Roofers & Waterproofers (Local 36)	DocuSigned by: Cliff Smith E6074B80D99147F...
Sheet Metal Workers (Local 105)	DocuSigned by: Steve Hinson B2558B178AF441F...
Teamsters (Local 986)	DocuSigned by: Caesar Bonas B9F79ED2514D410...
Western States Regional Council of Carpenters	DocuSigned by: Josh Raper 4E0027DAA65B4D0...

LOS ANGELES/ORANGE COUNTIES BUILDING AND CONSTRUCTION
TRADES COUNCIL CRAFT UNIONS AND DISTRICT COUNCILS

Asbestos Heat & Frost Insulators (Local 5) _____

Boilermakers (Local 92) _____

Bricklayers & Allied Craftworkers (Local 4) _____

Cement Masons (Local 600) _____

Electricians (Local 11) _____

Elevator Constructors (Local 18) _____

Gunite Workers (Local 345) _____

Iron Workers (Reinforced – Local 416) _____

Iron Workers (Structural – Local 433) _____

District Council of Laborers _____

Laborers (Local 300) _____

Laborers (Local 1184) _____

Operating Engineers (Local 12) _____

Operating Engineers (Local 12) _____

Operating Engineers (Local 12) _____

Painters & Allied Trades DC 36 _____

Pipe Trades (Local 250) _____

Pipe Trades (Local 345) _____

Pipe Trades (Plumbers Local 78) _____

Pipe Trades (Sprinkler Fitters Local 709) _____

Plasterers (Local 200) _____

Plaster Tenders (Local 1414) _____

Roofers & Waterproofers (Local 36) _____

Sheet Metal Workers (Local 105) _____

Teamsters (Local 986) _____

Western States Regional Council of Carpenters _____

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ATTACHMENT A
LETTER OF ASSENT

To be signed by all contractors awarded work covered by the Community Workforce Agreement prior to commencing work.

[Contractor's Letterhead]
Community Workforce Coordinator
C/O Lynwood Unified School District
11321 Bullis Rd.
Lynwood, CA 90262

Attn: _____

Re: Community Workforce Agreement - Letter of Assent

Dear Sir:

This is to confirm that [name of company] agrees to be party to and bound by the Lynwood Unified School District Community Workforce Agreement effective _____, 2024, as such Agreement may, from time to time, be amended by the negotiating parties or interpreted pursuant to its terms. Such obligation to be a party and bound by this Agreement shall extend to all work covered by the Agreement undertaken by this Company on the Project and this Company shall require all of its contractors and subcontractors of whatever tier to be similarly bound for all work within the scope of the Agreement by signing and furnishing to you an identical Letter of Assent prior to their commencement of work.

Sincerely,

[Name of Construction Company]

By: _____

Name: _____

Title: _____

Contractor State License No. _____

[Copies of this letter must be submitted to the Community Workforce Coordinator and to the Council per Section 2.5(b).]

ATTACHMENT B
Local Resident Zip Codes

(Tier 1)
DISTRICT SERVICE AREA ZIP CODES

90723	90280	90262
90222	90221	90059

(Tier 2)
TEN-MILE RADIUS FROM THE DISTRICT'S HEADQUARTERS ZIP CODES

90001	90003	90007
90002	90011	90012
90013	90014	90015
90017	90018	90021
90022	90023	90033
90044	90040	90043
90061	90047	90058
90071	90062	90063
90201	90079	90089
90241	90220	90240
90248	90242	90247
90255	90249	90250
90301	90260	90270
90304	90302	90303
90502	90305	90501
90640	90504	90506
90713	90706	90712
90747	90745	90746
90806	90755	90805
90810	90807	90808
91754		

(Tier 3)
THE REMAINING AREA ZIP CODES IN LOS ANGELES COUNTY

91746	91208	91802
91077	90660	91804
91331	91105	91899
90605	90053	91896
90054	90602	91603
91745	91108	91610
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91604	90293	91612
91342	91207	91611
91102	90601	91615

93550	91109	91614
90803	90402	91617
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91335	90010	91618
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91766	90659	91735
90055	90397	91747
90026	91399	91749
91402	90102	91756
90603	90665	91769
90037	90094	91771
91792	90077	91772
90731	90401	91346
91343	90211	91353
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91702	90888	91371
90004	93591	91376
91324	91020	91380
90042	91175	91382
91110	90715	91385
90006	93510	91386
90066	90290	91393
90813	90095	91392
90744	90612	91395
91406	91131	91394
93551	91191	91396
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91304	91186	91410
91801	91731	91412
91405	93553	91416
90714	93544	91413
92833	90067	91426
91303	90638	91470
91605	93243	91495
90034	91330	91482
91767	91008	91496
91316	91210	91116
90046	90822	90072
91115	91759	91384
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90065	90840	91411
90703	91608	90185
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91789	90831	91775
91352	90073	90404
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91790	91797	90403
90032	90101	91201
90716	90103	90717
90005	90835	90272
90025	90834	91040
91367	90899	91011
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91755	93599	90069
90016	90009	91118
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90028	90844	91101
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90024	91409	91117
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ATTACHMENT C

LYNWOOD UNIFIED SCHOOL DISTRICT
CRAFT REQUEST FORM

TO THE CONTRACTOR: Please complete and submit this form to the applicable union to request craft workers that fulfill the hiring requirements for this project. After faxing your request, please call the Union to verify receipt and substantiate their capacity to furnish workers as specified below. Please keep copies for your records.

The Lynwood Unified School District Community Workforce Agreement establishes a goal that 30% of all of the labor and craft positions shall be from qualified workers: first, Area Residents residing in those first tier zip codes which cover the District service area, as reflected on the attached list of zip codes on Attachment B, as well as Veterans. MC3 Graduates, and students which have graduated from the District, regardless of where they reside, second, qualified workers residing within a ten (10) mile radius from the District's headquarters, as reflected on the attached list of zip codes on Attachment B, third, qualified workers residing in the remainder of the County of Los Angeles. For Dispatch purposes, employees residing within any of these three (3) areas, as well as Veterans, MC3 Graduates, and students which have graduated from the District, regardless of where they reside, shall be referred to as Local Residents.

TO THE UNION: Please complete the "Union Use Only" section on the next page and return this form to the requesting Contractor. Be sure to retain a copy of this form for your records.

CONTRACTOR USE ONLY

To: Union Local # _____ **Fax#** (___) _____ **Date:** _____

Cc: **Community Workforce** Coordinator

From: Company: _____ Issued By: _____

Contact Phone: (___) _____ Contact Fax: (___) _____

PLEASE PROVIDE ME WITH THE FOLLOWING UNION CRAFT WORKERS.

Craft Classification (i.e., plumber, painter, etc.)	Journeyman or Apprentice	Local Resident or General Dispatch	Number of workers needed	Report Date	Report Time
TOTAL WORKERS REQUESTED = _____					

Please have worker(s) report to the following work address indicated below:

Project Name: _____ Site: _____ Address: _____

Report to: _____ On-site Tel: _____ On-site Fax: _____

Comment or Special Instructions: _____

UNION USE ONLY

Date dispatch request received:
Dispatch received by:
Classification of worker requested:
Classification of worker dispatched:

WORKER REFERRED

Name:		
Date worker was dispatched:		
Is the worker referred a:	(check all that apply)	
JOURNEYMAN	Yes _____	No _____
APPRENTICE	Yes _____	No _____
LOCAL RESIDENT	Yes _____	No _____
GENERAL DISPATCH FROM OUT OF WORK LIST	Yes _____	No _____

[This form is not intended to replace a Union's Dispatch or Referral Form normally given to the employee when being dispatched to the jobsite.]

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ATTACHMENT D

LOS ANGELES/ORANGE COUNTIES BUILDING AND CONSTRUCTION TRADES COUNCIL APPROVED DRUG AND ALCOHOL TESTING POLICY

(rev. December 2019)

The Parties recognize the problems which drug and alcohol abuse have created in the construction industry and the need to develop drug and alcohol abuse prevention programs. Accordingly, the Parties agree that in order to enhance the safety of the workplace and to maintain a drug and alcohol-free work environment, individual Employers may require applicants or employees to undergo drug and alcohol testing.

1. It is understood that the use, possession, transfer or sale of illegal drugs, narcotics, or other unlawful substances, as well as being under the influence of alcohol and the possession or consuming alcohol is absolutely prohibited while employees are on the Employer's job premises or while working on any jobsite in connection with work performed under the Project Labor Agreement ("PLA").

2. No Employer may implement a drug testing program which does not conform in all respects to the provisions of this Policy.

3. No Employer may implement drug testing at any jobsite unless written notice is given to the Union setting forth the location of the jobsite, a description of the project under construction, and the name and telephone number of the Project Supervisor. Said notice shall be addressed to the office of each Union signing the PLA. Said notice shall be sent by email or by registered mail before the implementation of drug testing. Failure to give such notice shall make any drug testing engaged in by the Employer a violation of the PLA, and the Employer may not implement any form of drug testing at such jobsite for the following six months.

4. An Employer who elects to implement drug testing pursuant to this Agreement shall require all employees on the Project to be tested. With respect to individuals who become employed on the Project subsequent to the proper implementation of a valid drug testing program, such test shall be administered upon the commencement of employment on the project, whether by referral from a Union Dispatch Office, transfer from another project, or another method. Individuals who were employed on the project prior to the proper implementation of a valid drug testing program may only be subjected to testing for the reasons set forth in paragraphs 5(g)(l) through 5(g)(3) and paragraphs 6(a) through 6(e) of this Policy. Refusal to undergo such testing shall be considered sufficient grounds to deny employment on the project.

5. The following procedure shall apply to all drug testing:

a. The Employer may request urine samples only. The applicant or employee shall not be observed when the urine specimen is given. An applicant or employee, at his or her sole

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option, shall, upon request, receive a blood test in lieu of a urine test. No employee of the Employer shall draw blood from a bargaining unit employee, touch or handle urine specimens, or in any way become involved in the chain of custody of urine or blood specimens. A Union Business Representative, subject to the approval of the individual applicant or employee, shall be permitted to accompany the applicant or employee to the collection facility to observe the collection, bottling, and sealing of the specimen.

b. An employer may request an applicant to perform an alcohol breathalyzer test, at a certified laboratory only and cutoff levels shall be those mandated by applicable state or federal law.

c. The testing shall be done by a laboratory approved by the Substance Abuse & Mental Health Services Administration (SAMHSA), which is chosen by the Employer and the Union.

d. An initial test shall be performed using the Enzyme Multiplied Immunoassay Technique (EMIT). In the event a question or positive result arises from the initial test, a confirmation test must be utilized before action can be taken against the applicant or employee. The confirmation test will be by Gas Chromatography/Mass Spectrometry (GC/MS). Cutoff levels for both the initial test and confirmation test will be those established by SAMHSA. Should these SAMHSA levels be changed during the course of this Agreement or new testing procedures are approved, then these new regulations will be deemed as part of this existing Agreement. Confirmed positive samples will be retained by the testing laboratory in secured long-term frozen storage for a minimum of one year. Handling and transportation of each sample must be documented through strict chain of custody procedures.

e. In the event of a confirmed positive test result the applicant or employee may request, within forty-eight (48) hours, a sample of his/her specimen from the testing laboratory for purposes of a second test to be performed at a second laboratory, designated by the Union and approved by SAMHSA. The retest must be performed within ten (10) days of the request. Chain of custody for this sample shall be maintained by the Employer between the original testing laboratory and the Union's designated laboratory. Retesting shall be performed at the applicant's or employee's expense. In the event of conflicting test results the Employer may require a third test.

f. If, as a result of the above testing procedure, it is determined that an applicant or employee has tested positive, this shall be considered sufficient grounds to deny the applicant or employee his/her employment on the project.

g. No individual who tests negative for drugs pursuant to the above procedure and becomes employed on the project shall again be subjected to drug testing with the following exceptions:

1. Employees who are involved in industrial accidents resulting in damage to plant, property or equipment or injury to him/her or others may be tested for drug or alcohol pursuant to the procedures stated hereinabove.

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2. The Employer may test employees following thirty (30) days advance written notice to the employee(s) to be tested and to the applicable Union. Notice to the applicable Union shall be as set forth in paragraph 3 above and such testing shall be pursuant to the procedures stated hereinabove.

3. The Employer may test an employee where the Employer has reasonable cause to believe that the employee is impaired from performing his/her job. Reasonable cause shall be defined as being aberrant or unusual behavior, the type of which is a recognized and accepted symptom of impairment (i.e., slurred speech, unusual lack of muscular coordination, etc.). Such behavior must be actually observed by at least two persons, one of whom shall be a supervisor who has been trained to recognize the symptoms of drug abuse or impairment and the other of whom shall be the Job Steward. If the Job Steward is unavailable or there is no Job Steward on the project the other person shall be a member of the applicable Union's bargaining unit. Testing shall be pursuant to the procedures stated hereinabove. Employees who are tested pursuant to the exceptions set forth in this paragraph and who test positive will be removed from the Employer's payroll.

h. Applicants or employees who do not test positive shall be paid for all time lost while undergoing drug testing. Payment shall be at the applicable wage and benefit rates set forth in the applicable Union's Master Labor Agreement. Applicants who have been dispatched from the Union and who are not put to work pending the results of a test will be paid waiting time until such time as they are put to work. It is understood that an applicant must pass the test as a condition of employment. Applicants who are put to work pending the results of a test will be considered probationary employees.

6. The Employers will be allowed to conduct periodic jobsite drug testing on the Project under the following conditions:

a. The entire jobsite must be tested, including any employee or subcontractor's employee who worked on that project three (3) working days before or after the date of the test;

b. Jobsite testing cannot commence sooner than fifteen (15) days after start of the work on the project;

c. Prior to start of periodic testing, a Business Representative will be allowed to conduct an educational period on company time to explain periodic jobsite testing program to affected employees;

d. Testing shall be conducted by a SAMHSA certified laboratory, pursuant to the provisions set forth in paragraph 5 hereinabove.

e. Only two (2) periodic tests may be performed in a twelve (12) month period.

It is understood that the unsafe use of prescribed medication, or where the use of prescribed medication impairs the employee's ability to perform work, is a basis for the Employer to remove

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the employee from the jobsite.

Any grievance or dispute which may arise out of the application of this Agreement shall be subject to the grievance and arbitration procedures set forth in the PLA.

7. The establishment or operation of this Policy shall not curtail any right of any employee found in any law, rule or regulation. Should any part of this Agreement be found unlawful by a court of competent jurisdiction or a public agency having jurisdiction over the parties, the remaining portions of the Agreement shall be unaffected, and the parties shall enter negotiations to replace the affected provision.

8. Present employees, if tested positive, shall have the prerogative for rehabilitation program at the employee's expense. When such program has been successfully completed the Employer shall not discriminate in any way against the employee. If work for which the employee is qualified exists, he/she shall be reinstated.

9. The Employer agrees that results of urine and blood tests performed hereunder will be considered medical records held confidential to the extent permitted or required by law. Such records shall not be released to any persons or entities other than designated Employer representatives and the applicable Union. Such release to the applicable Union shall only be allowed upon the signing of a written release and the information contained therein shall not be used to discourage the employment of the individual applicant or employee on any subsequent occasion.

10. Employer shall indemnify and hold the Union harmless against any and all claims, demands, suits, or liabilities that may arise out of the application of this Agreement and/or any program permitted hereunder.

11. Employees who seek voluntary assistance for substance abuse may not be disciplined for seeking such assistance. Requests from employees for such assistance shall remain confidential and shall not be revealed to other employees or management personnel without the employee's consent. Employees enrolled in substance abuse programs will be subject to all Employer rules, regulations and job performance standards with the understanding that an employee enrolled in such a program is receiving treatment for an illness.

12. The parties agree to develop and implement a drug abuse prevention and testing program for all apprentices entering the industry.

13. This Memorandum of Understanding shall constitute the only Agreement in effect between the parties concerning drug and alcohol abuse, prevention and testing. Any modifications thereto must be accomplished pursuant to collective bargaining negotiations between the parties.

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APPENDIX A: SPECIMEN REPORTING CRITERIA

Initial Test Analyte	Initial Test Cutoff [1]	Confirmatory Test Analyte	Confirmatory Test Cutoff Concentration
Marijuana metabolites (THCA)[2]	50 ng/ml [3]	THCA	15 ng/ml
Cocaine metabolite (Benzoylecgonine)	150ng/ml[3]	Benzoylecgonine	100 ng/ml
Codeine/ Morphine	2000 ng/ml	Codeine Morphine	2000 ng/ml 2000 ng/ml
Hydrocodone/ Hydromorphone	300 ng/ml	Hydrocodone Hydromorphone	100 ng/ml 100 ng/ml
Alcohol	0.02%	Ethanol	0.02%
Oxycodone/ Oxymorphone	100 ng/ml	Oxycodone Oxymorphone	100 ng/ml 100 ng/ml
6-Acetylmorphine	10 ng/ml	6-Acetylmorphine	10 ng/ml
Phencyclidine	25 ng/ml	Phencyclidine	25 ng/ml
Amphetamine/ Methamphetamine	500 ng/ml	Amphetamine Methamphetamine	250ng/ml 250 ng/ml
MDMA[4]/MDA[5]	500 ng/ml	MDMA MDA	250ng/ml 250 ng/ml
Initial Test Analyte	Initial Test Cutoff	Confirmatory Test Analyte	Confirmatory Test Cutoff Concentration

[1] For grouped analytes (i.e., two or more analytes that are in the same drug class and have the same initial test cutoff):

Immunoassay: The test must be calibrated with one analyte from the group identified as the target analyte. The cross-reactivity of the immunoassay to the other analyte(s) within the group must be 80 percent or greater; if not, separate immunoassays must be used for the analytes within the group.

Alternate technology: Either one analyte or all analytes from the group must be used for calibration, depending on the technology. At least one analyte within the group must have a concentration equal to or greater than the initial test cutoff or, alternatively, the sum of the analytes present (i.e., equal to or greater than the laboratory's validated limit of quantification) must be equal to or greater than the initial test cutoff.

[2] An immunoassay must be calibrated with the target analyte, 9-tetrahydrocannabinoJ-9- carboxylic acid (THCA).

[3] **Alternate technology (THCA and benzoylecgonine):** The confirmatory test cutoff must be used for an alternate technology initial test that is specific for the target analyte (i.e., 15 ng/ml for THCA, 100 ng/ ml for benzoylecgonine).

[4] Methylenedioxymethamphetamine (MDMA)

[5] Methylenedioxyamphetamine (MDA)

Barbiturates	300 ng/ml	Barbiturates	200 ng/ml
Benzodiazepines	300 ng/ml	Benzodiazepines	300 ng/ml
Methadone	300 ng/ml	Methadone	100 ng/ml
Methaqualone	300 ng/ml	Methaqualone	300 ng/ml
Propoxyphene	300 ng/ml	Propoxyphene	100 ng/ml

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TESTING POLICY FOR DRUG ABUSE

It is hereby agreed between the parties hereto that an Employer who has otherwise properly implemented drug testing, as set forth in the Testing Policy for Drug Abuse, shall have the right to offer an applicant or employee a "quick" drug screening test. This "quick" screen test shall consist either of the "ICUP" urine screen or similar test or an oral screen test. The applicant or employee shall have the absolute right to select either of the two "quick" screen tests, or to reject both and request a full drug test.

An applicant or employee who selects one of the "quick" screen tests, and who passes the test, shall be put to work immediately. An applicant or employee who fails the "quick" screen test, or who rejects the "quick" screen tests, shall be tested pursuant to the procedures set forth in the Testing Policy for Drug Abuse. The sample used for the "quick" screen test shall be discarded immediately upon conclusion of the test. An applicant or employee shall not be deprived of any rights granted to them by the Testing Policy for Drug Abuse as a result of any occurrence related to the "quick" screen test.

SECTION 8

SPECIFICATIONS/ DRAWINGS

TECHNICAL SPECIFICATIONS FOR INSTALLATION OF PLAYGROUND & SHADE STRUCTURE AT WILL ROGERS ELEMENTARY

BID NO.10MOT26

DSA #03-125482

A/E TECHNICAL SPECIFICATIONS

AND

MIRACLE EQUIPMENT (PLAYSTRUCTURE)

PROJECT MANUAL

for

INSTALLATION OF

PLAYGROUND & SHADE STRUCTURE

AT

Will Rogers ECC K-Playground

11220 Duncan Ave., Lynwood, Ca. 90262

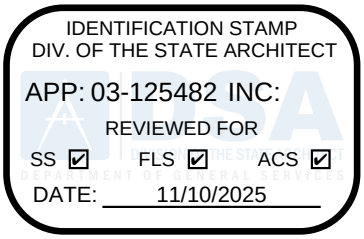
FOR THE

LYNWOOD UNIFIED SCHOOL DISTRICT

11321 BULLIS ROAD, LYNWOOD, CA 90262



August 12, 2025



Prepared by

Architects ***McDonald, Soutar & Paz, Inc.***
3575 Long Beach Boulevard
Long Beach, CA 90807
562/427-5007 Fax 562/427-3007
MSP #25-1419

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SECTION 01 1100

SUMMARY OF THE WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. The work includes the furnishing of all labor, materials, equipment, services and incidentals necessary for the Work of **Demo and removal of existing playground including existing pavements, curbs, playground surfaces, fence and gate, landscape, drinking fountain, and existing playground equipment, and install New Shade Structure, Concrete Pavements, Playground Equipment, New Playground Surfacing(PIP), New Fence and Gate, and new drinking fountains at** the site below as set forth in the Construction Documents which include, but are not limited to, the Site Plans, diagrams, Addenda and Specifications**.**

1. **Will Rogers ECC K-Playground at 11220 Duncan Ave., Lynwood, Ca. 90262.**

B. CONTRACTOR shall sequence, coordinate and perform the Work to impose minimum hardship on the operation and use of the facilities and/or Project site. Restrict noisy activities to after regular school hours, and minimize disturbance to regular school operations during construction. Contractor will not be allowed to work on occupied classrooms during regular school hours.

C. CONTRACTOR shall install all necessary protection for existing improvements, Project site, property, and new Work against dust, dirt, weather, damage, vandalism, and maintain and relocate all protection to accommodate progression of the Work.

D. CONTRACTOR shall confine entrance and exiting to the Project site and/or facilities to routes designated by OWNER.

E. CONTRACTOR is advised school may be in session during performance of the Work. CONTRACTOR shall utilize all available means to prevent generation of unnecessary noise and keep noise levels to a minimum. When directed by OWNER, CONTRACTOR shall immediately discontinue noise-generating activities and/or use alternative methods to minimize noise generation. CONTRACTOR shall install and maintain air compressors, tractors, cranes, hoists, vehicles, and other internal combustion engine equipment with mufflers, including unloading cycle of compressors. CONTRACTOR shall discontinue use of equipment producing objectionable noise as determined by OWNER.

F. CONTRACTOR assumes custody and control of OWNER property, both fixed and portable, remaining in existing facilities vacated for use during the Work.

G. CONTRACTOR shall cover and protect surfaces of rooms and spaces in existing facilities turned over for the Work, including OWNER property remaining within as required to prevent soiling or damage from dust, dirt, water, and or fumes. CONTRACTOR shall protect areas adjacent to the Work in a similar manner. Prior

to OWNER occupancy CONTRACTOR shall clean all surfaces including OWNER property.

H. CONTRACTOR shall protect all surfaces, coverings, materials and finished Work from damage. Equip mobile equipment with pneumatic tires.

PART 2 - PRODUCTS (Not applicable)

PART 3 – EXECUTION (Not applicable)

3.01 USE OF PREMISES

A. CONTRACTOR shall coordinate Work of all trades, Subcontractors, utility service providers, with OWNER and/or Separate Work Contract. CONTRACTOR shall sequence, coordinate, and perform the Work to impose minimum hardship on the operation and use of the existing facilities and/or Project site. CONTRACTOR shall install all necessary protection for existing improvements, Project site, property, and new Work against dust, dirt, weather, damage, vandalism, and maintain and relocate all protection to accommodate progression of the Work.

B. CONTRACTOR shall confine entrance and exiting to the Project site and/or facilities to routes designated by the OAR.

C. Within existing facilities, OWNER will remove portable equipment, furniture, and supplies from Work areas prior to the start of Work. CONTRACTOR shall cover and protect remaining items in areas of the Work.

D. CONTRACTOR is advised school may be in session during performance of the Work. CONTRACTOR shall utilize all available means to prevent generation of unnecessary noise and maintain noise levels to a minimum. When required by the OAR, CONTRACTOR shall immediately discontinue noise-generating activities and/or provide alternative methods to minimize noise generation. CONTRACTOR shall install and maintain air compressors, tractors, cranes, hoists, vehicles, and other internal combustion engine equipment with mufflers, including unloading cycle of compressors. CONTRACTOR shall discontinue operation of equipment producing objectionable noise as required by the OAR.

E. CONTRACTOR shall furnish, install, and maintain adequate supports, shoring, and bracing to preserve structural integrity and prevent collapse of existing improvements and/or Work modified and/or altered as part of the Work.

F. CONTRACTOR shall secure building entrances, exits, and Work areas with locking devices as required by the OAR.

G. CONTRACTOR assumes custody and control of OWNER property, both fixed and portable, remaining in existing facilities vacated during the Work.

H CONTRACTOR shall cover and protect surfaces of rooms and spaces in existing facilities turned over for the Work, including OWNER property remaining within as required to prevent soiling or damage from dust, dirt, water, and/or fumes. CONTRACTOR shall protect areas adjacent to the Work in a similar manner. Prior to

OWNER occupancy, CONTRACTOR shall clean all surfaces including OWNER property.

I. CONTRACTOR shall not use or allow anyone other than OWNER employees to use facility telephones and/or other equipment, except in an emergency. CONTRACTOR shall reimburse OWNER for telephone toll charges originating from the facility except those arising from emergencies or use by OWNER employees.

J. CONTRACTOR shall protect all surfaces, coverings, materials, and finished Work from damage. Mobile equipment shall be provided with pneumatic tires.

K. CONTRACTOR is advised OWNER will award Separate Work Contracts at this Project site.

L. CONTRACTOR shall not permit the use of portable and/or fixed radio's or other types of sound producing devices including walkmans and similar devices.

3.02 PROPERTY INVENTORY

A. Property, OWNER intends to remove; will be removed by OWNER before a room or space is vacated for the Work. Before performing Work in each room or space, OAR and CONTRACTOR shall prepare a detailed initial written inventory of OWNER property remaining within, including equipment and telephone instruments and the condition thereof. OAR and CONTRACTOR shall retain a signed copy of the inventory dated and signed by both parties. Prior to subsequent OWNER occupancy of each such room or space, OAR and CONTRACTOR shall perform a final inventory of OWNER property and all discrepancies between the initial inventory and final inventory shall be the responsibility of CONTRACTOR.

3.03 FURNITURE, FIXTURES, EQUIPMENT AND SHADE STRUCTURE (MATERIALS) OWNER FURNISHED CONTRACTOR INSTALLED (OFCI)

A. Certain materials identified in the Contract Documents as OWNER Furnished CONTRACTOR Installed, OFCI, will be delivered to the Project site by the OWNER.

B. If designated in the Contract Documents to be OWNER furnished CONTRACTOR installed, (OFCI), CONTRACTOR shall unload, store, uncrate, assemble, install, and connect OWNER supplied materials.

C. Sixty days before the date the CONTRACTOR needs to have the OFCI materials on site, CONTRACTOR shall notify OWNER of the scheduled date for needed OFCI materials. Upon delivery to Project site, CONTRACTOR shall store OFCI materials inside rooms and/or protected spaces and will be responsible for security of OFCI materials until Substantial Completion. OAR will sign receipt or bill of lading as applicable.

D. CONTRACTOR shall, within ten days after delivery, uncrate and/or unpack OFCI materials in presence of OWNER who shall inspect delivered items. OWNER shall prepare an inspection report listing damaged or missing parts and accessories. OWNER shall

transmit one copy of the report to CONTRACTOR. OWNER will procure and/or replace missing and or damaged OFCI materials, as indicated in inspection report.

E. CONTRACTOR shall install OFCI materials in the locations and orientation as indicated in the Contract Documents. CONTRACTOR shall verify exact locations with OAR before final installation of OFCI materials.

F. If required, OAR will furnish setting and or placement drawings for OFCI materials.

G. CONTRACTOR shall install OFCI materials by proper means and methods to ensure an installation as recommended by the manufacturer. CONTRACTOR shall furnish and install all necessary fasteners and required blocking to properly install OFCI materials.

H. CONTRACTOR shall install OFCI materials with manufacturer recommended fasteners for the type of construction to which the OFCI materials are being fastened and/or anchored.

I. CONTRACTOR shall provide final connections of any electrical, signal, gas, water, waste, venting and/or similar items to OFCI materials. CONTRACTOR shall, prior to final connection, verify the operating characteristics of OFCI materials are consistent with the designated supply.

END OF SECTION

SECTION 01 2613

REQUEST FOR CLARIFICATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Procedure for requesting clarification of the intent of the Contract Documents.

1.02 RELATED REQUIREMENTS

A. Section 01 1100: Summary of Work.

B. Section 01 3113: Project Coordination.

C. Section 01 3213: Construction Schedule.

D. Section 01 3229: Project Forms.

E. Section 01 7700: Contract Closeout.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 PROCEDURE

A. CONTRACTOR shall prepare a Request for Clarification on the form provided in Section 01 3229. CONTRACTOR shall transmit the Request for Clarification to ARCHITECT with a concurrent copy to the OAR.

B. ARCHITECT response is a clarification of the intent of the Contract Documents and does not authorize changes in the Contract Amount, Milestones and/or Contract Time.

C. A Request for Clarification may be returned with a stamp or notation "Not Reviewed," if:

1. The requested clarification is ambiguous or unclear.

2. The requested clarification is equally available to the requesting party by researching and/or examining the Contract Documents.

3. CONTRACTOR has not reviewed the Request for Clarification prior to submittal.

D. Allow a minimum of nine days for review and response time, after receipt by ARCHITECT and OAR. CONTRACTOR shall verify and is responsible in verifying ARCHITECT and OAR receipt of a Request for Clarification.

E. Changes or alterations to the approved drawings or specifications shall be made by means of addenda or change orders as per section 4-338 of the California Building Standards Commission's, California Administrative Code.

END OF SECTION

SECTION 01 2973

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Procedure for submission of a certified Schedule of Values for review and approval by the OAR.

1.02 RELATED REQUIREMENTS

A. Section 01 2100: Allowances.

B. Section 01 2300: Alternates (Bid Items).

C. Section 01 2976: Progress Payment Procedures.

D. Section 01 3113: Project Coordination.

E. Section 01 3213: Construction Schedule.

E. Section 01 3229: Project Forms.

F. Section 01 3300: Submittal Procedures.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 PREPARATION

A. Upon receipt of the Notice of Intent to Award, CONTRACTOR shall commence preparation of a Schedule of Values in accordance with the form included in Section 01 3229.

B. CONTRACTOR shall coordinate the preparation of a Schedule of Values with preparation of the Construction Schedule as set forth in Section 01 3213. The corresponding values from the specification division totals on cost loaded schedule shall match with the approved Schedule of Values.

C. Include the following Project identification on a certified Schedule of Values:

1. Project name and location.

2. Project Number.

3. Contract #.

4. CONTRACTOR name.

5. Date of Submittal.

D. The Schedule of Values shall be in tabular form with separate columns and shall include the following items:

1. Related Specification Section and Division.

2. Description of Work.

3. Name of Subcontractor, manufacturer or supplier.

4. Dollar value, quantity and unit of measure of each line item.

5. Percentage of Contract amount to nearest one-hundredth percent, adjusted to total 100 percent.

E. Round amounts to the nearest whole dollar; the total shall equal the Contract Amount.

F. Provide a breakdown of the Contract Amount in enough detail acceptable to OAR to facilitate continued evaluation of Application for Payment and progress reports. Coordinate with the Project Manual table of content and Schedule of Values form under Section 01 3229. Provide line items for subcontract amounts, where appropriate.

G. Provide separate line items for items in the Schedule of Values for total installed value of that part of the Work.

H. Provide separate line item for labor and material when required by the OAR.

I. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item except the amounts shown as separate line items as indicated under Schedule of Values form under Section 01 3229.

J. Temporary facilities and other cost items that are not direct cost of actual work-in-place shall be shown as separate line items as indicated under Schedule of Values form under Section 01 3229.

K. An approved certified Schedule of Values shall serve as the basis for the monthly certified Application for Payment.

L. If at any time, OWNER determines, in its reasonable discretion, that the schedule of Values does not approximate the actual cost being incurred by CONTRACTOR to perform the Work, CONTRACTOR shall prepare, for OAR approval, a revised Schedule of Values, which then shall be used as the basis for future progress payments. Without changing the Contract Amount, OWNER reserves the right to require CONTRACTOR:

1. To increase or decrease amounts within the line items in the Schedule of Values; and,

2. To conform the price breakdown to OWNER accounting practice.

3.02 SUBMITTAL

A. CONTRACTOR shall submit five certified copies of a Schedule of Values for review and approval by the OAR at least 14 days before the first Application for Payment.

B. OAR will review and if necessary, return the submitted Schedule of Values with summary comments noting items not in compliance with the requirements of the Contract Documents. CONTRACTOR shall revise the submitted Schedule of Values and return five copies within three days of receipt of summary comments.

C. Signature by OAR shall constitute acceptance of the submitted Schedule of Values.

D. An approved copy of the Schedule of Values by OAR will be transmitted to CONTRACTOR, and Inspector.

END OF SECTION

SECTION 01 2976

PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This Section specifies administrative and procedural requirements for a certified Application for Payment.

1. Coordinate the certified Schedule of Values and certified Application for Payment with, but not limited to, the Construction Schedule, submittal log, and list of Subcontractors.

1.02 RELATED REQUIREMENTS:

A. Section 01 2100: Allowances.

B. Section 01 2300: Alternates (Bid Items).

C. Section 01 2973: Schedule of Values.

D. Section 01 3213: Construction Schedule.

E. Section 01 3229: Project Forms.

F. Section 01 7700: Contract Closeout.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 APPLICATION FOR PAYMENT

A. Each certified Application for Payment shall be consistent with previous applications and payments as reviewed by OAR, paid for by OWNER, and:

1. The initial Application for Payment and Final Application for Payment at time of Substantial Completion involve additional requirements.

B. Payment Application Times: The period of Work covered by each Application for Payment is payment date for each progress payment as specified in the General Conditions. The period covered by each Application for Payment is previous month.

C. Payment Application Forms: Use OWNER provided forms for the Application for Payment.

D. Application Preparation: Complete every entry on the form. Include execution by a person authorized to sign legal documents on behalf of CONTRACTOR. OAR will return incomplete applications without action.

E. Transmittal: Submit a minimum of four signed and original copies of each certified Application for Payment to OAR. All copies shall be complete, including releases and similar attachments.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to OAR.

F. Initial Application for Payment within 60 days of issuance of Notice to Proceed: Administrative actions and submittals, that must precede or coincide with submittal for first certified Application for Payment include, but are not limited to, the following:

1. Certified Schedule of Values.

2. Performance and payment bonds.

3. List of principal suppliers and fabricators.

4. Worker Compensation certificates, if applicable.

5. Auto Insurance, if applicable.

6. Hazardous Material Insurance Certificates, if applicable.

7. Construction Schedule.

8. Submittal Schedule.

9. Emergency Contact List.

10. Copies of authorizations and licenses from governing authorities for performance of Work.

11. Certified Payroll (Submitted directly to Labor Compliance in electronic format as specified by OWNER including hard copy).

12. Storm Water Pollution Prevention Plan (SWPPP).

13. Certification of Compliance with CEQA Mitigations.

G. Applications for Payment: Administrative actions and submittals that must precede or coincide with submittal of Progress Applications for Payment include, but are not limited to, the following:

1. Certified Payroll (submitted directly to Labor Compliance in electronic format as specified by OWNER including hard copy).

2. Updated and current Project Record Drawings (as-built).

3. Monthly Construction Schedule (updated, submitted and approved).

4. Approved Schedule of Values.

5. List of Subcontractors (Payments Summary).

6. Storm Water Pollution Prevention (SWPP) – Site Monitoring Report.

7. Certification of Compliance with CEQA Mitigations.

H. Final Application for Payment at Substantial Completion: Following OAR issuance of certificate of Substantial Completion, submit an Application for Payment:

1. Administrative actions, submittals and/or Work that shall precede or coincide with this application include:

a. Occupancy permits and similar approvals by authorities having legal jurisdiction over Work.

b. Removal of temporary facilities and services.

c. Testing, adjusting and balance records.

d. Removal of surplus materials, rubbish, and similar elements.

e. Meter readings.

f. Start-up performance reports.

g. OWNER training and orientations.

h. Operating and maintenance instruction manuals.

i. Preliminary Warranties, guarantees and maintenance agreements.

j. Delivery of extra materials, products and or stock.

k. Change over information related to OWNER occupancy, use, operation, and maintenance.

l. Final cleaning.

m. Ensure that Work is completed.

n. Advise on shifting insurance coverage.

o. List of defective Work, recognized as exceptions to certificate of Substantial Completion.

p. Change of door locks, including keys, to OWNER system.

q. Certified Payroll (submitted directly to Labor Compliance in electronic format as specified by the OWNER including hard copy).

r. Certification that all benefit contributions due and owing to appropriate union trusts has been paid by CONTRACTOR and Subcontractors, as specified by the Project Stabilization Agreement (PSA) and Article 6.49 of the General Conditions.

s. Storm Water Pollution Prevention – Site Monitoring Reports, SWPP revisions, compliance certifications, and Notice of Termination (NOT) (see Section 01 7416).

t. Certification of Compliance with CEQA Mitigations.

u. Waivers and releases for CONTRACTOR.

END OF SECTION

SECTION 01 3113

PROJECT COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section specifies administrative and procedural requirements necessary for coordinating Work operations including, but not limited to, the following:

1. General coordination procedures.

2. Coordination drawings.

1.02. RELATED REQUIREMENTS

A. Section 01 1216: Phasing of the Work.

B. Section 01 3213: Construction Schedule.

C. Section 01 3300: Submittal Procedures.

D. Section 01 4523: Test and Inspection.

E Section 01 4525: Testing, Adjusting, and Balancing for HVAC.

F. Section 01 7700: Contract Closeout.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 COORDINATION

A. CONTRACTOR shall coordinate operations included in various sections of Contract Documents to assure efficient and orderly installation of each part of Work. Coordinate Work operations included under related sections of Contract Documents that depend on each other for proper installation, connection, and operation of Work, including but not limited to:

1. Schedule construction operations in sequence required where installation of one part of Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.

3. Provide provisions to accommodate items scheduled for later installation.

4. Prepare and administer provisions for coordination drawings.

B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required in notices, reports, attendance at meetings, and:

1. Prepare similar memoranda for OAR and Separate Work Contract where coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of Work. Such administrative activities include, but are not limited to, following:

1. Preparation of schedules.

2. Installation, relocation, and removal of temporary facilities.

3. Delivery and processing of submittals.

4. Progress meetings.

5. Project closeout activities.

D. Conservation: Coordinate Work operations to assure operations are carried out with consideration given to conservation of energy, water, materials, and:

1. Salvage materials and equipment involved in performance of, but not actually incorporated into Work.

3.02 SUBMITTALS

A. Coordination Drawings: CONTRACTOR shall prepare coordination drawings to coordinate the installation of products and materials fabricated, furnished and installed by separate entities, under different parts of the Contract. CONTRACTOR shall notify OAR and ARCHITECT of all major conflicts in writing in a timely manner so that the design team can respond without construction delays. Coordination drawings shall address the following at a minimum:

1. Limitations in available space for installation or service. CONTRACTOR shall overlay plans of each trade and verify space requirements and conflicts between trades. Minor changes and adjustments that do not affect design

intent shall be made by CONTRACTOR and shall be highlighted for ARCHITECT'S review.

2. Incompatibility between items provided under different trades (such as difference in voltage between equipment specified under Divisions 22 and 23 and electrical power provided under Division 26.)

3. Inconsistencies between drawings, specifications and codes (between trades and within each trade).

4. Additional items required for existing facilities construction projects shall be designed and prepared from available as-built drawings that are verified through non-invasive and non-destructive, visual observation only. CONTRACTOR shall field verify actual existing conditions during and upon completion of demolition work and incorporate findings into preparation of co-ordination drawings. Minor changes and adjustments that do not affect design intent shall be made by Sub-Contractor and shall be highlighted for OAR and ARCHITECT'S reviews.

B. Prepare coordination drawings in CAD with each trade on a separate layer, in specified color and scale. CONTRACTOR and each Subcontractor shall provide and forward reproducible copies and CAD drawing files in the order described here:

1. Structural shop drawings shall indicate location and sizes of columns, beams and other structural members, as well as wall, roof and slab penetrations, and will be provided to mechanical, electrical, low voltage and plumbing Sub-contractors for co-ordination. Structural items shall be indicated using black lines.

2. HVAC Subcontractor will indicate all ductwork, piping and equipment complete with installation and dimensioned service clearances, duct and pipe sizes, fitting types and sizes, top or bottom of duct and pipe elevations, distances of ducts, pipes and equipment from building reference points and hanger and support locations. Minor changes and adjustments that do not affect design intent shall be made by Subcontractor and shall be highlighted for OAR and ARCHITECT'S reviews. Forward drawings to plumbing Subcontractor for further co-ordination. HVAC items shall be indicated using orange lines.

3. Plumbing Subcontractor will indicate all plumbing lines, and equipment complete with installation and dimensioned service clearances, pipe sizes, fitting types and sizes, top or bottom of pipe elevations, distances of pipes and equipment from building reference points and hanger/support locations Co-ordinate with HVAC Subcontractor. Minor changes and adjustments that do not affect design intent shall be made by Sub-contractor and shall be highlighted for OAR and ARCHITECT'S reviews Upon completion drawings

shall be forwarded to Fire Sprinkler Subcontractor for further co-ordination. All Plumbing items shall be indicated using blue lines.

4. Fire sprinkler Subcontractor will indicate fire sprinkler piping and equipment complete with installation and dimensioned service clearances, pipe sizes, fitting types and sizes, top or bottom of pipe elevations, distances of pipes and equipment from building reference points and hanger or support locations. Co-ordinate with Plumbing and HVAC Subcontractors. Minor changes and adjustments that do not affect design intent shall be made by sub-contractors and shall be highlighted for OAR and ARCHITECT'S reviews. Upon completion drawings shall be forwarded to Electrical CONTRACTOR for further co-ordination. Fire sprinkler equipment shall be indicated using red lines.

5. Electrical and Low Voltage Subcontractors will indicate service and feeder conduit runs and other electrical equipment complete, including low voltage with installation and dimensioned service clearances, sizes, top or bottom of conduit and rack elevations, distances of conduits and equipment from building reference points and hanger and support locations. Co-ordinate with Fire Sprinkler, Plumbing and HVAC Subcontractors. Minor changes and adjustments that do not affect design intent shall be made by sub-contractors and shall be highlighted for OAR and ARCHITECT'S reviews. Upon completion drawings shall be forwarded to CONTRACTOR for further co-ordination. Electrical work shall be indicated in dark green lines. Low voltage work shall be indicated in light green lines.

6. CONTRACTOR will be responsible for the overall coordination review. As each coordination drawing is completed, CONTRACTOR will meet with OAR to review and resolve all conflicts on coordination drawings.

7. Coordination meetings will be held in Project field office of CONTRACTOR. CONTRACTOR is required to distribute Shop Drawings, cut sheets and submittals to Subcontractors where appropriate. Reviewed coordination drawings will be maintained in Project field office of CONTRACTOR. Meeting minutes shall be developed by CONTRACTOR and submitted to OAR within 5 days.

END OF SECTION

SECTION 01 3119

PROJECT MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section specifies administrative and procedural requirements for Project meetings, including but not limited to, the following:

1. Job start meeting.
2. Pre-installation conferences.
3. Progress meetings.
4. Meetings as required by OAR.

1.02 RELATED REQUIREMENTS

A. Section 01 1216: Phasing of the Work.

B. Section 01 3113: Project Coordination.

C. Section 01 3213: Construction Schedule.

D. Section 01 3229: Project Forms.

E. Section 01 3300: Submittal Procedures.

PART 2 – PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 JOB START MEETING

A. In accordance with General Conditions Article 2.6, OAR will schedule a job start meeting before starting the Work, at a time and date determined by OAR. Meeting shall be held at the Project site or another location as determined by OAR. Meeting will be held in order to review responsibilities, procedures, and other administrative requirements contained within the Contract Documents.

B. Authorized representatives of OWNER, INSPECTOR, ARCHITECT, CONTRACTOR and other parties shall attend the meeting. All participants at the

meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.

C. Agenda items shall include significant items which could affect progress of the Work, including, but not limited to the following:

1. Preliminary Construction Schedule.

2. Critical work sequencing.

3. Designation of responsible personnel.

4. Identification of OAR.

5. Procedures for processing field decisions.

6. Request for Proposal.

7. Request for Clarification.

8. Construction Directive and Change Order.

9. Procedures for processing Applications for Payment.

10. Prevailing wages.

11. Submittal and review of Shop Drawings, Product Data, material lists, and Samples.

12. Preparation of project record documents.

13. Use of the Project site and/or premises.

14. Parking availability.

15. Office, work, and storage areas.

16. Equipment deliveries and priorities.

17. Safety procedures.

18. First Aid.

19. Security.

20. Housekeeping.

21. Working hours.

22. Contract Compliance Officer.

23. Insurance Services including OCIP.

24. Environmental Health and Safety.

25. Substantial Completion, Administrative Closeout and Contract Completion requirements and procedures.

26. Procedures for Mandatory Dispute and Claim Resolution.

27. Storm Water Pollution Prevention Plan (SWPPP).

28. CEQA Compliance.

D. OAR shall prepare and issue meeting minutes to attendees and interested parties no later than five calendar days after the meeting date.

3.02 PRE-INSTALLATION CONFERENCES

A. CONTRACTOR shall coordinate and conduct pre-installation conferences at the Project site as required by related Sections of the Contract Documents.

B. CONTRACTOR, manufacturers, and fabricators involved in or affected by the installation and its coordination or integration with other pre-ceding and/or subsequent installations of Work shall attend the meeting. CONTRACTOR shall advise OAR, INSPECTOR, and ARCHITECT of scheduled meeting dates in order to secure their attendance.

1. CONTRACTOR shall review the progress of construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for the following:

a. Contract Documents.

b. Options.

c. Related Construction Directives and Change Orders.

d. Purchases.

e. Deliveries.

f. Shop Drawings, Product Data, and quality-control samples.

g. Review of mockups.

h. Possible conflicts.

i. Compatibility problems.

j. Time schedules.

k. Weather limitations.

l. Manufacturer’s recommendations.

m. Warranty requirements.

n. Compatibility of materials.

o. Acceptability of substrates.

p. Temporary facilities.

q. Space and access limitations.

r. Governing regulations.

s. Safety.

t. Inspecting and testing requirements.

u. Required performance results.

v. Recording requirements.

w. Protection.

2. CONTRACTOR shall record significant discussions and directives received from each conference. CONTRACTOR shall, within three (3) calendar days after the meeting date, distribute the minutes of the meeting to all concerned parties, including but not limited to, OAR, INSPECTOR, and ARCHITECT.

3.03 PROGRESS MEETINGS

A. Progress meetings will be held at the Project site at regular intervals, typically weekly, as determined by the OAR.

B. In addition to representatives of CONTRACTOR, OWNER, and ARCHITECT, each Subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of the Work shall, if requested by OAR, be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude all matters relating to the Work.

C. Failure of CONTRACTOR to be so represented at any progress meeting which is held at a mutually agreed time or for which a written notice is given, shall not relieve CONTRACTOR from abiding by any and all OAR determinations or directives issued at such meeting.

D. OAR will review and correct or approve minutes of the previous progress meeting and will review other significant items affecting progress. Topics for discussion as appropriate to the status of the Project include but are not limited to:

1. Interface requirements.
2. Construction Schedule.
3. Sequence and coordination.
4. Status of submittals / RFCs.
5. Deliveries.
6. Off-site fabrication.
7. Access.
8. Site utilization.
9. Temporary Construction Facilities and Controls.
10. Hours of work.
11. Hazards and risks.
12. Housekeeping.
13. Quality of materials, fabrication, and execution.
14. Unforeseen conditions.
15. Testing and Inspection.
16. Defective Work.
17. Construction Directive.
18. Request for Proposal.
19. Change Order Proposals and Change Orders.
20. Documentation of information for payment requests.

21. Application for Payment.

22. Other items as required or as brought forth..

23. Initial Notice of Start of Issue, Event, Condition, Circumstance, or Cause of Perceived Delay, Disruption, Interference, Hindrance, Acceleration. (Article 12.2.1 of the General Conditions).

24. Final Notice of End of Issue, Event, Condition, Circumstance, or Cause of Perceived Delay, Disruption, Interference, Hindrance, Acceleration (Article 12.2.2 of the General Conditions).

25. Storm Water Pollution Prevention.

26. CEQA Compliance.

E. No later than three (3) calendar days after each progress meeting, OAR will prepare and distribute minutes of the meeting to each present and absent party. Include a brief summary, in narrative form, of progress, decisions, directives, actions taken, and all other issues since the previous meeting and report.

1. Schedule Updating: CONTRACTOR shall revise the Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized, and issue the revised schedule at the next scheduled progress meeting.

3.04 ADDITIONAL MEETINGS

A. OAR, upon giving notice to the intended parties and without further obligation, may require additional meetings to discuss Work and/or Project related activities.

3.05 OWNER'S RIGHT TO RECORD

A. CONTRACTOR agrees on behalf of itself and all its subcontractors that the OWNER may audiotape or videotape any meetings, training and any work at any time during the Project

END OF SECTION

SECTION 01 3216

CONSTRUCTION SCHEDULE
(SMALL PROJECT/SHORT DURATION)

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Required procedures for the development of the Baseline Construction Schedule, Monthly Schedule Update, Four-Week Rolling Schedule, Recovery Schedules, Fragnets and Time Extension requests.

1.02 RELATED REQUIREMENTS

A. Section 01 1100: Summary of Work.

B. Section 01 1216: Phasing of the Work.

C. Section 01 2973: Schedule of Values.

D. Section 01 3300: Submittal Procedures.

E. Section: 01 3119: Project Meetings.

F. Section 01 4523: Testing and Inspection.

G. Section 01 4524: Environmental Import/Export Materials Testing.

H. Section 01 7416: Storm Water Pollution Prevention Plan.

I. Section 01 7700: Contract Closeout.

PART 2 – PRODUCTS

2.01 SCHEDULING SOFTWARE

A. CONTRACTOR shall utilize the latest version of Primavera Scheduling Software (P6) to employ the Critical Path Method (CPM) in the development and maintenance of the construction schedule. If the version of Primavera Scheduling Software (P6) used is greater than Version 15.1, the CONTRACTOR shall save & export schedules in Version 15.1 before submitting to Owner for review.

B. All schedule calculation rules, auto cost rules and resource calculation rules shall be in a format acceptable to OAR. When schedule calculations are performed, the "Retained Logic" setting shall be used. CONTRACTOR shall use the zero "Decimal Places" setting. Finish Milestones shall be constrained with a "Finish on or before" type constraint in accordance with the dates stipulated in Specification Section 01 1219, Phasing of the Work, Appendix A. No "Mandatory Finish" type constraints, no "Zero Free Float" constraints, no special hidden lag time between activities or other "float Suppression" techniques will be permitted. A schedule milestone constraint extending beyond Contract time or less than Contract time will not be acceptable. Rather, CONTRACTOR shall show any unused contract time as float (slack time) available to the project.

PART 3 –EXECUTION

3.01 SCHEDULER QUALIFICATIONS

A. CONTRACTOR shall have a scheduler with a minimum of 5 years direct experience in the development and maintenance of schedules.

B. CONTRACTOR shall submit the resume of the construction scheduler to OWNER for review and approval. OAR has the right to refuse to accept the Scheduler based upon a lack of experience as required by this Section or based on lack of on-site performance and timeliness of schedule submittals. If OAR does not accept the proposed Scheduler, CONTRACTOR shall within one week of disapproval, propose another Scheduler who meets the experience requirements stated above.

3.02 PRE-CONSTRUCTION SCHEDULING CONFERENCE

A. CONTRACTOR and CONTRACTOR Scheduler shall attend a pre-construction scheduling conference with OAR within 7 days after Notice of Award. CONTRACTOR Scheduler shall develop a construction schedule in accordance with this Specification Section. Scheduler shall cooperate with OAR and shall make themselves available for on-site meetings to develop, monitor, maintain and update the schedule in a timely manner.

3.03 SUBMITTALS

A. Within seven calendar days after the effective date of the Notice to Proceed (or as stipulated in the milestones under Section 01 1219 Phasing of the Work Appendix A), CONTRACTOR shall submit to OWNER for review, a detailed Baseline Construction Schedule setting forth all requirements for complete execution of the Work. Include individual activities for the preparation of specific submittals, activities for owner review periods, activities for the procurement / fabrication period, installation activities, any applicable start-up & testing activities, and all contract milestones. With the exception of submittals and fabrication

/procurement activities, each work activity shall range in duration from 1 workday minimum to a 10 workday maximum. The Scheduling system shall indicate all inter-relationships (logic ties) between the activities and shall be logically tied to all relevant milestones listed in Section 01 1219 Phasing of the Work Appendix A. CONTRACTOR shall cost load the activities with a “budgeted cost” that totals up to the Contract award value. The format shall be coordinated with Specification Section 01 2973 (Schedule of Values), Specification Section 01 3229 (Project Forms), and Specification Section 01 2976 (Progress Payment Procedures).

B. The level of detail indicated in the schedule shall be greater than that provided by Section 00 0110: Table of Contents of Contract Technical Specifications, including any Section 00 9113: Addenda. Duration and events indicated on schedule shall conform to phasing set forth in Section 01 1216 Phasing of the Work and shall show any area or building within a particular phase. Each activity description shall outline the specific work scope (by trade) and the location. Schedule shall indicate any and all Contract "milestone events" and other milestones agreed to by OWNER, but no other manually-imposed dates will be accepted unless approved by OWNER.

C. CONTRACTOR shall allow for inclement weather in the Proposed Baseline Schedule by incorporating an activity titled “Rain Day Impact Allowance” as the last activity prior to the Substantial Completion Milestone. No other activities may be concurrent with it. The duration of the Rain Day Impact Allowance activity will be based on Table #1 below, and will be calculated from the Notice to Proceeed until the original date of Substantial Completion.

Table #1: Cumulative Calendar Days “Rain Day Impact Allowance”:

January	6	July	0
February	5	August	0
March	5	September	1
April	4	October	1
May	1	November	3
June	0	December	5

1. When inclement weather at the Project site impacts Critical Path activities, CONTRACTOR may provide the OAR with a written request for a weather impact day describing the inclement weather delay on the Critical Path activities. The inclement weather delay must be clearly indicated by a 70 percent decrease in the field labor workforce hours on Critical Path activities on the day in question as indicated by CONTRACTOR’S Daily reports from the day in question and the scheduled work days prior to the day in question. Upon OAR’S independent confirmation of the amount of rainfall and impact, OAR will authorize CONTRACTOR to reduce the duration of the Rain Day Impact Allowance by one day.

2. Inclement weather on non-scheduled workdays shall not be granted as weather impact days. If CONTRACTOR asks to work a specific weekend or holiday and gives OAR advanced, written notification of critical path work to be performed and a substantial amount of precipitation occurs that prevents the work from being performed, then that day can be claimed as a weather impact day. If the effects of inclement weather from a non-scheduled work day carry forward to a scheduled work day and impacts the Critical Path as noted above, then the scheduled work day will be considered impacted by weather. Any unused rain day allowance at the end of the project will be shown as available float to the Substantial Completion Milestone. Excusable, non-compensable time extensions will be granted for inclement weather to Substantial Completion milestone only after the weather impact area affecting the critical path work has exhausted the allotted cumulative Rain Day Impact Allowance. On projects that have multiple phases with defined start & finish dates, the cumulative rain impact allowance may be split up (pro-rated) into their designated phases upon OAR Approval.

D. Activity Codes: As a minimum, the Activity Codes shown in the Table 1 below shall be assigned to each activity.

Name	Length	Description
TYPE	2	Type of activity (for example: mobilization, submittals, procurement/fabrication, construction, milestones, etcetera.)
AREA	2	Area or Building (for example: Bldg A, Building B, Courtyard, Athletic Fields, Street Work, etcetera.)
STAG	2	Stage (for example: Foundations, Superstructure, Exterior, Interior, Roof, Floor Number etcetera.)
SBST	2	Substage (a specific area within a stage such as: main electrical room, kitchen, room number, etcetera.)
RESP	7	Responsible Party (subcontractor and/or trade)
DIV	2	CSI Division
SPEC	5	CSI Specification Section number

1. OAR may require additional coding of activities. The mandatory activity code requirements listed in Table 1 are not to be construed as setting limits on CONTRACTOR'S management and coordination responsibilities, but are intended to guide CONTRACTOR in the administration of its contractual responsibilities.

E. CONTRACTOR shall submit a color bar chart of all activities organized by Area (Location) and sorted by early start date in a graphically "left to right" manner. In addition, submit a Critical Path (Longest Path) color bar chart filter. Include the following column headings on the left hand side of both bar chart reports: activity ID, activity description, original duration, remaining duration, percent complete, start date, finish date, total float (slack time), and budgeted cost. CONTRACTOR

shall also include an electronic file in its original format of the schedule. The electronc P6 file shall be saved in “XER” type format (version 15.1).

F. Include a written schedule narrative sufficiently comprehensive to explain the basis of the CONTRACTOR'S approach to work. The written schedule narrative should include a paragraph of the project’s Critical Path, the anticipated crew sizes (by trade), any planned equipment needed, a discussion on any long lead procurement/fabrication items, and any site logistic challenges.

G. Seven calendar days after receipt of the OWNER'S review comments, CONTRACTOR shall revise & re-submit the Construction Schedule acceptable to OWNER. Once the Baseline Construction Schedule is approved, no changes will be allowed unless authorized by the OWNER.

H. Failure of CONTRACTOR to submit a Construction Schedule in full compliance with the Contract Documents will result in a delay in progress payment processing. The Construction Schedule is to be used in evaluating progress and for monthly payment approval.

I. Subsequently with each Monthly Progress Payment Request, CONTRACTOR shall deliver to OWNER a Monthly Schedule Update reflecting Work progressed to the end of the Progress Payment Request period (set as the last day of the month). Each such Monthly Schedule Update shall indicate actual progress to date in execution of the Work, together with a projected schedule for completion of all the remaining Work. CONTRACTOR shall copy & re-name the schedule file each month, status the activities with actual start and/or finish dates, adjust remaining durations, add re-submittals (if applicable), calculate the schedule with a “data date” to the end of the pay period, and submit the required reports outlined in Article 3.03 to OWNER. Each Monthly Schedule Update shall be submitted con-currently with the Monthly Pay Application no later than the fifth day of the succeeding month in accordance with Article 14 of the General Conditions. In updating the Schedule, CONTRACTOR shall not modify Activity ID numbers, activity descriptions, original durations, logic, schedule calculation rules/criteria, or the Activity Coding unless authorized by the OAR.

J. All Schedule submittals are subject to review and acceptance by OWNER. OWNER retains the right to withhold progress payments in whole (or in part) until CONTRACTOR submits a Construction Schedule acceptable to OWNER.

3.05 FOUR-WEEK ROLLING SCHEDULE

A. At each Weekly Progress Meeting, CONTRACTOR shall present a Four-Week Rolling Schedule in Bar Chart format. It shall show one (1) week of actual and three (3) weeks of forecasted progress. The Four-Week Rolling Schedule shall be used as a basis for discussing progress and work planned during the three (3) weeks.

1. The Four-Week Rolling Schedule shall be based on the most recent OAR Accepted Monthly Schedule Update. It shall include weekly updates to all construction, submittal, fabrication and procurement, and separate work contract activities. CONTRACTOR shall ensure that it accurately reflects the current progress of the Work.

2. CONTRACTOR shall discuss at the Weekly Progress meeting the actual dates and any variances to critical or near critical activities.

3. Upon request by OAR, CONTRACTOR shall provide the Four-Week Rolling Schedule in electronic format.

4. If the Four-Week Rolling Schedule indicates activities are behind schedule, CONTRACTOR shall provide a Recovery Schedule in accordance with Article 3.06 below.

5. If the CONTRACTOR chooses to provide a Four-Week Rolling Schedule in a greater level of detail (by trade/subcontractor) outside of the monthly schedule database, then upon CONTRACTOR REQUEST and OAR written approval, the CONTRACTOR may proceed as long as the detailed activities roll-up to the contractual monthly schedule updates. These detailed activities will need to be linked to the overall Substantial Completion date as to properly forecast whether the project is ahead or behind schedule during the weekly Progress Meetings. The Four-Week Rolling Schedule must accurately reflect the work that is going on during the current week and must accurately reflect what will happen in the next three weeks.

3.06 RECOVERY SCHEDULES

A. If a Monthly Schedule Update indicates negative float greater than ten (10) days on a critical path as result of events not predicated by Articles10 and 12 of the General Conditions, CONTRACTOR shall prepare a Proposed Recovery Schedule demonstrating CONTRACTOR'S plan to regain the time lost. The Recovery Schedule shall be submitted either in advance of or concurrent with the Monthly Schedule Update and CONTRACTOR progress request. Both the Monthly Schedule Update and the Proposed Recovery Schedule shall be based on the same percentages of completion and actual dates accepted by OAR under Article 3.03.

B. The Proposed Recovery Schedule shall be based on a copy of the Monthly Schedule Update for the calendar month during which the negative float first appears.

C. The Proposed Recovery Schedule shall include a written narrative that identifies the causes of the negative float on the critical path and provides CONTRACTOR'S proposed corrective action to ensure timely completion of all

Milestones and the Substantial Completion Date. CONTRACTOR'S corrective actions shall include but are not limited to increasing concurrent operations, increasing labor, adding multiple shifts in a 24-hour period, and adding overtime.

D. During any period of time when CONTRACTOR is found to be behind schedule by OAR, the Monthly Schedule Update described above shall become a weekly requirement (at no additional cost to OWNER) to provide a greater degree of focus on the timely completion of the Work. These Updates shall be submitted to OAR every Monday morning. When CONTRACTOR is deemed by OAR to be back on schedule, CONTRACTOR may revert to submitting the schedule monthly.

E. CONTRACTOR'S progress payment may not be processed until OAR accepts the Proposed Recovery Schedule. Following such an acceptance, the Proposed Recovery Schedule will be known as the Recovery Schedule and future Work will be performed by CONTRACTOR in accordance with it.

3.07 FRAGNETS AND TIME EXTENSION REQUESTS

A. Float is not for exclusive use or benefit of either OWNER or CONTRACTOR but is an expiring resource available to both parties on a non-discriminatory basis. If required to meet specified Milestones, either party may utilize float. Adjustments to Milestones or Contract Time will only be authorized by Change Order and only to the extent the claimed adjustments exceed total float along the most critical path of the current Monthly Schedule Update in effect at the time of the claimed adjustments. The claimed adjustments to the Milestones and/or Contract Time must also cause the Substantial Completion Date to exceed that currently indicated in the Monthly Schedule Update. No time extensions will be granted nor delay damages paid under contract until all available float is used and the CONTRACTOR obtains a Time Extension Request approval from the OAR in accordance with Article 1.12 in its entirety. CONTRACTOR claimed adjustments to an existing negative float path will not receive consideration until the activity with the highest negative float is driven even further negative.

1. Claimed adjustments to the Milestones or Contract Time will be administered in conjunction with those set forth in the General Conditions.

B. Pursuant to the float sharing requirements of this Section, the use of float suppression techniques such as preferential sequencing or logic, special lead or lag logic restraints, and extended activity times or durations are prohibited. The use of float time disclosed or implied by the use of alternate float suppression techniques shall be proportionally shared to benefit OWNER and CONTRACTOR. The use of any technique solely for the purpose of suppressing float will result in OWNER rejection of the submitted Monthly Schedule Update.

C. In the event CONTRACTOR believes the Project has suffered an adverse impact arising from events predicated by Articles 10 and 12 of the General Conditions,

CONTRACTOR may prepare a Time Extension Request by submitting a Schedule Fragnet and a written narrative outlining the detail of the impact. A Schedule Fragnet must demonstrate a critical path delay. Such a delay must adversely impact the Substantial Completion Date for CONTRACTOR to receive a time extension. To demonstrate such an impact successfully, CONTRACTOR shall prepare a Schedule Fragnet based on a copy of OWNER accepted Monthly Schedule Update for the calendar month during which the adverse impact occurred. This "copy" of the OWNER accepted Monthly Schedule Update shall however first be updated (by OWNER and CONTRACTOR jointly) with both Percentages of Completion and Actual Dates up to the day the delay commenced. This process will provide the "pre-delay" project status. Once OWNER and CONTRACTOR have agreed to the "pre-delay" project status, CONTRACTOR should make a copy of this "pre-delay" schedule and this copy is to be the starting point for CONTRACTOR'S Schedule Fragnet development. OWNER will evaluate the activities, logic, durations, etcetera, in the Schedule Fragnet and will evaluate if the adverse impact arose from events described by Articles 10 and 12 of the General Conditions. The Fragnet shall also include CONTRACTOR-caused delays that affect the critical or near critical path in the network and should be accounted for in the Time Impact Analysis if overlapped at any point in time with OWNER-caused delay. If rain impact days were granted between the Start and Finish of OWNER-caused delay period, they should be accounted for in the Time Impact Analysis as well. Provided OWNER determines such an impact occurred, CONTRACTOR may be due a time extension equal to the number of proportioned days of variance/delay that resulted to the Substantial Completion Date.

D. Activities added into a Schedule Fragnet to demonstrate the impact of adverse event shall be assigned a unique activity code. The Schedule shall be organized by this unique activity code.

E. The Schedule Fragnet shall incorporate logic ties that are accurately reflective of the adverse event to pre-event predecessor activities and post event successor activities.

F. The format and components of a Schedule Fragnet submittal shall be in accordance with this Section and Articles 10 and 12 of the General Conditions. It is crucial for the Fragnet to be submitted within the same month of discovery so it can be resolved during the monthly schedule update review. The notice shall be transmitted to OAR within the stipulations outlined in Article 12 of the General Conditions.

G. If OWNER accepts CONTRACTOR'S Schedule Fragnet and an extension is granted, a Change Order will be prepared. OWNER will advise what change order number the time extension will become. When CONTRACTOR receives this Change Order number, all the activities added to the Schedule Fragnet shall be given Activity Identification Numbers that corresponds with the Change Order number. CONTRACTOR shall cost load the activities if required by OWNER. If

resource loading is required, the resource loading shall include a breakdown of labor, material, and equipment quantities.

H. If OWNER rejects CONTRACTOR'S Schedule Fragnet in part based on improper forecast logic or activity tasks then it shall be revised accordingly to conform to OWNER'S review comments and be re-submitted. If the forecast logic and activity tasks cannot be agreed to then the pre-delay schedule outlined in Article 3.07, C shall be compared to the actual as-built data in the succeeding month of the encountering issue, event, condition, circumstance, and/or cause. The variance to the project between the pre-delay and post delay schedules shall be discussed in CONTRACTOR'S written narrative and proportioned between the different parties involved in the delay.

I. If OWNER rejects CONTRACTOR'S Schedule Fragnet in whole then CONTRACTOR may follow the procedures set forth in Article 16 of the General Conditions.

3.08 PAYMENT FOR SCHEDULING

A. The Work of this Section will be included as part of the bid price.

B. Preparation, revising, maintenance, and compliance with this Section and Section 01 2973 is an integral part of the Contract Documents and is specified to have a minimum value equal to 2 percent of the original Contract Amount. This amount shall be proportionally cost loaded into two activities in both the Proposed Baseline Schedule and the Schedule of Values described in Section 01 2973. One activity for the "Baseline Schedule" and the other activity for the "Monthly Schedule Update Process" as follows:

1. CONTRACTOR may allocate thirty percent (30 percent) of the total scheduling cost and place in the "Baseline Schedule" activity. It can then be billed against when the OAR accepts the Proposed Baseline Schedule as the Baseline Schedule.

2. The remaining seventy percent (70 percent) may be cost loaded into the "Monthly Schedule Update Process" activity. This amount may be billed in equal monthly increments. The amount of those increments is determined by dividing the remaining cost by the total number of months in the Contract Time. Payment of these incremental amounts is contingent upon OAR acceptance of CONTRACTOR Monthly Schedule Updates, Recovery Schedules, Four-Week Rolling Schedules, Fragnets, Time Impact Analysis, and the updated Log of Required Submittals.

3. The CONTRACTOR shall anticipate in their base contract scope that numerous Fragnets and written time impact analyses will be required during the duration of the project with the Monthly Schedule Updates. Requests for extra scheduling services will not be considered until the

CONTRACTOR demonstrates that all of the costs stipulated in Article 3.08, B has been expended.

3.09 FAILURE TO COMPLY WITH REQUIREMENTS

A. At any time during the project if CONTRACTOR fails to comply with the specified requirements, OWNER reserves the right to engage independent estimating and scheduling consultants to fulfill these requirements. Upon notice to CONTRACTOR, OWNER shall assess against CONTRACTOR, incurred costs for these additional services.

B. In such an event, OWNER will require, and CONTRACTOR shall participate and provide requested information to ensure the resulting Milestones Schedule accurately reflects CONTRACTOR's plan to execute the Work in compliance with the Contract Documents. If it becomes necessary for OWNER to recommend logic or duration revisions as a result of CONTRACTOR failure to furnish acceptable data, and if CONTRACTOR has objections to the recommendations, CONTRACTOR shall provide notice to OWNER within three days and CONTRACTOR shall provide an acceptable alternate plan. If CONTRACTOR fails to so note any objections and provide an acceptable alternate plan, or if CONTRACTOR implements the recommendations of OWNER without so noting any objections, CONTRACTOR will be deemed to have waived all objections and concurred with the recommended logic/duration revisions provided by ARCHITECT and/or OWNER.

C. Submittal of any Monthly Schedule Updates are subject to review and acceptance by OWNER. OWNER retains the right, including, but not limited to Article 14 of the General Conditions, to withhold progress payments in whole or part until CONTRACTOR submits a Monthly Schedule Update acceptable to OWNER. If a Monthly Schedule Update is "Rejected" due to the OWNER not receiving a satisfactory schedule that accurately reflects the on-going work activities, the OWNER will mandate a separate meeting with the CONTRACTOR and approved Scheduler to remedy the non-conformance. If after the 2nd consecutive month the OWNER still has to "Reject" the monthly Schedule update due to non-conformance, then the CONTRACTOR'S Scheduler will need to be replaced at no additional cost to the OWNER. CONTRACTOR shall within one week of disapproval, propose another Scheduler who meets the required experience.

3.10 CONTRACTOR RESPONSIBILITY

A. Nothing in this Section shall be construed to be a usurpation of CONTRACTOR authority, responsibility, and obligation to plan and schedule Work as CONTRACTOR deems necessary, subject to all other requirements of the Contract Documents.

B. CONTRACTOR shall provide at all times sufficient competent labor, materials, and equipment to properly carry on Work and to insure completion of each part in accordance with Construction Schedule and within time agreed. CONTRACTOR shall involve the subcontractors, manufacturers, and suppliers in the development and periodic updating of the schedule.

3.11 RECORD DOCUMENTS / FINAL AS-BUILT SCHEDULE

A. Prior to Contract Completion of the Work, CONTRACTOR shall submit a final as-built schedule, and a time-scaled network diagram (bar chart) reflecting the actual dates of all activities. This shall be submitted prior to the final application of payment and prior to the request to release retention.

END OF SECTION

SECTION 01 3229

PROJECT FORMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The following, but not limited to, administrative forms and documents listed in this Section are to be utilized in the administration of the Work. Upon CONTRACTOR request, OAR may approve the use of alternate forms. Electronic versions of these forms are available on the LAUSD website.

B. From time to time, OWNER may release new revisions and new Project Forms. At any time during the Project, if requested by OAR, CONTRACTOR shall use the newly released Project Forms.

1.02 RELATED REQUIREMENTS

A. Division 01: General Requirements.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 FORMS

A. The following examples of forms are contained within this Section:

1. Allowance Disbursement Authorization.
2. Application for Payment (2 pages)[1].
3. Certification of Compliance with Project Stabilization Agreement and Labor Compliance.
4. Certification of Compliance with CEQA Mitigations.
5. Certificate of Substantial Completion.
6. Change Order.
7. Change Order Proposal.

[1] Application for Payment (Multiple Projects Form) is available from the OAR.

8. Change Order Proposal – Compensable Delay Costs.

9. Change Order Proposal Detail Sheet.

10. Change Order Proposal Guidelines.

11. Change Order Proposal – Labor Rate Calculation Form (Request for Rate Higher Than Fully burdened Labor Rates).

12. Conditional Waiver and Release – Final Payment.

13. Construction Directive.

14. Correction Notice.

15. Daily Construction Report.

16. Daily Time and Material Record.

17. Initial Notice of start of Issue. Event, Condition, Circumstance, or Cause of Perceived or Actual Delay, Disruption, Interference, Condition, Circumstance, or Cause of Perceived Delay, Disruption, Interference, Hindrance, Acceleration.

18. Final Notice of End of Issue, Event, Condition, Circumstance, or Cause of Perceived or Actual Delay, Disruption, Interference, Condition, Circumstance, or Cause of Perceived Delay, Disruption, Interference, Hindrance, Acceleration.

19. Five Day Notice.

20. List of Subcontractors.

21. Notice of Completion.

22. Notice of Partial Use or Occupancy.

23. Notice of Termination.

24. Notice to Proceed.

25. "Or Equal" Request.

26. OWNER Assessment Summary.

27. Property Inventory.

28. Request for Certification of Substantial Completion.

29. Request for Clarification.

30. Request for Proposal.

31. Request for Reduction of Retention.

32. Schedule of Values.

33. Storm Water Pollution Prevention – Site Monitoring Report.

34. Submittal Log.

35. Substitution Request.

36. Survey of Existing Site Conditions.

37. Transmittal.

3.02 PROCEDURES

A. Allowance Disbursement Authorization: This form is used for the request and approval of Contract allowances.

B. Application for Payment: This form is used in requesting a progress payment.

C. Application for Payment (Multiple Projects): Alternate progress payment request form for contracts comprising more then one project.

D. Certification of Compliance with Project Stabilization Agreement and Labor Compliance Code Section 1776: This form is used to certify that all contributions due and owing to appropriate trust funds have been paid by CONTRACTOR and all Subcontractors, as specified by the Project Stabilization Agreement (PSA) and General Conditions Article 6.49. This form is also used to certify that CONTRACTOR has submitted all certified payroll records mandated by Labor Code 1776, and General Conditions Article 6.49.

E. Certification of Compliance with CEQA Mitigations: This form is used to certify that all CEQA requirements were complied with by CONTRACTOR.

F. Certificate of Substantial Completion: This form is used according to Article 14 of the General Conditions.

G. Change Order: This form is used to adjust the Contract Amount, Milestones or Contract Time.

H. Change Order Proposal: This form is used to communicate proposed adjustments to the Contract Amount, Milestones or Contract Time.

I. Construction Directive: This form is used to issue a Construction Directive.

J. Correction Notice: This form is used to provide notice of defective Work.

K. Daily Construction Report: This form is used to report daily Work activities and manpower levels of CONTRACTOR or Subcontractor.

L. Daily Time and Material Record: This form is used to provide daily records as set forth in Article 11.11 of the General Conditions.

M. Initial Notice of Start of Issue, Event, Condition, Circumstance, or Cause of Perceived Delay, Disruption, Interference, Hindrance, Acceleration: This form is used to provide notice as set forth in Article 12.2.1 of the General Conditions.

N. Final Notice of End of Issue, Event, Condition, Circumstance, or Cause of Perceived Delay, Disruption, Interference, Hindrance, Acceleration: This form is used to provide notice as set forth in Article 12.2.2 of the General Conditions.

O. Five Day Notice: This notice is used according to Article 15.3.2 of the General Conditions.

P. List of Subcontractors: This form is used according to Article 14.2 of the General Conditions.

Q. Notice of Completion: This form is used according to Article 14.17 of the General Conditions.

R. Notice of Partial Use or Occupancy: This form is used according to Article 14.15 of General Conditions.

S. Notice of Termination: Contractor shall submit a Notice of Termination (NOT) to the Los Angeles Regional Water Quality Control Board, LARWQCB. Provide a copy of NOT to OAR (See Section 01 7416).

T. Notice To Proceed: This form is used to establish the date of Contract Time commencement and the date Contractor is authorized to commence performance of Contractor obligations.

U. “Or Equal” Request: This form is used to submit a list of proposed “or equal” substitutions.

V. Owner Assessment Summary: This form is used for all assessments or withholds by the Owner, permitted under the Contract or required by law, including without limitation, stop notices, prevailing wage violations, liquidated damages, additional consultant services, OCIP premiums, etc.

W. Property Inventory: This form is used to establish Owner property in a space.

X. "Request for Certification of Substantial Completion": This form is used according to Article 14 of the General Conditions

Y. Request for Clarification: This form is to be used for clarification of the intent of the Contract Documents.

Z. Request for Proposal: This form is used to request a proposed adjustment in the Contract Amount, Milestones or Contract Time in response to the Work contained within the Request for Proposal.

AA. Request of Reduction of Retention: This form is used according to Article 14.8 of the General Conditions.

BB. Schedule of Values: This form is used to establish the basis of the certified Application for Payment.

CC. Storm Water Pollution Prevention Plan (SWPPP): Site Monitoring Reports: These forms are used to certify that construction activities are in compliance with SWPPP (see Section 01 7416).

DD. Submittal Log: This form is a format for the listing of the required submittals.

EE. Substitution Request: This form is used to submit proposed substitutions of materials or equipment no longer manufactured or which cannot be acquired from existing inventories.

FF. Transmittal: This form is used for transmission of items related to the Contract.

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Administrative and procedural requirements for submittals required for the Work, including but not limited to; Shop Drawings, Product Data, Samples, material lists, and quality control items.

B. Throughout the Contract Documents, the minimum acceptable quality of materials, fabrication, and execution have been defined by the name and catalog number of a manufacturer and by reference of recognized industry standards.

C. To ensure that specified products are furnished and installed in accordance with the design intent, procedures have been established for submittal of design data and for its review by ARCHITECT, OAR and others.

1.02 RELATED REQUIREMENTS

A. Section 01 1216: Phasing of the Work.

B. Section 01 2513: Product Substitution Procedures.

C. Section 01 2973: Schedule of Values.

D. Section 01 2976: Progress Payment Procedures.

E. Section 01 3113: Project Coordination.

F. Section 01 3213: Construction Schedule.

G. Section 01 3229: Project Forms.

H. Section 01 4523: Testing and Inspection.

I. Section 01 4525: Testing, Adjusting, and Balancing for HVAC.

J. Section 01 5000: Construction Facilities and Temporary Controls.

K. Section 01 7123: Field Engineering.

L. Section 01 7329: Cutting and Patching.

M. Section 01 7416: Storm Water Pollution Prevention.

N. Section 01 7700: Contract Closeout.

O. Section 01 7836: Warranties.

PART 2 – PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 PROCEDURES

A. CONTRACTOR is required to review and approve every submittal and shop drawing prior to transmittal and delivery to ARCHITECT. Should CONTRACTOR determine a submittal contains errors, or does not meet the requirements of the contract, CONTRACTOR shall immediately return the submittals and shop drawings to the producer and expedite the corrections prior to transmitting the submittal to ARCHITECT. Submittals shall not be used by CONTRACTOR to request clarifications or submit questions. CONTRACTOR will affix stamp to each submittal certifying CONTRACTOR has performed, at minimum, the following:

1. Verified the submittal is complete in all respects and follows the requirements of the Contract Documents without variance.

2. Confirmed that no substitutions have been included. If substitutions are included, CONTRACTOR shall eliminate them from the submittal and process them in accordance with Section 00 7000 General Conditions Article 6.14.

3. Identified any variances from the requirements of the Contract Documents and confirmed that the identified variance meets, but does not exceed the allowable limitations or tolerances as defined in these specifications.

4. Verified that all submitted materials, dimensions and tolerances are compatible with existing or planned conditions of the Work in order to erect, fabricate, or install the submitted assembly in conformance with the requirements of the Contract Documents.

5. Coordinated and verified that the dimensions match CONTRACTOR measured field or installation conditions.

6. Coordinated and verified that the products of separate manufacturers required within any field produced assembly are compatible in all respects for such assembly.

7. Packaged together all related submittals or shop drawings where such is necessary for a comprehensive ARCHITECT review.

B. CONTRACTOR shall package each submittal appropriately for transmittal and handling. Transmittal format shall be as required by OWNER. CONTRACTOR shall transmit and deliver six sets of each submittal or re-submittal to ARCHITECT, two of which shall be returned to CONTRACTOR. Some specifications may require additional copies be provided. CONTRACTOR shall provide the OWNER additional copies as specified or as requested by OAR. ARCHITECT will not accept submittals received from sources other than from CONTRACTOR.

C. After ARCHITECT'S review, ARCHITECT will transmit submittals to OAR and OAR shall further distribute to CONTRACTOR, INSPECTOR and others as required. Work shall not commence, unless otherwise approved by OAR, until approved submittals are transmitted to CONTRACTOR.

D. CONTRACTOR shall clearly identify any deviations from the Contract Documents on each submittal. Any deviation not so noted even though stamped reviewed is not acceptable.

E. CONTRACTOR shall coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities requiring sequential activity.

F. Timing of Submittals:

1. In accordance with General Conditions, CONTRACTOR shall submit to ARCHITECT, with copy of transmittal to the OAR, those Shop Drawings, Product Data, diagrams, materials lists, Samples and other submittals required by the Contract Documents.

2. The scheduling of submittals shall be sequenced to support the progress of the Work, and shall be:

a. Submitted sufficiently in advance of construction, fabrication or installation in order to allow time for transmittal, review, modification, correction, (and resubmission and re-review when required.)

b. Phased with adequate time between submittals in order to allow for proper review by the ARCHITECT without negative impact to the Milestones Schedule.

3. CONTRACTOR shall coordinate submittal of related items and ARCHITECT reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received by ARCHITECT.

4. CONTRACTOR shall revise, update and submit submittal schedule to ARCHITECT and OAR on the first of each month, or as required by OAR.

5. CONTRACTOR shall allow in the Construction Schedule, at least sixteen days for ARCHITECT review following ARCHITECT receipt of submittal. For mechanical, plumbing, electrical, low voltage, fire sprinklers, door and hardware, and other submittals requiring joint review with OAR, CONTRACTOR shall allow a minimum of eighteen days following ARCHITECT receipt of submittal. Deferred approval items shall be allowed additional time for DSA review.

6. No adjustments to the Contract Time or Milestones will be authorized because of a failure to transmit submittals to ARCHITECT sufficiently in advance of the Work to permit review and processing or where CONTRACTOR fails to provide ARCHITECT submittals on related items.

7. In case of product substitution, Shop Drawing preparation shall not commence until such time as OWNER accepts or rejects the proposed substitution in accordance with the procedures described in the General Conditions.

G. If required, resubmit submittals in a timely manner. Resubmit as specified for initial submittal but identify as such. Review times for re-submitted items shall be as per the time frames for initial submittal review.

H. Shop Drawing preparation shall not commence until such time as CONTRACTOR receives Product Data acceptance.

I. ARCHITECT will stamp each submittal with a uniform, action stamp. ARCHITECT will mark the stamp appropriately to indicate the action taken, as follows:

1. Final Unrestricted Release: When ARCHITECT marks a submittal “Reviewed” the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.

2. Final-But-Restricted Release: When ARCHITECT, or authorized agent, marks a submittal "Reviewed as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.

3. Returned for Re-submittal: When ARCHITECT, or authorized agent, marks a submittal "Rejected, Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat as necessary to obtain different action mark. In case of multiple submittals covering same items of Work, CONTRACTOR is responsible for any time delays, schedule disruptions, out of sequence Work, or additional costs due to multiple submissions of the same submittal item. Do not use, or allow others to use, submittals marked "Rejected, Revise and Resubmit" at the Project site or elsewhere where Work is in progress.

4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, ARCHITECT, or authorized agent, will return the submittal marked "Action Not Required ".

3.02 SHOP DRAWINGS

A. Shop Drawings are original drawings prepared by CONTRACTOR, Sub-contractor, supplier, or distributor illustrating some portion of Work by showing fabrication, layout, setting, or erection and shall not be based on reproduced Contract Documents or copied standard information.

B. Produce Shop Drawings to an accurate scale that is large enough to indicate all pertinent features and methods. 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 24 by 36 inches.

C. Shop Drawings shall include fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings. Include the following information:

1. Dimensions.

2. Identification of products and materials included by sheet and detail number.

3. Compliance with specified standards.

4. Notation of coordination requirements.

5. Notation of dimensions established by field measurement.

D. Provide a space of approximately 4 by 5 inches on the label or beside the title block on Shop Drawings to record CONTRACTOR and ARCHITECT review, and the action taken. Include the following information on the label for processing and recording action taken:

1. WILL ROGGERS ECC K-PLAYGROUND & SHADE.

2. Date.

3. Name and address of ARCHITECT.

4. Name and address of CONTRACTOR.

5. Name and address of Subcontractor.

6. Name and address of supplier.

7. Name and address of manufacturer.

8. Name and title of appropriate Specification section.

9. Drawing number and detail references, as appropriate.

E. Unless otherwise agreed to or indicated in individual Specification sections, submit a sufficient number of sets to allow for adequate distribution to CONTRACTOR, Sub-Contractor, supplier, manufacturer and fabricators plus four (4) sets (two sets to be retained by ARCHITECT, one set to the INSPECTOR and one set to OAR).

3.03 PRODUCT DATA

A. Collect Product Data into a single submittal for each element of Work or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, wiring diagrams, schedules, illustrations, or performance curves.

1. Mark each copy to show or delineate pertinent materials, products, models, applicable choices, or options. Where Product Data includes information on several products that are not required, clearly mark copies to indicate the applicable information. Include the following information:

a. Manufacturer's printed recommendations.

b. Compliance with trade association standards.

c. Compliance with recognized testing agency standards.

d. Application of testing agency labels and seals.

e. Notation of dimensions verified by field measurement.

f. Notation of coordination requirements.

g. Notation of dimensions and required clearances.

h. Indicate performance characteristics and capacities.

i. Indicate wiring diagrams and controls.

2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed by CONTRACTOR.

C. Required Copies and Distribution: Same as denoted in Article 3.02.E.

3.04 SAMPLES

A. Procedure:

1. Submit Samples of sufficient size, quantity, cured and finished and physically identical to the proposed product or material. Samples include partial or full sections or range of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches denoting color, texture, and/or pattern.

a. Mount or display Samples in the manner to facilitate review of qualities indicated. Include the following:

1) Specification section number and reference.

2) Generic description of the Sample.

3) Sampling source.

4) Product name or name of manufacturer.

5) Compliance with recognized standards.

6) Availability and delivery time.

2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.

a. Where variations in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least three (3) multiple units that show the approximate limits of the variations.

b. Refer to other Specification sections for requirements for Samples that illustrate materials, fabrication techniques, assembly details, connections, operation, and similar construction characteristics.

c. Refer to other sections for Samples to be returned to CONTRACTOR for incorporation into the Work. Such Samples must be undamaged at time of installation. On the transmittal indicate special requests regarding disposition of Sample submittals.

d. Samples not incorporated into the Work, or otherwise not designated as Owner property, remain the property of CONTRACTOR and shall be removed from the Project site prior to Substantial Completion.

3. Color and Pattern: Whenever a choice of color or pattern is available in a specified product, submit accurate color chips and pattern charts to OAR for review and selection.

4. Number Required: Submit six, minimum, of each. Two will be returned to CONTRACTOR.

B. When specified, erect field Samples and mock-ups at the Project site to illustrate products, materials, fabrications, or execution and to establish standards by which completed Work shall be judged.

C. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of the Work. Sample sets may be used to obtain final acceptance of the Work associated with each set.

3.05 QUALITY CONTROL SUBMITTALS

A. Submit quality control submittals, including design data, certifications, manufacturer's field reports, and other quality control submittals as required under other sections of the Contract Documents.

B. When other sections of the Contract Documents require manufacturer's certification of a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.

C. Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the represented company.

D. Requirements for submittal of inspection and test reports are specified in other sections of the Contract Documents.

END OF SECTION

SECTION 01 4523

TESTING AND INSPECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Testing and inspection services to meet requirements of the California Building Code (CBC) and the Division of the State Architect (DSA).

B. Related Requirements:

1. Section 03 2000 – Concrete Reinforcing.
2. Section 03 3000 – Cast-in-Place Concrete.
3. Section 05 1200 – Structural Steel Framing.
4. Section 06 1000 – Rough Carpentry.
5. Section 31 2319 – Excavation Fill for Structures.

1.02 REFERENCES

A. American Concrete Institute (ACI):

1. ACI 318 – Building Code Requirements for Structural Concrete and Commentary.

B. American Institute of Steel Construction (AISC):

1. AISC 360 – Specification for Structural Steel Buildings.
2. AISC 341 – Seismic Provisions for Structural Steel Buildings.

C. ASTM International (ASTM):

1. ASTM A108 – Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished.
2. ASTM A370 – Standard Test Methods and Definitions for Mechanical Testing of Steel Products.
3. ASTM A706 – Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.

4. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.

5. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.

6. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.

7. ASTM C1140 - Standard Practice for Preparing and Testing Specimens from Shotcrete Test Panels.

8. ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms.

9. ASTM C1604 - Standard Test Method for Obtaining and Testing Drilled Cores of Shotcrete.

10. ASTM E164 - Standard Practice for Contact Ultrasonic Testing of Weldments.

11. ASTM E488 - Standard Test Methods for Strength of Anchors in Concrete Elements.

12. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing.

13. ASTM E605 - Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members.

14. ASTM E1444 - Standard Practice for Magnetic Particle Testing.

15. ASTM F606 - Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets.

D. Association of the Wall and Ceiling Industry (AWCI):

1. AWCI Technical Manual 12-B - Standard Practice for the Testing and Inspection of Field Applied Thin Film Intumescent Fire-Resistive Materials; an Annotated Guide.

E. American Welding Society (AWS):

1. AWS D1.1 – Structural Welding Code.

2. AWS D1.4 – Structural Welding Code – Reinforcing Steel.

3. AWS D1.8 – Structural Welding Code – Seismic Supplement.

F. Division of the State Architect (DSA) Interpretation Regulations (IR):

1. DSA IR 17-2 – Nondestructive Testing (N.D.T.) of Welds.

2. DSA IR 17-3 – Structural Welding Inspection.

3. DSA IR 17-8 – Sampling and Testing of High Strength Bolts, Nuts and Washers.

4. DSA IR 17-9 – High Strength Bolting Inspection.

5. DSA IR 17-10 – Sampling, Testing and Tagging of Reinforcing Bars.

6. DSA IR 17-11 – Identification, Sampling and Testing of Threaded Steel Anchor Bolts and Anchor Rods.

7. DSA IR 22-3 – Open Web Steel Joists and Joist Girders.

8. DSA IR 23-4 – Metal-Plate-Connected Wood Trusses.

9. DSA IR-23-8 – Manufactured Wood-Chord-Metal-Web Trusses.

1.03 REGULATORY REQUIREMENTS

A. Laboratories performing testing shall have DSA's Laboratory Evaluation and Acceptance Program approval prior to providing material testing or special inspection services.

B. Tests of materials and inspections shall be in accordance to Section 4-213 through 4-219 of the California Building Standards Commission's, California Administrative Code.

C. Required material testing, inspections and special inspections are indicated on the DSA approved DSA-103, Listing of Structural Tests & Special Inspections (T&I List). OAR will provide CONTRACTOR copy of DSA-103.

1.04 TESTS

A. OWNER will contract with a DSA approved testing laboratory to perform the testing indicated on the Contract Documents, including the Tests and Special Inspections (T&I) list.

B. Selection of material to be tested shall be by the Testing Laboratory and not by CONTRACTOR.

C. Any material shipped from the source of supply prior to having satisfactorily passed such testing and inspection, or prior to the receipt of notice from Project Inspector such testing and inspection is not required, shall not be incorporated into the Work.

D. OWNER will select, and directly reimburse, the Testing Laboratory for costs of all DSA required tests and inspections; however, the Testing Laboratory may be reimbursed by CONTRACTOR for such costs as specified or noted in related sections of the Contract Documents.

E. The Testing Laboratory is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.

F. The Testing Laboratory shall not perform any duties of CONTRACTOR.

G. CONTRACTOR shall provide an insulated curing box with the capacity for twenty concrete cylinders and will relocate said box and cylinders as rapidly as required in order to provide for progress of the Work.

1.05 TEST REPORTS

A. Test reports shall include all tests performed, regardless of whether such tests indicate the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations, when and as required, shall also be reported. Reports shall indicate the material (or materials) was sampled and tested in accordance with requirements of CBC, Title 24, Parts 1 and 2, as indicated on the Contract Documents. Test reports shall indicate specified design strength and specifically state whether or not the material (or materials) tested comply with the specified requirements.

1.06 VERIFICATION OF TEST REPORTS

A. Each Testing Laboratory shall submit to the Division of the State Architect, in duplicate, a verified report covering all tests required to be performed by that agency during the progress of the Work. Such report, covering all required tests, shall be furnished prior to Substantial Completion and/or, when construction on the Work is suspended, covering all tests up to the time of Work suspension.

1.07 INSPECTION BY OWNER

A. OWNER, and its representatives, shall have access, for purposes of inspection, at all times to all parts of the Work and to all shops wherein the Work is in preparation. CONTRACTOR shall, at all times, maintain proper facilities and provide safe access for such inspection.

B. OAR shall have the right to reject materials and/or workmanship deemed defective Work and to require correction. Defective workmanship shall be corrected in a satisfactory manner and defective materials shall be removed from the premises and legally disposed of without charge to OWNER. If CONTRACTOR does not correct such defective Work within a reasonable time, fixed by written notice and in accordance with the terms and conditions of the Contract Documents, OWNER may correct such defective Work and proceed in accordance with related Articles of the Contract Documents.

C. CONTRACTOR is responsible for compliance to all applicable local, state, and federal regulations regarding codes, regulations, ordinances, restrictions, and requirements.

1.08 PROJECT INSPECTOR

A. A Project Inspector will be employed by OWNER in accordance with requirements of Title 24 of the California Code of Regulations with their duties specifically defined therein. Additional DSA Special Inspectors may be employed and assigned to the Work by OWNER in accordance with the requirements of the CBC and DSA.

B. Inspection of Work shall not relieve CONTRACTOR from any obligation to fulfill all terms and conditions of the Contract Documents.

C. CONTRACTOR shall be responsible for scheduling times of inspection, tests, sample taking, and similar activities of the Work.

1.09 STRUCTURAL TESTS AND SPECIAL INSPECTIONS

A. Soils:

1. General: Periodic inspection by Geotechnical Engineer for verification of the following construction activities in conformance to CBC Table 1705A.6:

a. Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.

b. Foundation excavations are extended to proper depth and have reached proper material.

c. Materials below footings are adequate to achieve the design bearing capacity.

2. Compacted Fills: Testing and inspections shall be in conformance to Table 1705A.6:

a. Geotechnical Engineer will continuously verify the use of proper materials and inspect lift thicknesses, placement, and compaction during placement of fill.

b. Testing Laboratory under the supervision of the Geotechnical Engineer will:

1) Perform qualification testing of fill materials.

2) Test the compaction of fill.

3. Cast-in-place Deep Foundations (Piers): Continuous inspections by Geotechnical Engineer in conformance to Table 1705A.8:

a. Inspect drilling operations and maintain complete and accurate records for each pier.

b. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, and embedment into bedrock (if applicable). Record concrete or grout volumes.

c. Confirm adequate end strata bearing capacity.

d. Concrete Piers: Tests and inspections will be as indicated on paragraphs below for concrete.

4. Retaining Walls:

a. Continuous inspections by Geotechnical Engineer:

1) Placement, compaction and inspection of soil per CBC Section 1705A.6.1 for fills supporting foundations.

2) Segmental retaining walls; inspect placement of units, dowels, connectors, etc.

b. Concrete Retaining Walls: Provide tests and inspections as indicated on paragraphs below for concrete.

c. Masonry Retaining Walls: Provide tests and inspections as indicated on paragraphs below for masonry.

B. Concrete:

1. Cast in Place Concrete: Inspection and testing in conformance to CBC Table 1705A.3:

a. Inspection of reinforcement, including prestressing tendons and verification of placement, per ACI 318, sections 25.2, 25.2, 25.5.1 through 26.5.3.

b. Reinforcing bar welding: Inspect per AWS D1.4, ACI 318 26.5.4.

1) Verification of weldability of reinforcing bars other than ASTM A706.

2) Inspect single-pass fillet welds, maximum 5/16".

3) Inspect all other welds.

c. Inspect anchors cast in concrete per ACI 318, section 17.8.2.

d. Inspect anchors post-installed in hardened concrete members:

1) Continuous inspection of adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads, per ACI 318, section 17.8.2.4.

2) Mechanical anchors and adhesive anchors, not defined in previous paragraph, per ACI 318, section 17.8.2.

e. Design Mix:

1) Verify use of required mix, per ACI 318, chapter 19 and sections 26.4.3 and 26.4.4.

2) Batch Plant Inspection: The quality and quantity of materials used in transit-mixed concrete and in batched aggregates shall be continuously inspected as required by CBC section 1705A.3.2. If approved by DSA, batch plant inspection may be reduced to periodic if plant complies with CBC section 1705A3.3.1, item 1, and requires first batch inspection, weightmaster, and batch tickets.

f. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete, per ASTM C172, ASTM C31, ACI 318, sections 26.4.5 and 26.12.

g. Inspect concrete and shotcrete placement for proper application techniques, per ACI 318, section 26.4.5.

h. Verify maintenance of specified curing temperature and techniques per ACI 318 sections 26.4.7 through 26.4.9 and CBC section 1908.9.

i. Inspect prestressed concrete for:

1) Application of prestressing forces, per ACI 318 section 26.9.2.1

2) Grouting of bonded prestressing tendons per ACI 318 section 26.9.2.3.

j. Inspection of erection of precast concrete members per ACI 318 chapter 26.8.

k. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs per ACI 318 section 26.10.1.b.

l. Sampling and testing of reinforcing steel per ASTM A370, DSA IR 17-10 and CBC section 1910A.2. CONTRACTOR shall submit mill certificate indicating compliance with requirements for reinforcement, anchors, ties, and metal accessories.

2. Post-installed Anchors:

a. Special Inspector will inspect installation of post-installed anchors in hardened concrete members as required by CBC table 1705A.3, item 4.

1) Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads, per ACI 318, section 17.8.2.4.

2) Mechanical anchors and adhesive anchors not defined above, per ACI 318, section 17.8.2.

b. Testing Laboratory will test post-installed anchors in conformance to CBC section 1905A and ASTM E488.

C. Structural Masonry:

1. Post-installed Anchors in Masonry:

a. Special inspector will inspect anchors cast in concrete per ACI 318, section 17.8.2.

b. Special inspector will inspect anchors post-installed in hardened concrete members:

1) Continuous inspection of adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads, per ACI 318, section 17.8.2.4.

2) Mechanical anchors and adhesive anchors, not defined in previous paragraph, per ACI 318, section 17.8.2.

c. Testing Laboratory will test post-installed anchors in conformance to CBC section 1905A and ASTM E488.

D. Structural Steel:

1. Special inspector will verify that all materials are properly marked in conformance with AISC 360, Section 3.3 and applicable ASTM standards.

a. Mill certificates indicating material properties that comply with requirements.

b. Materials, sizes, types and grades complying with requirements.

2. Testing Laboratory will test unidentified materials in conformance with ASTM A370.

3. Special inspector will examine seam welds of HSS shapes in conformance with DSA IR-17-3.

4. Special inspections and non-destructive testing of structural steel elements shall be in conformance to CBC section 1705A.2.1.

E. High Strength Bolts:

1. Special inspector will verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the Contract Documents, per DSA IR 17-9.

2. Testing Laboratory will test high-strength bolts, nuts and washers in conformance with ASTM F606, ASTM A370 and DSA IR 17-8.

3. Special inspector will inspect bearing-type ("snug tight") bolt connections in conformance with AISC 360, section M2.5 and DSA IR 17-9.

4. Special inspector will inspect slip-critical bolt connections in conformance with AISC 360, section M2.5.

F. Welding:

1. Verification of Materials, Equipment and Welders:

a. Special inspector will verify weld filler material identification markings per AWS designation listed on the Contract Documents and the WPS.

b. Special inspector will verify material manufacturer's certificate of compliance.

c. Special inspector will verify WPS, welder qualifications and equipment in conformance to DSA IR 17-3.

2. Shop Welding: Special inspector will inspect the following, per CBC 1705A.2.1, AISC 360 (and AISC 341, as applicable) and DSA IR 17-3:

a. Groove, multi-pass fillet welds larger than 5/16", plug and slot welds.

b. Single-pass fillet welds equal or less than 5/16".

c. Inspect welding of stairs and railing systems.

d. Verification of reinforcing steel weldability.

e. Welding of reinforcing steel, per AWS D1.4.

3. Field Welding: Special inspector will inspect the following, per CBC 1705A.2.1, AISC 360 (and AISC 341, as applicable) and DSA IR 17-3:

a. Groove, multi-pass fillet welds larger than 5/16", plug and slot welds.

b. Single-pass fillet welds equal or less than 5/16".

c. End welded studs (ASTM A108) installation, including bend test.

d. Floor and roof deck welds.

e. Welding of structural cold-formed steel.

f. Welding of stairs and railing systems.

g. Verification of reinforcing steel weldability.

h. Inspect welding of reinforcing steel.

4. Non-Destructive Testing: Testing Laboratory will test perform ultrasonic and magnetic particle testing in conformance to AISC 360 section N5.5, AISC 341 appendix Q5.2, AWS D1.1, AWS D1.8, ASTM E543, ASTM E1444, ASTM E164 and DSA IR 17-2.

G. Fire-Proofing:

1. Spray Applied:

a. Project inspector will examine structural steel surface conditions, inspect application, take samples, measure thickness, and verify compliance of all aspects of application with Construction Documents, in conformance with CBC sections and ASTM E.605.

b. Testing Laboratory will test bond strength in conformance with ASTM E605, per CBC section 1705A.14.6.

c. Testing Laboratory will test density in accordance with ASTM E605, per CBC section 1705A.14.5.

2. Intumescent Fire-Resistant Coatings: Special inspector will inspect and test in accordance with AWCI 12-B, per CBC section 1705A.15.

H. Anchor Bolts, Anchor Rods and Other Steel:

1. Testing Laboratory will sample and test not readily identifiable anchor bolts and anchor rods in accordance with DSA IR 17-11.

2. Testing Laboratory will sample and test not readily identifiable threaded rod not used for foundation anchorage per procedures noted in DSA IR 17-11.

PART 2 – PRODUCTS (Not used).

PART 3 – EXECUTION (Not used).

END OF SECTION

SECTION 01 5000

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities, construction facilities and controls to be provided and maintained during the Work.

1.02 RELATED SECTIONS

A. Section 01 1100: Summary of the Work

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 QUALITY ASSURANCE

A. CONTRACTOR shall comply with industry standards and with applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:

1. Building Code requirements
2. Division of State Architect
3. Health and safety regulations
4. Utility company regulations
5. Police, fire department and rescue squad requirements
6. Environmental protection regulations

B. CONTRACTOR shall arrange for the inspection and testing of each temporary utility prior to use. Obtain required certifications and permits and transmit to OWNER.

3.02 TEMPORARY UTILITIES

A. CONTRACTOR shall submit to OWNER reports of tests, inspections, meter readings and similar procedures performed on temporary utilities.

B. CONTRACTOR shall coordinate with the appropriate utility company to install temporary services. Where the utility company provides only partial service, CONTRACTOR shall provide and install the remainder with matching compatible materials and equipment.

C. Temporary Water:

1. CONTRACTOR shall furnish, install and pay for all necessary permits, inspections, move ins/out, temporary water lines, connections & fees, extensions and distribution, metering devices and use charges, deliveries/pickups, rentals, storage, transportation, taxes, labor, insurance, bonds, material, equipment and all other miscellaneous items for the temporary water system, and upon Substantial Completion of the Work, removal of all such temporary water system devices and appurtenances.

2. CONTRACTOR shall provide and maintain temporary water service, including water distribution piping and outlet devices of the size and required flow rates in order to provide service to all areas of the Project site.

3. CONTRACTOR shall provide and pay for all potable water needed for construction and all other uses associated with the Work.

4. CONTRACTOR shall at their expense and without limitation, remove, extend and/or relocate temporary water systems as rapidly as required in order to provide for progress of the Work.

D. Temporary Electric:

1. CONTRACTOR shall furnish, install, maintain and pay for all necessary permits, inspections, temporary wiring, metering devices and use charges, move ins/outs, connections & fees, service, extension and distribution, deliveries/pickups, rentals, storage, transportation, taxes, labor, insurance, bonds, materials, equipment and all other required miscellaneous items for the temporary electric systems and upon Substantial Completion of Work, removal of all such temporary electric systems and appurtenances.

2. CONTRACTOR shall furnish, install, maintain, extend and distribute temporary electric area distribution boxes, so located that individual trades can obtain adequate power and artificial lighting, at all points required for the Work, for inspection and for safety.

3. CONTRACTOR shall provide temporary electric for construction, temporary facilities, and connections for construction equipment requiring

power or lighting, at all points required for the Work, for inspection and safety.

4. CONTRACTOR shall provide 20 foot candles minimum lighting levels inside building(s) and 5 foot candles outside for safety and security.

5. CONTRACTOR shall ensure welding equipment is supplied by electrical generators.

6. CONTRACTOR shall at their expense and without limitation remove, extend and/or relocate temporary electric systems as rapidly as required in order to provide for progress of the Work.

G. Temporary Telephone:

1. CONTRACTOR shall furnish, install, maintain and pay for all necessary permits, inspections, move ins/outs, extensions and distribution, devices, connections and fees, use charges, rentals, deliveries/pickups, storage, transportation, taxes, labor, insurance, bonds, material, equipment and all other required miscellaneous items for temporary phone service and distribution to the on-site temporary office as described in this Section and Section 01500, 1.04, B.
2. CONTRACTOR shall arrange for the supply, installation and maintenance of one (1) on site exterior pay phone booth and/or equivalent facility.

3. CONTRACTOR shall furnish, install and maintain a minimum of five (5) temporary phone/data lines, and one (1) dedicated fax line for use by OWNER, ARCHITECT and IOR.

4. CONTRACTOR shall at their expense and without limitation, remove, extend and/or relocate temporary phone service and distribution as rapidly as required in order to provide for progress of the Work.

5. Upon Substantial Completion of the Work, CONTRACTOR shall remove all such temporary phone service, distribution, devices and appurtenances.

3.03 CONTRACTOR FACILITIES

A. CONTRACTOR shall provide temporary storage units, fencing, barricades, chutes, elevators, hoists, scaffolds, railings and other facilities or services as required. CONTRACTOR shall be responsible for providing, installation, maintenance, supplying and all use charges for the items provided under Section 01 5000.

B. Temporary Offices:

1. CONTRACTOR shall provide and maintain a minimum of one (1) construction trailer on the Project site for duration of the Work. Trailer shall be of sufficient size to house a conference room with a table and adequate seating for twelve (12) in addition to two (2) separate offices: one for CONTRACTOR personnel and operations, and one for OWNER. Construction trailer shall be accessible by OWNER and/or IOR on a 7 day a week 24-hour basis.

2. Trailer shall have two (2) exterior entrance doors with one located in the OWNER office. Each door shall be equipped with both a dead bolt and cylinder lock with 6 keys. Exterior doors and windows shall be provided with exterior mounted burglar bars. Security of trailer and contents is a continuous obligation of CONTRACTOR.

3. Trailer shall have ample headroom; it shall be properly lighted, heated and ventilated. CONTRACTOR shall provide an electric drinking fountain or potable bottled water. CONTRACTOR shall provide a copy machine useable by IOR, OWNER and ARCHITECT. Copy machine features shall include auto-feed, collation and be capable of copying 11”x17” size paper stock. CONTRACTOR shall provide a fax machine useable by IOR, OWNER and ARCHITECT. Fax machine features shall include plain paper, auto-redial, broadcast and be capable of faxing 11”x14” size paper stock. CONTRACTOR shall be responsible for providing; installing, maintaining, supplying and all use charges for all the provided items.

4. OWNER office shall be approximately 180 sq. ft. in size and shall be equipped with a minimum of four (4) 120 volt single phase convenience outlets, a 3'-0" deep by 6’-0’ wide counter, and four (4) 1’-0” deep by 6'-0" wide shelves. Provide coat hooks, three (3) desks, three (3) chairs and three (3) four (4) drawer legal size file cabinet. Provide, install and maintain five (5) telephone/data outlets and one (1) dedicated fax outlet device. Provide three (3) telephone devices. Provide and install two wall-mounted 42“ wide plan racks with 36 individual plan holders.

5. CONTRACTOR shall provide data processing and transmission equipment for use by OWNER as specified below: None

6. CONTRACTOR shall be responsible for maintaining all described equipment and if equipment becomes inoperable and downtime exceeds two (2) days, CONTRACTOR shall replace and/or provide equivalent interim equipment.

7. Trailer, furniture and related ancillary devices shall remain property of CONTRACTOR. CONTRACTOR shall remove such property upon Final Completion of Work or as otherwise determined by OWNER in writing.

8. At CONTRACTOR expense and without limitation remove and/or relocate temporary office(s) and related facilities as rapidly as required in order to provide for progress of the Work.

C. Temporary Storage Units:

1. CONTRACTOR shall provide secure and waterproof storage units for the temporary storage of furniture, equipment and other items requiring protection.

2. Walls, roof and doors shall be a minimum of 16-gage steel with floors of 1" tongue and groove hardwood or 3/4" minimum exterior type plywood. The undercarriage shall be designed to accommodate forklift blades 42" to 60" long. There shall be doublewide swing out lockable doors at one end equipped with waterproof gaskets.

3. CONTRACTOR shall be responsible for all delivery charges and will place the storage unit in an appropriate area.

4. CONTRACTOR shall remove storage unit from the Project site when the storage unit is no longer required for the Work or upon Substantial Completion of the Work.

5. CONTRACTOR shall at their expense and without limitation remove and/ or relocate storage units as rapidly as required in order to provide for progress of the Work.

D. Temporary Sanitary Facilities:

1. CONTRACTOR shall provide portable chemical toilet facilities. Quantity of portable chemical toilet facilities shall be based on total number of workers and shall be in accordance with CAL/OSHA standards.
2. Portable chemical toilet facilities shall be kept supplied with adequate supplies and shall be maintained in a clean and sanitary condition and shall be removed from the Project site upon Substantial Completion of the Work.

3. CONTRACTOR employees shall not use school toilet facilities.

4. At CONTRACTOR expense and without limitation remove and/or relocate portable chemical toilet facilities as rapidly as required in order to provide for progress of the Work.

5. CONTRACTOR will contain their breaks and lunch periods to the areas designated by OWNER or any public area outside the Project site. CONTRACTOR shall provide a suitable container within the break/lunch area for the placement of trash. Areas used for break/lunch must be kept clean and orderly. Once finish flooring has been installed in a particular area, no food or beverages will be permitted in that area.

E. Temporary Security Fence/Barricade:

1. CONTRACTOR shall erect temporary site security barricade(s) indicated on Drawings or as required for safety and as specified herein. New or used material may be used. Security of Project site and contents is a continuous obligation of CONTRACTOR.

2. Unless otherwise indicated or specified, fence shall be constructed of 8'-0" high chain link fencing with a 8'-0" high windscreen. Space posts not to exceed 10'-0" on centers. Posts shall be of following nominal pipe dimensions: terminal, corner, and gatepost 2-1/2", line posts 2". Chain link fence shall be not less than #13 gage, 2" mesh, and in one width. Posts, fence and accessories shall be galvanized and as follows:

   a. Shall be set in the earth a depth of 30" with soil firmly compacted around post, unless directed otherwise in writing by OWNER.

   b. Fence fabric shall be attached to posts with #14 gage tie wire at 16" on centers. A #6 gage steel tension wire with turnbuckles shall be installed at top and bottom of barricade fencing. Wire tie fabric to tension wires at 18" centers.

   c. Windscreen shall be attached to fence fabric and steel tension wires at 18" centers with a minimum of #14 gage tie wire. Windscreen shall be maintained and all rips, tears, missing sections shall be corrected upon notification by OWNER.

   d. Chain link fencing shall be free from barbs, icicles or other projections resulting from galvanizing process. Fence having such defects will be rejected even though it has been installed.

   e. Gates shall be fabricated of steel pipe with welded corners, and bracing as required. Fence and fabric to be attached to frame at 12" centers. Provide all gate hardware of a strength and quality to perform satisfactorily until barricade is removed upon Substantial Completion of the Work. Each gate shall have a chain and padlock. Provide two (2) gate keys to OWNER. At Substantial Completion

of the Work, remove barricade from Project site, backfill and compact fence footing holes. Existing surface paving that is cut into or removed shall be patched and sealed to match surrounding areas.

f. At CONTRACTOR expense and without limitation remove and/or relocate fencing, fabric and barricades or other security and protection facilities as rapidly as required in order to provide for progress of the Work.

F. Other Temporary Enclosures & Barricades:

1. Provide lockable, temporary weather-tight enclosures at openings in exterior walls to create acceptable working conditions, to allow for temporary heating and for security.

2. Provide protective barriers around trees, plants and other improvements designated to remain.

3. Temporary partitions shall be installed at all openings where additions connect to existing buildings, and where to protect areas, spaces, property, personnel, students and faculty and to separate and control dust, debris, noise, access, sight, fire areas, safety and security. Temporary partitions shall be as designated on the drawings or as specified by ARCHITECT. At CONTRACTOR expense and without limitation remove and/or relocate enclosures, barriers and temporary partitions as rapidly as required in order to provide for progress of the Work.

4. Since the Work of this Project may be immediately adjacent to existing occupied structures and vehicular and pedestrian right of ways, CONTRACTOR shall in his sole judgment and in accordance with applicable safety standards, provide all temporary facilities, additional barricades, protection and care to protect existing structures, occupants, property, pedestrians and vehicular traffic. CONTRACTOR is responsible for any damage, which may occur to the property and occupants of the property of OWNER or adjacent private or public properties which in any way results from the acts or neglect of CONTRACTOR.

G. Temporary Storage Yards:

1. CONTRACTOR shall fence and maintain storage yards in an orderly manner.

2. Provide storage units for materials that cannot be stored outside.

3. At CONTRACTOR expense and without limitation remove and/or relocate storage yards and units as rapidly as required in order to provide for progress of the Work.

H. Temporary De-watering Facilities & Drainage:

1. For temporary drainage and de-watering facilities and operations not directly associated with construction activities included under individual sections, comply with de-watering requirements of applicable Division 01 sections. CONTRACTOR shall maintain the Work, Project site and related areas free of water.

2. For temporary drainage and de-watering facilities and operations directly associated with new buildings, additions or other construction activities, comply with Division 01 & 02 Sections. CONTRACTOR shall be responsible for, but not limited to, de-watering of excavations, trenches & below grade areas of buildings, structures, the Project site and related areas.

I. Temporary Protection Facilities Installation:

1. CONTRACTOR shall not change over from using temporary facilities and controls to permanent facilities until Substantial Completion, except as permitted by OWNER.

2. Until permanent fire protection needs are supplied and approved by authorities having jurisdiction, CONTRACTOR shall provide, install and maintain temporary fire protection facilities of the types needed in order to adequately protect against fire loss. CONTRACTOR shall adequately supervise welding operations, combustion type temporary heating and similar sources of fire ignition.

3. CONTRACTOR shall provide, install and maintain substantial temporary enclosures of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security. Where materials, tools and equipment are stored within the Work area, CONTRACTOR shall provide secure lock up to protect against vandalism, theft and similar violations of security. OWNER accepts no financial responsibility for loss, damage, vandalism or theft.

4. CONTRACTOR operations shall not block, hinder, impede or otherwise inhibit the use of required exits during an emergency. CONTACTOR shall maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for firefighting equipment and/or personnel.

5. With approval of OWNER and at the earliest feasible date in each area of the Work, complete installation of the permanent fire protection facilities including connected services and place into operation and use. Instruct OWNER personnel in use of permanent fire protection facilities.
6. In the event of an emergency drill or an actual emergency, designated by the sounding of the fire alarm and/or other sounding device, all construction activities must cease. CONTRACTOR shall evacuate the Work area and remain outside the Work area until permitted to return. No Work shall be conducted during the evacuation of a building or during an emergency.

J. Temporary Security and Safety Measures:

1. During performance of the Work in existing facilities CONTRACTOR shall provide, install and maintain substantial temporary barriers and/or partitions separating all Work areas from areas occupied by students, faculty and/or administrative staff.

2. During performance of the Work in existing facilities and/or on a Project site occupied by students and where temporary barriers and/or partitions are not physically feasible, CONTRACTOR shall provide an employee meeting the requirements of Education Code Section 45125.2.(2) to continually supervise and monitor all employees of the CONTRACTOR and Subcontractor. For the purposes of this Section, the CONTRACTOR's employee shall be someone whom the Department of Justice has ascertained has not been convicted of a violent or serious felony as listed in Penal Code Section 667.5(c) and/or Penal Code Section 1192.7(c). To comply with this Section, the CONTRACTOR shall have his employee submit his or her fingerprints to the Department of Justice pursuant to Education Code Section 45125.1(a).

3. Penal Code Sections 290 and 290.4 commonly known as "Megan's Law", require, among other things, individuals convicted of sexually oriented crimes, to register with the chief of police where the convicted individual resides or with a county sheriff or other law enforcement officials. The CONTRACTOR shall check it's own employees and require each Subcontractor to check it's employees and report to the CONTRACTOR if any such employees are registered sex offenders. The CONTRACTOR shall check monthly during the life of the Contract to ascertain this information and report same to OWNER. Before starting the Work, and monthly thereafter during the life of Contract, CONTRACTOR shall notify the OWNER in writing if any of it's employees and/or if any Subcontractor's employees is a registered sex offender. If so, CONTRACTOR shall proceed in accordance with Section 3.03 J.2 above.

K. Temporary Access Roads and Staging Areas:

4. Due to the limited amount of on and off Project site space for the parking of staff and school visitor's vehicles there will be no parking of CONTRACTOR vehicles in areas designated for school use only. CONTRACTOR shall provide legal access to and maintain CONTRACTOR designated areas for the legal parking, loading, off-loading & delivery of all vehicles associated with the Work. CONTRACTOR shall be solely responsible for providing and maintaining these requirements whether on or off the Project site.

5. Temporary access roads are to be installed and maintained by CONTRACTOR to all areas of the Project site.

6. CONTRACTOR will be permitted to utilize existing facility campus roads as designated by OWNER. CONTRACTOR shall only utilize those entrances and exits as designated by OWNER and CONTRACTOR shall observe all traffic regulations of OWNER.

7. CONTRACTOR shall maintain roads and walkways in a clean condition including removal of debris and/or other deleterious material on a daily basis.

3.04 TRENCHES

A. Open trenches for installation of utility lines (water, gas, electrical and similar utilities) and open pits outside barricaded working areas shall be barricaded at all times in a legal manner determined by CONTRACTOR. Trenches shall be backfilled and patch-paved within seventy-two (72) hours after approval of installation by authorities having jurisdiction or shall have "trench plates" installed. CONTRACTOR shall comply with all applicable statutes, codes & regulations regarding trenching and trenching operations. Open trenches deeper than 3'-6", and not located within a public street access, shall be enclosed within an 8'-0" high chain-link fence.

3.05 DUST CONTROL

A. CONTRACTOR is responsible for dust control on and off the Project site. When Work operations produce dust the Project site and/or streets shall be sprinkled with water to minimize the generation of dust. CONTRACTOR shall clean all soils and debris from construction vehicles and cover both earth and debris loads prior to leaving the Project site. CONTRACTOR shall, on a daily basis, clean all streets and/or public improvements within the right of way of any and all debris, dirt, mud and/or other materials attributable to operations of CONTRACTOR.

3.06 WASH OUT

A. CONTRACTOR shall provide and maintain a minimum of four (4) wash out boxes of sufficient size and strength to provide for concrete mixer wash out. CONTRACTOR shall locate and relocate both the wash out boxes and wash out area in order to accommodate the progression of the Work. The wash out area shall be located as to minimize the amount of potential run off onto adjacent private and/or public property. CONTRACTOR shall legally dispose of the contents of the wash out boxes and area on an as needed basis or as directed by OWNER.

3.07 WASTE DISPOSAL

A. CONTRACTOR shall provide and maintain trash bins on the Project site. Trash bins shall be serviced on an as needed basis and CONTRACTOR is responsible for transportation of and the legal disposal of all contents.

3.08 ADVERSE WEATHER CONDITIONS

A. Should warnings of adverse weather conditions such as heavy rain and/or high winds be noted, CONTRACTOR shall take every practical precaution to prevent damage to the Work, Project site and adjacent property. CONTRACTOR precautions shall include, but not be limited to, enclosing all openings, removing and/or securing loose materials, tools, equipment and scaffolding.

B. CONTRACTOR shall provide and maintain drainage away from buildings and structures.

C. CONTRACTOR shall implement all required storm water mitigation measures as required under related Division 01 Sections.

3.09 DAILY REPORTS

A. CONTRACTOR shall provide and maintain in the Project site office of CONTRACTOR, a daily sign in sheet for use by all employees of CONTRACTOR and all Subcontractors at whatever tier. At the beginning of each work day, the foreman, project manager, superintendent and/or lead person of CONTRACTOR and/or Subcontractors shall visit the site office of the CONTRACTOR and shall enter onto the daily sign in sheet: all employee names; trade classification; and represented company. The completed sign in sheet shall serve as the basis of and shall be submitted with the daily construction report as set forth in Section 3.10 B.

B. By the end of each workday, CONTRACTOR shall submit to OWNER and IOR a daily construction report denoting the daily manpower counts and a brief description/location of the workday activities. Manpower shall be broken down by trade classification such as foreman, journeyman or apprentice. The report shall

also note the date, day of the week, weather conditions, deliveries, equipment on the Project site whether active and/or idle, visitors, inspections, accidents and unusual events, meetings, stoppages, losses, delays, shortages, strikes, orders and requests of governing agencies, Construction Directive and/or Change Orders received and implemented, services disconnected and/or connected, equipment start up or tests and partial use and/or occupancies. CONTRACTOR shall also include on the daily construction report the above information for all Subcontractors.

END OF SECTION

SECTION 01 6400

SUBSTITUTIONS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section includes administrative and procedural requirements for handling requests for substitutions made after the Effective Date of the Contract. Refer to Bid Documents for restrictions on Substitutions prior to bid.

1.02 RELATED SECTIONS

A. Section 01 3300: Submittal Procedures

B. Section 01 6000: Materials and Equipment

C. Section 01 7400: Warranties

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 APPLICATION

A. CONTRACTOR proposed changes in products required by the Contract Documents after the Effective Date of the Contract are considered to be requests for substitutions. OWNER will consider requests for substitution if a product is no longer manufactured and/or cannot be acquired from existing inventories. The following are not considered to be requests for substitutions:

1. Substitutions requested during the bidding period, and accepted by Addenda prior to bid date, are included in the Contract Documents.

2. Revisions to the Contract Documents requested by OWNER or ARCHITECT.

3. Specified options of products included in the Contract Documents.

4. Substitutions requested after bid opening and prior to the Effective Date of the Contract.

3.02 SUBMITTALS

A. Transmit submittals as described in related Sections for each request for substitution.

1. Identify the product to be replaced in each request. Include related Specification Section and Drawing number.

2. Provide complete documentation denoting compliance with the requirements for substitutions, and the following information, as appropriate.

a. A detailed comparison of significant qualities of the proposed substitution with those specified in the Contract Documents. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.

b. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.

c. Samples, where applicable or requested.

d. CONTRACTOR certification the proposed substitution conforms to requirements of the Contract Documents in every respect and is appropriate for the applications indicated.

e. CONTRACTOR waiver of rights to an increase in the Contract Amount, Milestones and/or Contract Time that may subsequently become necessary because of the failure of the substitution to adequately perform.

3. If required, ARCHITECT will request additional information or documentation for evaluation. OWNER will notify CONTRACTOR of acceptance or rejection of the substitution.

4. ARCHITECT will review and consider request for substitution and make a recommendation to OWNER.

5. Where a proposed substitution involves and/or effects more than one Subcontractor, CONTRACTOR shall ensure each Subcontractor cooperates

with the other Subcontractor involved to coordinate the Work, provide uniformity and consistency, and assure compatibility of all products.

6. CONTRACTOR submittal and ARCHITECT review of Shop Drawings, Product Data, or Samples do not constitute an acceptable or valid request for substitution.

END OF SECTION

SECTION 01 7418

WATER POLLUTION CONTROL

FOR PROJECTS WITH LAND DISTURBANCE OF LESS THAN ONE ACRE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Control runoff and pollutants from the site during construction activities.
2. Preparation, implementation, and maintenance of construction BMPs.

B. Related Requirements:

1. Division 01 – General Requirements.

1.02 ACRONYMS AND DEFINITIONS

BMP	Best Management Practice.
CAN	Corrective Action Notice.
CASQA	California Stormwater Quality Association.
CGP	NPDES General Permit for Storm Water Discharges Associated with Construction Activities.
DWQ	Division of Water Quality.
LARWQCB	Los Angeles Regional Water Quality Control Board.
NPDES	National Pollutant Discharge Elimination System.
OEHS	LAUSD Office of Environmental Health and Safety.
SWPPP	Storm Water Pollution Prevention.
SWRCB	State Water Resources Control Board.
WPCD	Water Pollution Control Drawing.

1.03 REQUIREMENTS

A. CONTRACTOR shall:

1. Implement, install and maintain BMPs. Ensure that BMPs are designed to protect all exposed portions of the site, including:
    a. Erosion, Sediment, Tracking, and Wind Erosion Control BMPs.
    b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
    c. Drainage swales or lined ditches to control stormwater flow.

d. Mulching or hydroseeding to stabilize disturbed soils.

e. Erosion control to protect slopes.

f. Protection of storm drain inlets (gravel bags or catch basin inserts).

g. Perimeter sediment control (perimeter silt fence, fiber rolls).

h. Sediment trap or sediment basin to retain sediment on site.

i. Stabilized construction exits.

2. Implement Good Site Management "Housekeeping" BMPs to manage construction equipment, materials, non-stormwater discharges, and wastes. BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:

a. Dewatering activities.

b. Material handling and waste management.

c. Building materials stockpile management.

d. Management of washout areas (concrete, paints, stucco, etc.).

e. Control of vehicle/equipment fueling to staging area.

f. Vehicle and equipment cleaning performed off site.

g. Spill prevention and control.

3. Incorporate BMP activities into the Project Schedule. Schedule construction activity during dry weather, when possible.

4. Inform CONTRACTOR and Subcontractors personnel on the BMP procedures to prevent pollutants from entering the storm drain system, before the start of construction activities. Keep personnel informed of the BMP implementation process and of changes to the procedures. Provide record to OAR of stormwater topics discussed.

5. Conduct site inspections, at least weekly, of pollution prevention controls and repair or provide additional BMPs as required.

6. Pay fines and penalties from regulatory agencies against OWNER due to CONTRACTOR'S non-compliance with stormwater regulations. OWNER shall recover costs of fines and penalties by appropriate OWNER assessment. Review of the BMPs by OAR shall not relieve CONTRACTOR from liabilities arising from non-compliance of storm water pollution regulations.

B. Project Inspector and OEHS Inspector will conduct inspection and examination of site storm water regulation compliance.

C. At substantial completion, conduct post-construction BMP training of OWNER personnel and submit any post-construction BMP maintenance information.

1.04 SUBMITTALS

A. BMP material quality, grade, type as specified in the CASCA BMP Handbook.

B. Water Pollution Control Drawing (WPCD).

C. BMP Implementation Schedule.

1.05 QUALITY ASSURANCE

A. Comply with the following regulatory requirements:

1. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Lands Disturbance Activities; ORDER NO. 2009-0009-DWQ; NPDES NO. CAS000002, adopted by the State Water Resources Control Board.

2. Regulations of the California Environmental Protection Agency, State Water Resources Control Board; Los Angeles Regional Water Control Board, and local ordinances.

3. CASQA Stormwater Best Management Practice Handbook for Construction Activity (BMP Handbook) current adopted edition.

4. Local jurisdiction stormwater management (SWPPP) and erosion control ordinances.

1.06 STORAGE AND PROTECTION

A. Provide proper storage of materials and equipment to prevent rain and storm water runoff to come in contact with pollutants, such as soil stabilizers, paint or fluids from vehicles.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Provide quality, grade and type of materials as specified in CASQA Stormwater Best Management Practice, Handbook.

PART 3 – EXECUTION

3.01 IMPLEMENTATION

A. Install perimeter controls prior to starting Work at the Project site.

B. Contain on-site stormwater on the Project site. Provide storm drain inlet protection. Do not drain on-site water directly into the storm drain without proper BMP in place.

C. Prevent pollutant discharges into the storm drain system. Prevent stormwater from coming into contact with pollutants, such as sediment, material spills, or leakage from storage tanks, waste containers or transfer areas. In the event contamination is found CONTRACTOR shall immediately notify OAR who will contact the OEHS.

D. Protect exposed dirt, such as stockpiles, landscaping areas, and hillsides.

E. Properly manage non-stormwater discharges such as ground water, broken utility lines and fire hydrant testing.

F. Adjust BMP's locations and layouts in accordance to construction progress to assure compliance to regulations.

G. Conduct inspections of pollution prevention controls and provide Site Monitoring Report to OAR immediately if pollutants are discharged into the site runoff. CONTRACTOR shall remediate contaminated water.

H. Upon Substantial Completion: Maintain and leave post-construction stormwater pollution prevention controls in place and remove those that are not needed as determined by the OAR.

3.02 CLOSEOUT

A. Verify the following prior to Substantial Completion:

1. Final stabilization of site has been demonstrated.
2. There is no potential for construction related stormwater pollutants to be discharged into site runoff.
3. Construction related equipment and temporary BMP have been removed from site.
4. Rubbish, debris, and waste materials have been removed and legally disposed of off the Project site.
5. OEHS CAN items have been closed and signed-off.
6. Post-Construction BMP Maintenance Plan has been established.

END OF SECTION

SECTION 01 7419

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Preparation and implementation, including reporting and documentation, of a Waste Management Plan for reusing, recycling, salvage or disposal of non-hazardous waste materials generated during demolition and new construction (Construction and Demolition (C&D) Waste), to foster material recovery and re-use and to minimize disposal in land fills.

B. Related Requirements

1. Section 01 3300 - Submittal Procedures.

2. Section 01 5000 - Construction Facilities and Temporary Controls.

3. Section 01 7700 - Contract Closeout.

1.02 REFERENCES

A. California Integrated Waste Management Act of 1989 (AB 939).

B. California Code of Regulations Title 14, Section 18700 et seq.

C. California Green Building Standards Code.

1.03 SYSTEM DESCRIPTION

A. Collection and separation of all C&D waste materials generated on-site, reuse or recycling on-site, transportation to approved recyclers or reuse organizations, or transportation to legally designated landfills, for the purpose of recycling salvaging and reusing a minimum of 75 percent of the C&D waste generated.

1.04 SUBMITTALS

A. C&D Waste Management Plan (Exhibit 1): Within 10 calendar days after the Notice to Proceed and prior to any waste removal, submit the following to the OAR for review and approval. Update quarterly. Include:

1. Materials to be recycled, reused, or salvaged, either onsite or offsite.

2. Estimates of C&D waste quantity (in tons) by type of material. (If waste is measured by volume, give factors for conversion to weight in tons.)

3. Procedures for recycling and reuse program.

4. Permit or license and location of Project waste-disposal areas.

5. Site plan for placement of waste containers.

B. C&D Waste Management Monthly Progress Report (Exhibit 2): Summary of waste generated by Project, monthly with Application for Payment. Include:

1. Firms accepting the recovered or waste materials.

2. Type and location of accepting facilities (landfill, recovery facility, used materials yard, etcetera). If materials are reused or recycled on the Project site, location should be designated as "on-site reuse and recycling".

3. Type of materials and net weight (tons) of each.

4. Value of the materials or disposal fee paid.

5. Attach weigh bills and other documentation confirming amount and disposal location of waste materials.

C. C&D Waste Management Final Compliance Report: Final update of Waste Management Plan to provide summary of total waste generated by Project.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 IMPLEMENTATION

A. Implement approved Waste Management Plan including collecting, segregating, storing, transporting and documenting each type of waste material generated, recycled or reused, or disposed in landfills.

B. Designate an on-site person to be responsible for instructing workers and overseeing the sorting and recording of waste/ recyclable materials.

C. Include waste management and recycling in worker orientation and as an agenda item for regular Project meetings.

D. Recyclable and waste bin areas shall be limited to areas approved on the Waste Management Plan. Keep recycling and waste bins neat and clearly marked to avoid contamination of materials.

3.02 ATTACHMENTS

A. Exhibit 1: Waste Management Plan

B. Exhibit 2: Waste Management Monthly Progress Report.

EXHIBIT 1

WASTE MANAGEMENT PLAN
CONSTRUCTION/ MAINTENANCE/ALTERATION & DEMOLITION PROJECTS

WILL ROGGERS ECC K-PLAYGROUND & SHADE: **«PROJECTTITLE» «CONTRACTTITLE»**
PROJECT NO: **«Project Number»**
NAME OF COMPANY:
CONTACT PERSON:
TELEPHONE:
PROJECT SITE LOCATION:
PROJECT TYPE: ☐ NEW CONSTRUCTION ☐ DEMOLITION ☐ MAINTENANCE/ALTERATION PROJECTS
PROJECT SIZE (SQ. FT.):
DATE & ESTIMATED PERIOD

(1) Material Type	(2) Tons Estimated Recycle	(3) Tons Estimated Reuse	(4) Tons Estimated Salvage	(5) Tons Estimated Landfill	(6) Proposed Disposal or Recycling Facility (e.g., Onsite, Name of Facility)
Total					
Diversion Rate: Columns [(2)+(3)+(4)] / [(2)+(3)+(4)+(5)]					=

Signature	Title	Date

Column 1 "Material Types" – Enter type of materials targeted for recycling, reuse, and/or salvage, either on- or off-site, and include a category for waste materials requiring disposal.

Columns 2 thru 4	"Estimated Generation" - Enter estimated quantities (tons) of recyclable, reusable, or salvageable waste materials anticipated to be generated and state number of salvageable items.
Column 5	"Estimated Landfill" - Enter quantities (tons) of materials to be disposed in landfill.
Column 4	"Disposal Location" - Enter end-destination of recycled, salvaged, and disposed materials.
General :	(1) Attach proposed Recycling and Waste Bin Location Plan. (2) Attach name and contact data for each recycling or disposal destination to be used.

EXHIBIT 2

WASTE MANAGEMENT PROGRESS REPORT
CONSTRUCTION/ MAINTENANCE/ALTERATION & DEMOLITION PROJECTS

PROJECT NAME: **«PROJECTTITLE» «CONTRACTTITLE»**
PROJECT NO: **«Project Number»**
NAME OF COMPANY:
CONTACT PERSON:
TELEPHONE:
PROJECT SITE LOCATION:
PROJECT TYPE: ☐ NEW CONSTRUCTION ☐ DEMOLITION
☐ MAINTENANCE/ALTERATION PROJECTS
PROJECT SIZE (SQ. FT.):
PERIOD to

(1) Material Type	(2) Tons Actual Recycle	(3) Tons Actual Reuse	(4) Tons Actual Salvage	(5) Tons Actual Landfill	(6) Disposal or Recycling Facility (e.g., Onsite, Name of Facility)
Total					
Diversion Rate: Columns [(2)+(3)+(4)] / [(2)+(3)+(4)+(5)]					=

Signature	Title	Date

Column 1 "Material Types" – Enter type of materials targeted for recycling, reuse, and/or salvage, either on- or off-site, and include a category for waste materials requiring disposal.

Columns 2 thru 4 "Estimated Generation" - Enter estimated quantities (tons) of recyclable, reusable, or salvageable waste materials anticipated to be generated and state number of salvageable items.

Column 5 "Estimated Landfill" - Enter quantities (tons) of materials disposed.

Column 4 "Disposal Location" - Enter end-destination of recycled, salvaged, and disposed materials.

General : (1) Attach proposed Recycling and Waste Bin Location Plan.

(2) Attach name and contact data for each recycling or disposal destination to be used.

END OF SECTION

SECTION 01 7700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section includes administrative and procedural requirements for Contract Closeout, including but not limited to, the following:

1. Inspection procedures.
2. Project record documents submittal.
3. Operation and maintenance manual submittal.
4. OWNER orientation and instruction.
5. Final cleaning.

1.02 RELATED REQUIREMENTS:

1. Section 01 2976 - Progress Payment Procedures.
2. Section 01 3213 - Construction Schedule.
3. Section 01 3229 - Project Forms.
4. Section 01 3300 - Submittal Procedures.
5. Section 01 4525- Testing, Adjusting, and Balancing of HVAC.
6. Section 01 5000 - Construction Facilities and Temporary Controls.
7. Section 01 7836 - Warranties.

PART 2 – PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 SUBSTANTIAL COMPLETION

A. Inspection Procedures: On receipt of the Request For Certificate of Substantial Completion, OAR will authorize commencement of inspection. INSPECTOR, OAR, CONTRACTOR and ARCHITECT will inspect the Work.

1. If after inspection of the Work, OAR does not consider the Work substantially complete, OAR will notify CONTRACTOR.

2. If after inspection, OAR considers the Work substantially complete, INSPECTOR shall prepare a comprehensive Punch List of items to be corrected.

a. INSPECTOR may repeat inspection to assure the Work is corrected.

b. Results of the completed inspection will form a partial basis of the requirements for Release of Retention.

3.02 ADMINISTRATIVE CLOSEOUT

A. Re-inspection Procedures: INSPECTOR, OAR, CONTRACTOR and ARCHITECT may inspect the Work upon notice, including final inspection of Punch List items from earlier inspections, has been corrected, except for items whose completion is delayed under circumstances acceptable to OAR.

1. OWNER has the right to preclude CONTRACTOR from Punch List correction and documents submittals after the Contract Completion date; unless OWNER elects to authorize CONTRACTOR to extend Administrative Contract duration. CONTRACTOR will be assessed actual cost for the unsettled items. Withholds amounts exceeding actual costs to correct or to obtain deliverable will be released.

2. If allowed by the OAR, re-inspection will be repeated, but may be assessed against CONTRACTOR if OWNER is subject to additional professional service and or additional costs of inspection.

3.03 PROJECT RECORD DOCUMENT SUBMITTAL

A. General: Do not use project record documents for construction purposes. Protect record documents from deterioration and loss. Provide access to record documents for ARCHITECT, INSPECTOR and OAR reference during normal working hours. Project record document shall be updated on a weekly basis. Prior to submitting each application for payment, secure INSPECTOR and ARCHITECT approval of project record documents.

B. Record Drawings: Maintain a clean, undamaged set of prints of Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark the Drawing that is

most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Drawings. Provide detailed and accurate field dimensions for concealed elements that would be difficult to measure and record at a later date.

1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work. Date and number entries in the same format as submitted. Call attention to entry by a "cloud" around the affected areas.

2. Mark new information important to OWNER but was not shown on Drawings or Shop Drawings.

3. Utility location and depth below finished grade and above ceilings and attic spaces shall be fully dimensioned and indicated on record drawings. Dimensions shall be measured from building lines or permanent landmarks and shall be triangulated to those features.

4. Note related Change Order or Construction Directive numbers where applicable. RFC submissions shall be referenced on each affected sheet, Drawing and Shop Drawing.

5. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.

6. Prior to Contract Completion of the Work, review of the project record drawings by ARCHITECT; prepare a final set of project record drawings using reproducible vellum. Submit final set of transparencies to ARCHITECT.

C. Record Specifications: Maintain two complete copies of the Specifications, including Addenda. Include with the Specifications two copies of other written Contract Documents, such as Change Orders or Construction Directives issued during construction.

1. Mark these record documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.

2. Give particular attention to substitutions and selection of options and information on concealed Work that cannot otherwise be readily discerned later by direct observation.

3. Note related record document information with Product Data.

4. Prior to Contract Completion of the Work, submit record Specifications to ARCHITECT for OWNER records.

D. Record Product Data: Maintain two copies of each Product Data submittal. Note related Change Orders and Construction Directives and mark-up of record drawings and Specifications.

1. Mark these documents to illustrate significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the Project site and from the manufacturer's installation instructions and recommendations.

2. Provide detailed and accurate information regarding concealed products and portions of Work that cannot otherwise be readily discerned later by direct observation.

3. Prior to Contract Completion, submit complete set of record Product Data to ARCHITECT for OWNER records.

E. Record Samples: Immediately prior to Substantial Completion, CONTRACTOR shall meet with ARCHITECT and OAR at the Project site to determine which Samples are to be transmitted to OWNER for record purposes. Comply with OAR instructions regarding delivery to OWNER storage area.

F. Miscellaneous Records: Refer to other Specification sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Prior to the date of Contract Completion, complete and compile miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to Architect for OWNER records.

G. Maintenance Manuals: Prior to Substantial Completion, organize operation and maintenance data into suitable two sets of manageable size. Bind properly indexed data in individual, heavy-duty, two to three-inch 3-ring, vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Submit to ARCHITECT for OWNER records. Include the following types of information.

1. Emergency instructions.

2. Spare parts list.

3. Copies of warranties.

4. Wiring diagrams.

5. Recommended "turn-around" cycles.

6. Inspection procedures.

7. Shop Drawings and Product Data.

8. Fixture lamping schedule.

H. Verified Reports: Construction progress of the Work shall be reported to DSA via a duly verified report as per Title 24, Part 1, Sections 4-336 and 4-343.c of the California Building Standards Commission's, California Administrative Code.

3.04 OPERATION AND MAINTENANCE:

A. Operation and Maintenance Instructions: Prior to Substantial Completion, arrange for each installer of equipment that requires regular operation and maintenance to meet with designated OWNER personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:

1. Maintenance manuals.

2. Spare parts and materials.

3. Tools.

4. Lubricants.

5. Fuels.

6. Identification systems.

7. Control sequences.

8. Hazards.

9. Cleaning.

10. Warranties and bonds.

11. Maintenance agreements and similar continuing commitments.

B. As part of instruction for operating equipment, demonstrate the following procedures:

1. Start-up.

2. Shutdown.

3. Emergency operations.

4. Noise and vibration adjustments.

5. Safety procedures.

6. Economy and efficiency adjustments.

7. Effective energy utilization.

C. Notice Of Termination: CONTRACTOR shall submit a Notice of Termination (NOT) to the local Regional Water Quality Control Board, RWQCB. Provide a copy of NOT to OAR.

3.05 FINAL CLEANING

A. General: Related sections of the Contract Documents specify general cleaning during performance of the Work. General cleaning is included in Division 01 Section "Construction Facilities and Temporary Controls".

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

1. Complete the following cleaning operations before requesting inspection for a certificate of Substantial Completion.

a. Remove labels that are not permanent labels.

b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

c. Clean exposed exterior and interior hard-surfaced finished to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

e. Clean the Project site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits.

Rake grounds that are neither paved nor planted to a smooth, even-textured surface.

END OF SECTION

SECTION 01 7836

WARRANTIES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section includes administrative and procedural requirements for warranties, including manufacturers and installer's standard warranties on products and special product warranties.

1. Refer to the General Conditions for terms of the guarantee period for the Work.

1.02 RELATED REQUIREMENTS

A. Section 01 6000 - Product Requirements.

B. Section 01 7329 - Cutting and Patching.

C. Section 01 7700 - Contract Closeout.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 WARRANTY REQUIREMENTS

A. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties shall not relieve CONTACTOR of the warranty of the Work incorporating such materials, products, and equipment. Manufacturer's disclaimers and limitations on warranties do not relieve suppliers, manufacturers, installers, and Subcontractors of the requirement to countersign special warranties with CONTRACTOR.

B. Standard warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to OWNER.

C. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for OWNER.

D. Related Damages and Losses: When correcting failed or defective warranted Work, remove and replace Work that has been damaged as a result of such failure or which must be removed and replaced to provide access for correction of warranted Work.

E. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement with the reinstated warranty equal to the original warranty.

F. Replacement Cost: Upon determination the Work covered by a warranty has failed and/or is defective, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. CONTRACTOR is responsible for the cost of replacing or rebuilding defective Work regardless of whether OWNER has benefited from use of the Work through a portion of its anticipated useful service life.

G. OWNER Recourse: Expressed warranties made to OWNER are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which OWNER can enforce such other duties, obligations, rights, or remedies.

H. Rejection of Warranties: OAR reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

I. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, OAR reserves the right to refuse to accept the Work until CONTRACTOR presents evidence the entities required to countersign such commitments have done so.

3.02 SUBMITTALS

A. Submit written preliminary warranties prior to Substantial Completion and final warranties prior to Contract Completion. If the certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, submit written warranties as set forth in the certificate of Substantial Completion.

1. When a designated portion of the Work is partially used and/or occupied by OWNER, submit properly executed warranties to ARCHITECT within fifteen days of the Partial Use or Occupancy of the designated portion of the Work.

B. When the Contract Documents require CONTRACTOR, or CONTRACTOR and a Subcontractor, installer, supplier or manufacturer to execute a special warranty,

prepare a written document containing appropriate terms and identification, ready for execution by the required parties. Submit a draft to OAR, through the ARCHITECT, for approval prior to final execution.

1. Refer to Divisions 02 through 49 for specific content requirements and particular requirements for submitting special warranties.

C. Form of Submittal: Prior to Contract Completion, compile two copies of each required final warranty properly executed by CONTRACTOR, or by CONTRACTOR and Subcontractor, installer, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the Specifications.

D. Bind warranties and bonds in heavy-duty, commercial-quality, durable three ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8½ by 11 paper.

1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the item or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the installer.

2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title and/or name, and name of CONTRACTOR.

3. When warranted Work requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

END OF SECTION

SECTION 02 4116

DEMOLITION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Furnishing labor, materials and equipment necessary for demolition, dismantling, cutting and alterations as indicated, specified, or required for completion of the Work. Includes items such as the following:

1. Protection of existing improvements to remain.

2. Cleaning existing improvements to remain.

3. Disconnecting and capping utilities.

4. Removing debris, waste materials, and equipment.

5. Removal of items for performance of the Work.

6. Salvageable items to be retained by the Owner.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 01 1100 - Summary of Work.

3. Section 01 5000 - Construction Facilities and Temporary Controls.

4. Section 01 7329 - Cutting and Patching.

8. Division 26 –- Electrical.

1.02 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings indicating the extent of items and systems to be removed. Indicate items to be salvaged or items to be protected during demolition. Indicate locations of utility terminations and the extent of abandoned lines to be removed. Include details indicating methods and location of utility terminations.

1.03 QUALITY ASSURANCE

A. Perform the Work of this section by workers skilled in the demolition of buildings and structures. Perform the Work of this section under direct superintendence at all times.

B. Prior to commencement of Work, schedule a walkthrough with the OAR, to confirm Owner property items have been removed from scheduled Work areas. Identify and mark remaining property items and schedule their removal.

C. Coordinate demolition for the correct sequence, limits, and methods. Schedule demolition Work to create least possible inconvenience to the public and facility operations.

D. Related Standard: ANSI/ASSE A10.6.

1.04 PROJECT CONDITIONS

A. Drawings may not indicate in detail all demolition Work to be performed. Examine existing conditions to determine the full extent of required demolition.

B. Repair damage to existing improvements or damage due to excessive demolition.

C. Provide all measures to avoid excessive damage from inadequate or improper means and methods, improper shoring, bracing or support.

D. If conditions are encountered that varies from those indicated, promptly notify the Architect for clarification before proceeding.

PART 2 - PRODUCTS

2.01 HANDLING OF MATERIALS

A. Items scheduled for salvage by the Owner shall be delivered to a location designated by the OAR. Items shall be cleaned, packaged and labeled for storage.

B. Items scheduled for reuse shall be stored on the Project site and protected from damage, theft and other deleterious conditions.

PART 3 - EXECUTION

3.01 GENERAL

A. Protection:

1. Do not commence demolition until safety partitions, barricades, warning signs and other forms of protection are installed. Refer to Section 01 5000 - Construction Facilities and Temporary Controls.

2. Provide safeguards, including warning signs, lights and barricades, for protection of workers, occupants, and the public.

B. If safety of existing construction appears to be endangered, take immediate measures to correct such conditions; cease operations and immediately notify the OAR.

3.02 DEMOLITION

A. Do not throw or drop materials. Furnish ramps or chutes as required by the Work.

B. Remove existing construction only to extent necessary for proper installation of Work and interfacing with existing construction. Cut back finished surfaces to straight, plumb or level lines as required for a smooth transition.

C. Where openings are cut oversize or in improper locations, replace or repair to required condition.

3.03 CUTTING EXISTING CONCRETE

A. Cutting of existing concrete shall be performed by skilled workers familiar with the requirements and space necessary for placing concrete. Perform concrete cutting with concrete cutting wheels and hand chisels. Do not damage concrete intended to remain.

B. Extent of cutting of structural concrete shall be as indicated on Drawings. Cutting of non-structural concrete shall be as indicated on Drawings or as reviewed by the Architect or structural engineer. Replace concrete demolished in excess of amounts indicated.

C. Prior to cutting or coring concrete, determine locations of hidden utilities or other existing improvements and provide necessary measures to protect them from damage.

3.04 REMOVAL OF EXISTING PLUMBING AND ELECTRICAL EQUIPMENT AND SERVICES

A. Remove existing plumbing and electrical equipment fixtures and services not indicated for reuse and not necessary for completion of the Work. Remove abandoned lines and cap unused portions of existing lines.

3.05 REMOVAL OF OTHER MATERIALS

A. Masonry: Cut back to joint lines and remove mortar without damaging units to remain. Allow space for repairs to backing where applicable.

B. Woodwork: Cut or remove to a joint or panel line.

C. Roofing: Remove as required, including accessory components such as insulation and flashings. At penetrations through existing roofing, trim cut edges back to sound roofing with openings restricted to the minimum size necessary to receive Work.

D. Sheet Metal: Remove back to joint, lap, or connection. Secure loose and unfastened ends or edges and provide a watertight condition. Re-seal as required.

E. Glass: Remove broken or damaged glass and clean rebates and stops of glazing channels.

F. Modular materials such as acoustical ceiling panels, resilient tile, or ceramic tile: Remove to a natural joint without leaving damaged or defective Work where joining new Work. After flooring removal, clean substrates to remove setting materials and adhesives.

G. Gypsum Board: Remove to a panel joint line on a stud or support line.

H. Plaster: Saw cut plaster on straight lines, leaving a minimum 2-inch width of firmly attached metal lath for installing new lath and plaster.

I. Remove existing improvements not specifically indicated or required but necessary to perform Work. Cut to clean lines, allowing for installation of Work.

3.06 PATCHING

A. Patch or repair materials to remain when damaged by the performance of the Work of this section. Finish material and appearance of patch and/or repair Work shall match existing.

3.07 CLEANING

A. Clean existing materials to remain with appropriate tools and equipment.

B. Protect existing improvements during cleaning operations.

C. Debris shall be dampened by fog water spray prior to transporting by truck.

D. Debris pick-up area shall be kept broom-clean and shall be washed daily with clean water.

E. Remove waste and debris, other than items to be salvaged. Turn over salvaged items to Owner, or store and protect for reuse where required. Continuously clean up and remove items as demolition Work progresses.

F. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 03 2000

CONCRETE REINFORCING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Concrete steel reinforcement.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 01 4523: Testing and Inspection.
3. Section 03 1000: Concrete Forming.
4. Section 03 3000: Cast-In-Place Concrete.
5. Section 04 2200: Concrete Unit Masonry.

1.02 REGULATORY REQUIREMENTS

A. Fabrication and placement of reinforcing shall be in accordance with requirements of CBC, Chapter 19A.

1.03 REFERENCES

A. ASTM International:

1. ASTM A184 - Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement.
2. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
3. ASTM A706 - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.
4. ASTM A1064 - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.

B. American Concrete Institute (ACI) Publication:

1. ACI SP-66 – ACI Detailing Manual.

2. ACI 318 – Building Code Requirements for Structural Concrete, as modified by CBC.

C. American Welding Society (AWS):

1. AWS D1.4 – Structural Welding Code – Reinforcing Steel.

1.04 SUBMITTALS

A. Shop Drawings: Submit steel reinforcement Shop Drawings. Include assembly diagrams, schedule of reinforcement, bending charts and slab and framing plans. Indicate lengths and location of splices, size and lengths of reinforcing steel.

B. Closeout Submittals: Record exact locations of reinforcing that vary from Contract Documents.

1.05 QUALITY ASSURANCE

A. Comply with the following as a minimum requirement:

1. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice.

2. American Welding Society (AWS).

3. American Concrete Institute (ACI).

4. CBC, Chapter 19A, Concrete.

B. Source Quality Control: Refer to Division 01 Sections for general requirements and to the following paragraphs for specific procedures. Testing laboratory retained by the OWNER shall select test Samples of bars, ties, and stirrups from the material at the Project Site or from the place of distribution, with each Sample consisting of not less than two 18 inch long pieces, and perform the following tests according to ASTM A615, or ASTM A706, as applicable:

1. Identified Bars: If Samples are obtained from bundles as delivered from the mill, identified as to heat number, accompanied by mill analyses and mill test reports, and properly tagged with the identification certificate so as to be readily identified, perform one tensile and one bend test for each 10 tons or fraction thereof of each size of bars. Submit mill reports when Samples are selected.

2. Unidentified Bars: When positive identification of reinforcing bars cannot be performed and when random Samples are obtained; perform tests for

each 2.5 tons or fraction thereof, one tensile and one bend test from each size of bars.

C. Certification of Welders: Shop and Project site welding shall be performed by welding operators certified by AWS.

1.06 DELIVERY, STORAGE AND HANDLING

A. Avoid exposure to dirt, moisture or conditions harmful to reinforcing.

B. Reinforcing steel bars, wire, and wire fabric shall be stored on the Project site to permit easy access for examination and identification of each shipment. Material of each shipment shall be separated for size and shape.

PART 2 - PRODUCTS

2.01 GENERAL

A. Provide reinforcing of sizes, gages and lengths indicated, bent to indicated shapes.

2.02 MATERIALS

A. Steel Reinforcing Bars:

1. ASTM A615, deformed grade 60 or 75 billet steel, as indicated on the drawings.

2. Weldable reinforcing bars shall conform to ASTM A706.

B. Bars or Rod Mats: ASTM A184.

C. Welded Wire Fabric for Reinforcement: ASTM A1064.

D. Tie Wire: ASTM A1064, fully annealed, copper-bearing steel wire, 16 gage minimum.

E. Chairs, Spacers, Supports, and Other Accessories: Standard manufacture conforming to ACI 315 fabricated from steel wire of required types and sizes. For reinforcement supported from grade, provide properly sized dense precast blocks of concrete.

2.03 FABRICATION OF REINFORCING BARS

A. Comply with CRSI Manual of Standard Practice for Reinforced Concrete Construction for fabrication of reinforcing steel.

B. Bending and Forming: Fabricate bars of the indicated sizes and bend and form to required shapes and lengths by methods not injurious to materials. Do not heat reinforcement for bending. Bend bars No. 6 size and larger in the shop only. Bars with unscheduled kinks or bends are not permitted. Provide only tested and permitted bar materials.

C. Welding: Provide only ASTM A706 steel where welding is indicated. Perform welding by the direct electric arc process in accordance with AWS D1.4 and specified low-hydrogen electrodes. Preheat 6 inches each side of joint. Protect joints from drafts during the cooling process; accelerated cooling is not permitted. Do not tack weld bars. Clean metal surfaces to be welded of loose scale and foreign material. Clean welds each time electrode is changed and chip burned edges before placing welds. When wire brushed, the completed welds must exhibit uniform section, smooth welded metal, feather edges without undercuts or overlays, freedom from porosity and clinkers, and good fusion and penetration into the base metal. Cut out welds or parts of welds deemed defective, using chisel, and replace with proper welding. Prequalification of welds shall be in accordance with CBC requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Bars shall be bent cold. Bars partially embedded in concrete shall not be field bent except as indicated on reviewed Shop Drawings.

B. Before installation and just prior to placing concrete, clean reinforcing of loose scale, rust, oil, dirt and any coating that could reduce bond.

C. Accurately position, install, and secure reinforcing to prevent displacement during the placement of concrete.

D. Provide metal chairs to hold reinforcement the required distance above form bottoms. In beams and slab construction, provide chairs under top slab reinforcement as well as under bottom reinforcement. Space chairs so that reinforcement will not be displaced during installation. Provide metal spacers to secure proper spacing. Stirrups shall be accurately and securely wired to bars at both top and bottom. At slabs, footings, and beams in contact with earth, provide concrete blocks to support reinforcement at required distance above grade.

E. Install and secure reinforcement to maintain required clearance between parallel bars and between bars and forms. Lapped splices shall be installed wherever possible in a manner to provide required clearance between sets of bars. Stagger lapped splices. Dowels and bars extending through construction joints shall be

secured in position against displacement before concrete is installed and subsequently cleaned of concrete encrustations while they are still soft.

F. Do not install reinforcing in supported slabs and beams until walls and columns have been installed to underside of slabs and beams or until construction joints have been thoroughly cleaned. Reinforcing shall be inspected before placement of concrete and cleaned as required.

G. Use deformed bars unless otherwise indicated, except for spiral reinforcement.

3.02 CLEAN UP

A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

3.03 PROTECTION

A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 03 3000

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Cast-in-place normal weight and lightweight concrete, placement and finishing.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 03 1000: Concrete Forming and Accessories.

3. Section 03 2000: Concrete Reinforcing.

4. Section 32 1313: Site Concrete Work.

1.02 REFERENCES

A. American Concrete Institute (ACI) Publication:

1. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials.

2. ACI 301 – Specifications for Structural Concrete.

3. ACI 302.1R – Guide for Concrete Floor and Slab Construction.

4. ACI 305R - Specification for Hot Weather Concreting.

5. ACI 306.1 – Standard Specification for Cold Weather Concreting.

6. ACI 308R – Guide to External Curing of Concrete.

7. ACI 318 - Building Code Requirements for Structural Concrete, as modified by CBC Sections 1903A and 1905A.

B. American Society for Testing and Materials (ASTM) Standards:

1. ASTM C31 – Standard Specification for Making and Curing Concrete Test Specimens in the Field.

2. ASTM C33 - Standard Specification for Concrete Aggregates.

3. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.

4. ASTM C42 - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.

5. ASTM C88 - Standard Test Method for Soundness of Aggregates by use of Sodium Sulphate or Magnesium Sulphate.

6. ASTM C94 - Standard Specification for Ready-Mixed Concrete.

7. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.

8. ASTM C150 - Standard Specification for Portland Cement.

9. ASTM C156 – Standard Test Method for Water Loss (from a Mortar Specimen) Through Liquid membrane-Forming Curing Compounds for Concrete.

10. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete.

11. ASTM C172 – Standard Practice for Sampling Freshly Mixed Concrete.

12. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

13. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete.

14. ASTM C289 - Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method).

15. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

16. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.

17. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.

18. ASTM C567 - Standard Test Method for Determining Density of Structural Lightweight Concrete.

19. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.

20. ASTM C845 - Standard Specification for Expansive Hydraulic Cement

21. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.

22. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).

23. ASTM C1064 - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.

24. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures.

25. ASTM C1315 – Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.

26. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.

27. ASTM C1567 - Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method).

28. ASTM D1751 - Standard Test Method for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).

29. ASTM D7234 – Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.

30. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.

31. ASTM E1155 - Standard Test Method for Determining F_F Floor Flatness and F_L Floor Levelness Numbers.

32. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.

33. ASTM E1745 - Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

34. ASTM F710 – Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

35. ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

36. ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes.

37. ASTM F3010 – Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use under Resilient Floor Coverings.

1.03 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings indicating locations of cast-in-place concrete Work and accessory items such as vapor barriers. Include details and locations of reinforcing, embedded items, and interfacing with other Work.

B. Mix Design Data: Submit concrete mix designs as specified herein and in Article 2.02.

1. Submit name, address and telephone number of the concrete production facility which the contractor intends to engage to design the concrete mixes. Submit name and qualifications of the proposed concrete technologist.

2. Mix Design: Submit a concrete mix design for each strength and type of concrete indicated in the drawings or specified. Include water/cement ratio, source, size and amount of coarse aggregate and admixtures. Predict minimum compressive strength, maximum slump and air content percentage. Clearly indicate locations where each mix design will be used.

a. Water/cement ration for concrete slabs on grade shall be 0.50 maximum.

3. Test Reports: Submit copies of test reports showing that the proposed mixes produce concrete with the strengths and properties specified. Include tests for cement, aggregates and admixtures. Provide gradation analysis.

C. Material Samples: Submit Samples illustrating concrete finishes and hardeners, minimum 12-inch by 12-inch.

D. Certificates: Submit certification that each of the following conforms to the standards indicated:

1. Portland cement: ASTM C150.

2. Normal weight concrete aggregates: ASTM C33.

3. Lightweight concrete aggregates: ASTM C330.

4. Aggregates: Submit evidence that the aggregate is not reactive in the presence of cement alkalis. In the absence of evidence, aggregate shall be tested by one of the methods in ASTM C33 Appendix XI, Methods for Evaluating Potential for Deleterious Expansion Due to Alkali Reactivity of an Aggregate. Aggregates deemed to be deleterious or potentially deleterious may be used with the addition of a material that has been shown to prevent harmful expansion in accordance with Appendix XI of ASTM C33, when approved by the building official, in accordance to CBC Section 1903A5A.

5. Curing materials: ASTM C171.

E. Admixtures: Submit product data for proposed concrete admixtures.

1.04 QUALITY ASSURANCE

A. Continuous inspection shall be provided at the batch plant and for transit-mixed concrete to run check sieve analysis of aggregate, check moisture content of fine aggregate, check design of mix, check cement being used with test reports, check loading of mixer trucks, and certify to quantities of materials placed in each mixer truck.

B. Inspection shall be performed by a representative of a testing laboratory selected by the OWNER. OWNER will pay for inspection costs. Notify the laboratory 24 hours in advance of time concrete is to be mixed. Notify the laboratory of postponement or cancellation of mixing within at least 24 hours of scheduling time.

C. CONTRACTOR shall assist the testing laboratory in obtaining and handling samples at the project site and at the source of materials.

D. Continuous batch plant inspection requirement may be waived in accordance with CBC Section 1705A.3.3.1. Waiver shall be in writing, including DSA approval. When batch plant inspection is waived by DSA, the following requirements shall be met:

1. Approved inspector of the testing laboratory shall check the first batching at the start of work and furnish mix proportions to the licensed weightmaster.

2. Licensed weightmaster shall positively identify materials as to quantity and certify to each load by a ticket.

3. Tickets shall be transmitted to the Inspector by a truck driver with load identified thereon. The Inspector will not accept the load without a load ticket identifying the mix and will keep a daily record of placements, identifying

each truck, its load and time of receipt and approximate location of deposit in the structure and will transmit a copy of the daily record to DSA.

4. At the end of the project, the weightmaster shall furnish an affidavit to DSA certifying that all concrete furnished conforms in every particular to proportions established by mix designs.

E. Special Inspections and Tests shall be in accordance with CBC Chapter 17A, Reinforcement and Anchor testing per CBC Section 1910A and Specification Section 01 4523.

1.05 DELIVERY, STORAGE AND HANDLING

A. Store cement and aggregate materials so as to prevent their deterioration or intrusion by foreign matter. Deteriorated or contaminated materials shall not be furnished.

B. Packaged materials shall bear the manufacturers and brand name label, and shall be stored in their original unbroken package in a weather tight place until ready for use in the work.

1.06 PROJECT CONDITIONS

A. Cold Weather Requirements: Batching, mixing, delivering and placing of concrete in cold weather shall comply with the applicable requirements of ACI 306.1.

B. Hot Weather Requirements: Batching, mixing, delivering and placing of concrete in hot weather shall comply with the applicable requirements of ACI 305R.

C. Concrete temperature of freshly mixed concrete shall be determined per ASTM C1064.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Cement: ASTM C150. Portland Cement.

B. Aggregates: Conform to the following standards:

1. Normal weight concrete: ASTM C33.

2. Lightweight concrete: ASTM C330, with fine aggregates per ASTM C33.

3. Aggregate shall be tested for Potential Alkali Reactivity of Cement-Aggregate Combinations per ASTM C289.

4. Nominal maximum size of coarse aggregate shall be no larger than 1" max.:

   a. 1/5 the narrowest dimension between sides of forms, nor larger than 1" max.

   b. 1/3 the depth of slabs, nor larger than 1" max.

   c. 3/4 the clear spacing between individual reinforcing bars or wires, bundles of bars, individual tendons, or ducts.

   d. CONTRACTOR may request the ARCHITECT and DSA waiver of the above limitations reported per ACI 318, provided that the workability and methods of consolidation are such that the concrete can be placed without honeycombs or voids.

C. Water: Water for concrete mixes, curing and cleaning shall be potable and free from deleterious matter.

D. Admixtures: Shall be shown capable of maintaining essentially the same composition and performance throughout the work as the product used in establishing concrete proportions in accordance with ACI 318, Section 3.6.

1. Admixtures containing chlorides or sulfides are not permitted.

2. Air-entraining admixtures shall comply with ASTM C260. Air-entrained admixtures shall not be used for floor slabs to receive steel trowel finish.

3. Admixtures for water reduction and setting time modification shall conform to ASTM C494.

4. Admixtures for producing flowing concrete shall conform to ASTM C1017.

5. Admixtures containing ASTM C845 expansive cements shall be compatible with the cement and produce no deleterious effects.

6. Silica fumes used as an admixture shall conform to ASTM C1240.

E. Reinforcement Fibers: Chop strands of alkali-resistant polypropylene or nylon fibers added to the concrete mix for protection against shrinkage cracks.

F. Expansion Joint Fillers: Preformed strips, non-extruding and resilient bituminous type, of thickness indicated, conforming to ASTM D1751.

G. Curing:

1. Curing Paper: Shall conform to ASTM C171 and consist of two sheets of kraft paper cemented together with a bituminous material in which are embedded cords or strands of fiber running in both directions. The paper shall be light in color, shall be free of visible defects, with uniform appearance.

2. Elevated slabs and slabs on grade may be cured at CONTRACTOR's option with curing and proactive water vapor emission and alkalinity control system.

a. VaporSeal 309, by Floor Seal Technology, Inc., or equal.

1)	ASTM C156:	0.39 kg/m².
2)	ASTM C309:	Exceeds requirements.
3)	ASTM C1315:	Exceeds requirements.
4)	ACI 308R-01	Compliant.

b. Remedial Treatment: Water vapor emission and alkalinity control treatment, MES 100 by Floor Seal Technology, Inc. or equal.

1)	ASTM E96:	<0.1 Perms.
2)	ASTM D1308:	14pH Resistant.
3)	ASTM D7234:	500+psi 100% concrete failure.
4)	ASTM F2170:	100%RH resistant.
5)	VOC Content:	<100 g/L, meets SCAQMD Rule #1113.
6)	ASTM F3010:	Meets Requirements.

c. Self-leveling Compounds: Ardex Engineered Cements, K15, or V1200, Schonox ZM Rapid, US Self Leveler Armstrong, S-194, or equal.

H. Floor Hardener: Water soluble, inorganic, silicate-based curing, hardening, sealing and dustproofing compound. Aquaseal W20 by Monopole Inc., Kure-N-Harden by BASF, Chem Hard by L&M, Liqui-Hard by W. R. Meadows, or equal.

I. Underlayment: Two component latex underlayment for filling low spots in concrete for both interior and exterior applications, from featheredge to a maximum of 3/8 inch in thickness. Underlayment shall be non-shrink and suitable for repairing exposed concrete surfaces and for underlayment of carpet, resilient, tile and quarry floor coverings. La-O-Tex by TexRite, Underlay C, RS by Mer-Krete Systems, Underlayment 962 by C-Cure, or equal.

2.02 CONCRETE MIX

A. Mix shall be signed and sealed by a Civil or Structural Engineer currently registered in the State of California.

B. Strength of Concrete: Strengths and types of concretes shall be as indicated in the Drawings. Unless otherwise indicated or specified, concrete shall be provided with minimum 28-day strength of 3000 psi (f'c).

C. Concrete mix shall meet the durability requirements of ACI 318, Chapter 4.

D. Concrete proportioning shall be determined on the basis of field experience and/or trial mixtures shall in accordance with ACI 318, Section 5.3. Proportions of materials shall provide workability and consistency to permit concrete to be placed readily into forms and around reinforcement under conditions of placement to be employed, without segregation or excessive bleeding.

E. Ready-Mixed Concrete: Mix and deliver in accordance with requirements of ASTM C94.

PART 3 - EXECUTION

3.01 GENERAL

A. Surfaces to receive concrete shall be free of debris, standing water, and any other deleterious substances before start of concrete placing.

B. Time of Placing: Do not place concrete until reinforcement, conduits, outlet boxes, anchors, hangers, sleeves, bolts, and other embedded materials are securely fastened in place. Contact the Inspector at least 24 hours before placing concrete; do not place concrete until inspected by the Project Inspector.

C. Pouring Record: A record shall be kept on the Project site of time and date of placing concrete in each portion of structure. Such record shall be maintained on the Project site until Substantial Completion and shall be available for examination by the ARCHITECT and DSA.

3.02 TOLERANCES

A. Concrete construction tolerances shall be as specified in ACI 117 and as modified herein.

B. Floor Flatness (F_F) and Floor Levelness (F_L) shall be as indicated below:

	Specified Overall Value		Minimum Local Value	
	F_F	F_L	F_F	F_L
Slabs on ground: mechanical and electrical rooms, parking structures and mortar bed set tile and quarry flooring.	20	15	15	10
Slab on ground: carpet.	25	20	17	15
Slab on ground: thinset tile and resilient flooring.	35	25	24	17
Suspended slabs: mechanical and electrical rooms, parking structures and mortar bed set tile and quarry flooring.	20	15	N/A	N/A
Suspended slabs: carpet.	25	20	N/A	N/A
Suspended slabs: thinset tile and resilient flooring.	35	20	N/A	N/A

OMITTED: NOT APPLICABLE.

C. Refer to ACI 302.1R, Tables 8.1 and 8.2 Slab on Ground and Suspended Flatness/Levelness Construction Guide, for recommended concrete placing and finishing methods.

D. Floor Flatness and Floor Levelness shall be tested in accordance to ASTM E1155. Floor measurements shall be made within 48 hours after slab installation, and shall precede removal of shores and forms.

3.03 PREPARATION

A. For installation of vapor barrier refer to Section 07 2600, Vapor Barriers.

B. Reglets and Rebates:

1. Form reglets and rebates in concrete to receive flashing, frames and other equipment as detailed and required. Coordinate dimensions and locations required with other related Work.

2. If concrete slabs on grade adjoin a wall or other perpendicular concrete surface, form a reglet in wall to receive and carry horizontal concrete Work. Reglet shall be full thickness of the slab and shall be 3/4 inch wide, unless otherwise indicated. Requirement does not apply to exterior walks, unless specifically indicated.

C. Screeds: Install screeds accurately and maintain at required grade or slab elevations after steel reinforcement has been installed, but before starting to place concrete. Install screeds adjacent to walls and in parallel rows not to exceed 8 feet on centers.

3.04 INSTALLATION

A. Conveying and Placing:

1. Concrete shall be placed only under direct observation of the Project Inspector. Do not place concrete outside of regular working hours, unless the Inspector has been notified at least 48 hours in advance.

2. Concrete shall be conveyed from mixer to location of final placement by methods that will prevent separation or loss of materials.

3. Concrete shall be placed as nearly as practicable to its final position to avoid segregation due to re-handling or flowing. No concrete that has partially hydrated or has been contaminated by foreign materials shall be placed, nor shall re-tempered concrete or concrete which has been remixed after initial set be placed.

4. In placing concrete in columns, walls or thin sections, provide openings in forms, elephant trunks, tremies or other recognized devices, to prevent segregation and accumulation of partially hydrated concrete on forms or metal reinforcement above level of concrete being placed. Such devices shall be installed so that concrete will be dropped vertically. Unconfined vertical drop of concrete from end of such devices to final placement surface shall not exceed 6 feet.

5. Concrete shall be placed as a continuous operation until placing of panel or section is completed. Top surfaces of vertically formed lifts shall be level.

6. Concrete shall be thoroughly consolidated by suitable means during placement, and shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms.

7. Where conditions make consolidation difficult or where reinforcement is congested, batches of mortar containing same proportions of cement, sand, and water as provided in the concrete, shall first be deposited in the forms to a depth of at least one inch.

B. Cold Weather:

1. Provide adequate equipment for heating concrete materials and protecting concrete during freezing or near-freezing weather. All ground with which concrete is to come in contact shall be free from frost. No frozen materials or materials containing ice shall be used.

2. The temperature of concrete at the time of placement shall not be below the minimum temperatures given in Table 3.1 of ACI 306.1.

3. Concrete shall be maintained at a temperature of at least 50° F. for not less than 72 hours after placing or until it has thoroughly hardened. Cover concrete and provide sufficient heat as required. When necessary, aggregates shall be heated before mixing. Special precautions shall be taken for protection of transit-mixed concrete.

C. Hot Weather:

1. Concrete to be placed during hot weather shall comply with the requirements of ACI 318, Section 5.13.

2. Maintain concrete temperatures indicated in Table 2.1.5 of ACI 305R to prevent the evaporation rate from exceeding 0.2 pound of water per square feet of exposed concrete per hour.

3. Cool concrete using methods indicated in ACI 305R Appendix B.

4. Place and cure concrete as specified in ACI 305R Chapter 4.

D. Compaction and Screeding:

1. Tamp freshly placed concrete with a heavy tamper until at least 3/8 inch of mortar is brought to surface. Concrete shall then be tamped with a light tamper and screeded with a heavy straightedge until depressions and irregularities are eliminated, and surface is true to finish grades or elevations. Remove excess water and debris.

2. Where slabs are to receive separate cement finish or mortar setting bed, continued tamping to raise mortar to surface is not performed. Laitance shall be removed by brushing with a stiff brush or by light sandblasting to expose clean top surface of coarse aggregate.

3.05 CURING

A. Length of time, temperature and moisture conditions for curing concrete shall be in accordance with ACI 318, Section 5.11.

B. Forms containing concrete, top of concrete between forms, and exposed concrete surfaces after removal of forms shall be maintained in a thoroughly wet condition for at least 7 consecutive days after placing.

C. If weather is hot or surface has dried out, spray surface of concrete slabs and paving with fine mist of water, starting not later than 2 hours after final troweling and

continuing until sunset. Surface of finish shall be kept continuously wet until curing medium has been installed.

D. Immediately after finishing, monolithic floor slabs shall be covered with curing paper. Paper shall be lapped 4 inches at joints and sealed with waterproof sealer. Edges shall be cemented to finish. Repair or replace paper damaged during construction operations.

E. When curing slabs with proactive water vapor emission and alkalinity control system:

1. Coordinate and schedule application of curing compound with concrete pour schedule, while conforming to manufacturer's application instructions.

2. When the surface of the concrete has hardened sufficiently to sustain foot traffic pre-cure slabs with liquefied product application following manufacturer's written instructions. Application shall be by trained applicators.

3. Monitor Environmental Conditions: Set up weather station 20 to 30 inches above freshly placed concrete. Record temperature, humidity and wind velocity measurements at 15 minute maximum intervals.

4. Calculate Evaporation Rate: Use recorded weather information in combination with nomograph per ACI 308R, Figure 4.1, Guide to Curing Concrete, to evaluate relevant evaporation rate.

5. When the bleed water rate of the concrete is approximately equal to the surface water evaporation rate, spray curing compound material throughout surface of slabs and decks, following manufacturer's written instructions. Application shall be by trained applicators.

6. Perform the following tests at least 28 days after placement of concrete and prior to floor covering installation. Submit to OAR test results indicating locations that do not comply with scheduled flooring installation requirements.

a. Calcium chloride testing per ASTM F1869.

b. Relative humidity testing per ASTM F2170.

c. Alkalinity testing per ASTM F710.

d. Perform concrete bond layer humidity meter testing to determine substrate surface acceptability.

7. Areas emitting moisture and alkalinity at rates exceeding floor covering manufacturer's published ASTM F1869 limits, shall receive a corrective coating, at no cost to the OWNER, as follows:

a) Mask and protect adjacent walls and floor surfaces from effects of scarification and application of remedial treatment.

b) Scarify slab surface in area of application by shot blasting or other method acceptable to corrective coating manufacturer.

c) Prepare and fill cracks, control joints and cold joints.

d) Apply two-component modified epoxy penetrant and coating with roller and squeegee over required treatment area; saturate surfaces to ensure a through mechanical bond.

e) Clean and fill divots, chips, voids and other surface irregularities with one hundred percent Portland cement-based patching compound or cementitious fill.

f) Apply cementitious surfacing over coating in areas to receive resilient and wood floor coverings to facilitate adhesion; apply to a thickness of 1/8 inch.

3.06 FILLING, LEVELING AND PATCHING

A. Concrete slabs exhibiting high or low spots and indicated to receive resilient floor covering or soft floor covering, shall have surfaces repaired. High spots shall be honed, or ground with power-driven machines to required tolerances. Low spots shall be filled with latex underlayment, installed in strict accordance with manufacturer's written recommendations.

B. Holes resulting from form ties or sleeve nuts shall be solidly packed, through exterior walls, by pressure grouting with cement grout, as specified. Grouted holes on exposed surfaces shall be screeded flush and finished to match adjoining surfaces.

C. Cement Base: Cement base shall be of the height, thickness, and shape detailed. Base shall be reinforced with one inch mesh, 18 gage, zinc-coated wire fabric. Base finish mixture shall be one part Portland cement, 2 parts of fine aggregate and one part pea gravel. Colored cement base shall include a chemically inert mineral oxide pigment in the mix.

3.07 FINISHING

A. Soda and Acid Wash: Concrete surfaces to receive plaster, paint or other finish, and which have been formed by oil coated forms, shall be scrubbed with a solution of 1-

1/2 pounds of caustic soda to one gallon of water. Surfaces where smooth wood or waste molds have been furnished shall be scrubbed with a solution of 20 percent muriatic acid. Wash with clean water after scrubbing.

B. Sacking: Exposed concrete curbs, walls, and other surfaces shall be sacked by an application of Portland cement grout, floated, and rubbed. Sacking shall not be performed until patching and filling of holes has been completed. Entire sacking operation for any continuous area shall be started and completed within the same day.

1. Mix one part Portland cement and 1-1/2 parts fine sand with sufficient water to produce a grout having consistency of thick paint. Wet surface of concrete sufficiently to prevent absorption of water from grout. Apply grout uniformly with a brush or spray gun, then immediately float surface with a cork or other suitable float, scouring wall vigorously.

2. While grout is still plastic, finish surface with a sponge-rubber float, removing excess grout. Allow surface to dry thoroughly, then rub vigorously with dry burlap to completely remove dried grout. No visible film or grout shall remain after rubbing with burlap.

C. Sandblasting: Exterior concrete surfaces to receive stucco dash coat finish, where plywood or other smooth forms have been furnished, shall be uniformly sand-blasted with sharp quartz sand under sufficient air pressure to remove dirt, form oil and other foreign materials, and roughen surface to provide a proper bond. Such surfaces shall be thoroughly washed with clean water after sandblasting.

D. Abrasive: Concrete stair treads, landings, ramps and steps on interior and exterior of buildings, and interior exposed concrete floors in shop buildings shall receive an abrasive finish.

E. Floor Hardener: Exposed interior concrete floors throughout shall be treated with floor hardener.

1. Protect adjacent surfaces. Clean surfaces to receive treatment in accordance with manufacturer's instructions, ensuring that all stains, oil, grease, form release agents, laitance, dust and dirt are removed prior to application.

2. Apply hardener in accordance with manufacturer’s instructions as soon as concrete is firm enough to work on after final troweling.

F. Cement Grout and Dry-Pack Concrete: Cement grout shall be mixed at the Project site and shall be composed of one volume of Portland cement and 2-1/2 volumes of fine aggregate. Materials shall be mixed dry with sufficient water added to make mixture flow under its own weight. When grout is used as a dry pack concrete, add sufficient water to provide a stiff mixture, which can be molded into a sphere.

G. Broom Finish: Exterior stair treads and landings shall be provided with a non-slip broom finish in addition to abrasive finish specified.

H. Abrasive Stair Nosing: Nosing shall be installed according to manufacturers written recommendations.

3.08 EXPANSION AND CONSTRUCTION JOINTS

A. Construction Joints: Details and proposed location of construction joints shall be as indicated on the Drawings, located to least impair strength of structure, in accordance with the following:

1. Thoroughly clean contact surface by sand blasting entire surface not earlier than 5 days after initial placement.

2. A mix containing same proportion of sand and cement provided in concrete plus a maximum of 50 percent of coarse aggregate shall be placed to a depth of at least one inch on horizontal joints. Vertical joints shall be wetted and coated with a neat cement grout immediately before placing of new concrete.

3. Should contact surface become coated with earth, sawdust, or deleterious material of any kind after being cleaned, entire surface shall be re-cleaned before applying mix.

B. Expansion Joints: Provide expansion joints where indicated in walks and exterior slabs. Space approximately 20 feet apart, unless otherwise indicated. Joints shall extend entirely through slab with joint filler in one piece for width of walk or slab. Joint filler shall be 3/8 inch thick, unless otherwise indicated.

C. Tooled Joints: Slabs, walks and paving shall be marked into areas as indicated with markings made with a V-grooving tool. Marks shall be round-edged, free from burrs or obstructions, with clean cut angles and shall be straight and true. Walks, if not indicated, shall be marked off into rectangles of not more than 12 square feet and shall have a center marking where more than 5 feet wide.

3.09 TESTING

A. Molded Cylinder Tests:

1. Inspector or testing lab personnel will prepare cylinders and perform slump tests. Samples for concrete strength shall be taken in accordance to ASTM C172. Each cylinder shall be dated, given a number, point in structure from which sample was obtained, mix design number, mix design strength and result of accompanying slump test noted.

2. Separate tests of molded concrete cylinders obtained at same place and time shall be made at age of three days, seven days, and 28 days. A strength test shall be the average of the compressive strength of two cylinders, obtained from the same sample of concrete and tested at 28 days or at test age designated for determination of f'c.

3. Test cylinders shall be prepared at the Project site and stored in testing laboratory in accordance with ASTM C31, and tested in accordance with ASTM C39.

B. Core Test: At request of the ARCHITECT, cores of hardened concrete shall be cut from portions of hydrated structures for testing, in accordance with CBC and ASTM C42.

1. Provide 4-inch diameter cores at representative places throughout the structure as designated by the ARCHITECT.

2. In general, provide sufficient cores to represent concrete placed with at least one core for each 4,000 square feet of building area, and at least 3 cores total for each Project.

3. Where cores have been removed, fill voids with drypack, and patch the finish to match the adjacent existing surfaces.

C. Concrete Consistency: Measure consistency according to ASTM C143. Test twice each day or partial day's run of the mixer.

D. Adjustment of Mix: If the strength of any grade of concrete for any portion of Work, as indicated by molded test cylinders, falls below minimum 28 days compressive strength specified or indicated, adjust mix design for remaining portion of construction so that resulting concrete meets minimum strength requirements.

E. Air Content Testing: Measure in accordance to ASTM C173 or ASTM C231, for each composite sample taken in accordance to ASTM C172.

F. Defective Concrete:

1. Should strength of any grade of concrete, for any portion of Work indicated by tests of molded cylinders and core tests, fall below minimum 28 days strength specified or indicated, concrete will be deemed defective Work and shall be replaced or adequately strengthened in a manner acceptable to the ARCHITECT and DSA.

2. Concrete Work that is not formed as indicated, is not true within 1/250 of span, not true to intended alignment, not plumb or level where so intended, not true to intended grades and levels, contains sawdust shavings, wood or embedded

debris, or does not fully conform to Contract provisions, shall be deemed to be defective Work and shall be removed and replaced.

G. Concrete for Equipment Pads, Mechanical and Electrical Work: Unless otherwise indicated, strength shall have a minimum $f'c$ = 3,000 psi. Exposed concrete shall be provided with a hand trowel finish with radius corners and edges. Form and place concrete where necessary as described in Section 03 1000 Concrete Forming and Accessories, and reinforced as described in Section 03 2000 Concrete Reinforcing. Calcium chloride shall not be furnished in any concrete mix provided for the installation of underground electrical conduits. For concrete encasement of more than one conduit, furnish 3/4 inch maximum aggregate.

3.10 CLEAN UP

A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

3.11 PROTECTION

A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 05 0513

HOT-DIP GALVANIZING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Hot-dip galvanizing of structural steel articles.
2. Hot-dip galvanizing of fabricated steel assemblies.
3. Hot-dip galvanizing of fencing steel assemblies.
4. Preparation of galvanized steel assemblies for painting.

B. Related Sections:

1. Division 01 - General Requirements.
2. Section 05 5000: Metal Fabrications.

1.02 REFERENCES

A. American Galvanizers Association (AGA):

1. Inspection of Products Hot-dip Galvanized after Fabrication.
2. The Design of Products to be Hot-dip Galvanized after Fabrication.
3. Recommended Details of Galvanized Structures.

B. ASTM International (ASTM):

1. ASTM A123 – Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.
2. ASTM A143 – Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement.
3. ASTM A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A384 – Standard Practice for Safeguarding Against Warpage and Distortion during Hot-Dip Galvanizing of Steel Assemblies.

5. ASTM A385 – Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip).

6. ASTM A780 – Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

7. ASTM B6 – Standard Specification for Zinc.

8. ASTM D6386 – Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting.

9. ASTM D7803 - Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Powder Coating.

10. ASTM E376 - Measuring Coating Thickness by Magnetic-Field or Eddy-Current (Electromagnetic) Test Methods.

C. The Society for Protective Coatings (SSPC):

1. SSPC-SP1 – Solvent Cleaning.

2. SSPC-SP2 – Hand Tool Cleaning.

3. SSPC-SP3 – Power Tool Cleaning.

4. SSPC-SP5 – White Metal Blast Cleaning.

5. SSPC-SP7 – Brush-Off Blast Cleaning.

6. SSPC-SP10 – Near White Blast Cleaning.

7. SSPC-SP11 – Power Tool Cleaning to Bare Metal.

8. SSPC-SP16 - Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals.

1.03 COORDINATION WITH STEEL FABRICATOR

A. Prior to fabrication, steel fabricators shall submit approved fabrication shop drawings to the galvanizer. The Galvanizer shall review fabricator shop drawings for suitability of materials for galvanizing and coatings and coordinate any required fabrication modifications.

B. Steel Fabricator shall notify the galvanizer of steel fabrications that exceed the ASTM A385 recommended percentages for carbon, phosphorus, manganese and silicon, so special galvanizing processing techniques are used.

C. Coordinate with steel fabricator appropriate marking and masking materials.

1.04 QUALITY ASSURANCE

A. Coating Applicator: Company specializing in hot-dip galvanizing after fabrication following the procedures in the Quality Assurance Manual of the American Galvanizers Association.

B. Galvanizer shall have an in-plant inspection program designed to maintain the coating thickness, finish, and appearance within the requirements of this Section.

1.05 SUBMITTALS

A. Galvanizing Certificate of Compliance: Provide notarized Certificate of Compliance with ASTM standards and specifications herein listed. The Certificate shall be signed by the galvanizer and contain a detailed description of the material processed. The Certificate shall include information as to the ASTM standard used for the coating.

1.06 DELIVERY, STORAGE AND HANDLING

A. Package and handle galvanized material in a manner which will avoid damage to the zinc coating.

B. Store in dry, well-ventilated conditions until shipping.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Steel for Galvanizing: As specified in Sections:

1. Section 05 5000: Metal Fabrications.

B. Zinc for Galvanizing: Conform to ASTM B6, as specified in ASTM A123.

PART 3 – EXECUTION

3.01 PREPARATION

A. Remove welding slag, splatter, anti-splatter compounds and burrs remaining in steel articles.

B. Provide drainage and venting holes in tubular assemblies. In thicker material drill holes in place of punching. Holes shall have a relatively uniform circumference. Punched holes or burned holes with a plasma torch shall be treated with a drill to even the diameter to appropriate size.

C. Masking installed by steel fabricator shall remain in place through galvanizing process completion.

D. Provide lifting lugs to allow for handling during galvanizing. Avoid the use of chains or wires directly connected to steel articles.

E. Safeguard against warpage or distortion of steel members in accordance with ASTM A384.

F. Pre-clean steel work in accordance with accepted methods to produce an acceptable surface for quality hot-dip galvanizing. Remove surface contaminants and coatings that are not removable by the normal chemical cleaning process in the galvanizing operation by grit-blasting, sand-blasting, or other mechanical means.

G. Follow the degreasing, pickling and fluxing steps to remove remaining oxides and to deposit a protective layer on the steel to prevent any further oxides from forming on the surface prior to immersion in the molten zinc.

3.02 COATING APPLICATION

A. Galvanize steel articles, fabrications and assemblies by the hot-dip process in accordance with ASTM A123. The bath chemistry shall be as specified by ASTM B6, and requires at least 98% pure zinc maintained at approximately 840 F.

B. Galvanize bolts, nuts, washers and iron and steel hardware components in accordance with ASTM A153.

C. Safeguard products against steel embrittlement in conformance with ASTM A143.

D. Once the fabricated items' coating growth is complete, withdraw slowly from the galvanizing bath, and remove the excess zinc by draining, vibrating, and/or centrifuging.

E. Prepare galvanized products for powder coating in accordance to ASTM D7803. Prepare galvanized products for painting in accordance to ASTM D6386.

F. Handle articles to be galvanized in such a manner as to avoid mechanical damage and to minimize distortion.

G. Apply a chromate passivation treatment to fabrications that will not be painted after galvanizing to minimize the wet storage staining which may occur on articles unable to be stored in dry, well-ventilated conditions.

3.03 COATING REQUIREMENTS

A. Conform to paragraph 6.1 of ASTM A123, or Table 1 of ASTM A153, as applicable.

B. Surface Finish: Continuous, adherent, as smooth and evenly distributed as possible and free from any defect detrimental to the stated end use of the coated article

C. Adhesion: Withstand normal handling consistent with the nature and thickness of the coating and normal use of the article.

1.04 TESTS

A. Inspection and testing of hot-dip galvanized coatings shall be done under the guidelines provided in the AGA publication Inspection of Products Hot-dip Galvanized after Fabrication. Tests and inspections shall be performed immediately after the coating is applied and has cooled to ambient temperature, and before it leaves the galvanizing facility.

B. Include visual examination and test methods in accordance with ASTM A123, or A153, as applicable, to determine the thickness of the zinc coating on the metal surface.

C. During the visual inspection, if adhesion concerns are suspected, such as peeling or flaking of the galvanized coating, then adhesion testing using the stout knife method shall be conducted. Embrittlement testing is required when there is evidence of embrittlement and shall be conducted per the requirements of ASTM A143.

D. Upon completion of tests furnish notarized Certificate of Compliance with ASTM standards and specifications herein listed.

3.05 REPAIR OF DAMAGED COATINGS

A. Smooth out rough surfaces, bumpy or high spots and icicles by hand filing or power sanding the area without removing any more zinc coating than necessary. Repair damaged galvanized surface with a zinc rich coating.

B. Repair areas damaged during galvanizing process or handling by one of the approved methods in accordance with ASTM A780 whenever damage exceeds 3/16” in width. Minimum thickness requirements for the repair shall be per ASTM A123, Section 6.2.

C. Remove lifting lugs and repair coating with a zinc rich coating.

D. Surface preparation for application of zinc rich coating shall be in accordance to ASTM A780.

1. Clean areas in accordance to SSPC-SP2.

2. Prepare surface for zinc spray in accordance to SSPC-SP5, or zinc rich paint repair in accordance to SSPC-SP10.

3.06PREPARATION FOR TOP COATING

A. Galvanized fabrications indicated on the drawings to be painted shall be prepared in accordance to ASTM D6836.

1. Surface cleaning prior to surface preparation in accordance to SSPC-SP1.

2. Removal of zinc high spots and cleaning of light deposits of zinc reaction products in accordance to SSPC-SP2 or SSPC-SP3.

3. Profile surface in accordance to SSPC-SP7 or SSPC-SP11.

B. Galvanized fabrications indicated on the drawings to be powder coated shall be prepared in accordance to ASTM D7803.

1. Surface cleaning and removal of oil and grease in accordance to SSPC-1.

2. Surface smoothing and removal of loose particles in accordance to SSPC-SP-2 or SSPC-SP3.

3. Sweep blasting and surface profiling in accordance to SSPC-SP16.

END OF SECTION

SECTION 05 1200

STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Structural steel.
2. Architecturally exposed structural steel.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 01 4523 - Testing and Inspection.
3. Section 03 3000 - Cast-In-Place Concrete.
4. Section 04 2200 - Concrete Unit Masonry.
5. Section 05 0513 – Hot-Dip Galvanizing.
6. Section 05 3000 - Metal Decking.
7. Section 05 5000 - Metal Fabrications.
8. Section 09 9000 - Paints and Coatings.

1.02 REFERENCES

A. CBC Chapter 22A.

B. American Institute of Steel Construction (AISC):

1. AISC – Steel Construction Manual:
   a. AISC 360 Specifications for Structural Steel Buildings.
   b. AISC Code of Standard Practice for Steel Buildings and Bridges.
   c. RCSC Specification for Structural Joints Using High Strength Bolts.
2. AISC 341 - Seismic Provisions for Structural Steel Buildings.

3. AISC 358 - Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications.

C. ASTM International (ASTM):

1. ASTM A36 – Standard Specification for Carbon Structural Steel.

2. ASTM A53 – Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

3. ASTM A108 – Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished.

4. ASTM A123 – Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.

5. ASTM A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

6. ASTM A307 – Standard Specification for Carbon Steel Bolts and Studs, and Threaded Rod 60000 PSI Tensile Strength.

7. ASTM A435 - Standard Specification for Straight-Beam Ultrasonic Examination of Steel Plates.

8. ASTM A500 – Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.

9. ASTM A501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

10. ASTM A572 – Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.

11. ASTM A653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

12. ASTM A673 - Standard Specification for Sampling Procedure for Impact Testing of Structural Steel.

13. ASTM A992 – Standard Specification for Structural Steel Shapes.

14. ASTM C1107 – Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).

15. ASTM E23 - Standard Test Methods for Notched Bar Impact Testing of Metallic Materials.

16. ASTM E112 - Standard Test Methods for Determining Average Grain Size.

17. ASTM F3125 - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi (830 MPa) and 150 ksi (1040 MPa) Minimum Tensile Strength, Inch and Metric Dimensions.

18. ASTM F436 – Standard Specification for Hardened Steel Washers Inch and Metric Dimensions.

19. ASTM F959 - Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners, Inch and Metric Series.

20. ASTM F1554 – Standard Specification for Anchor Bolts, Steel, 36, 55 and 105-Ksi Yield Strength.

21. ASTM F1852 – Standard Specification for Twist Off Type Tension Control Structural Bolt/Nut/Washer Assemblies, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.

D. American Welding Society (AWS):

1. AWS D1.1 – Structural Welding Code - Steel.

2. AWS D1.8 – Structural Welding Code – Seismic Supplement.

3. AWS A2.4 – Standard Symbols for Welding, Brazing, and Nondestructive Examination.

4. AWS B2.1 – Base Metal Grouping for Welding Procedure and Performance Qualification.

E. SSPC – Steel Structures Painting Council:

1. SSPC-SP2 - Hand Tool Cleaning.

2. SSPC-PA-1 - Shop, Field and Maintenance Coating of Metals.

1.03 REGULATORY REQUIREMENTS

A. Structural steel shall conform to CBC requirements, except that steel manufactured by acid Bessemer process is not permitted for structural purposes.

B. Sheet and strip steel other than those listed in CBC, if provided for structural purpose, shall comply with DSA requirements.

1.04 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings, including complete details and schedules for fabrication and shop assembly of members, and details, schedules, procedures and diagrams showing the sequence of erection. Fully detail minor connections and fastenings not shown or specified in the Contract Documents to meet required conditions using similar detailing as shown in the Contract Documents. Include a fully detailed, well controlled sequence and technique plan for shop and field welding that minimizes locked in stresses and distortion; submit sequence and technique plan for review by the ARCHITECT.

1. Include details of cuts, connections, camber, and holes in accordance with Figure 4.5 of AWS D1.1 or AISC Chapter J, weld position plan and other pertinent data. Indicate welds by standard AWS symbols, and show size, length and type of each weld.

2. Provide setting drawings, templates, and directions for installation of anchor bolts and other anchorages to be installed for Work specified in other sections.

3. Erection and Bracing Plan and Erection Procedure: Submit an erection and framing plan, including columns, beams, and girders, signed and sealed by a Structural or Civil Engineer registered in the State of California in accordance with Title 8 California Code of Regulations, Section 1710, Structural Steel Erection. Maintain a copy at the Project site as required by the California Division of Industrial Safety.

4. Submit a list of steel items to be galvanized.

5. Include identification and details of Architecturally Exposed Structural Steel (AESS) members, if applicable.

B. Product Data: Submit copies of fabricator’s specifications and installation instructions for the following products. Include laboratory test reports and other data required demonstrating compliance with these Specifications:

1. Structural steel, each type; including certified copies of mill reports covering chemical and physical properties.

2. Welding electrodes.

3. Welding gas.

4. Unfinished bolts and nuts.

5. Structural steel primer paint.

6. High-strength bolts, including nuts and washers.

C. Manufacturer's Mill Certificate: Submit, certifying that products meet or exceed specified requirements.

D. Mill Test Reports: Submit manufacturer's certificates, indicating structural yield and tensile strength, destructive and non-destructive test analysis.

E. Charpy-V-Notch (CVN) Impact Test: Submit certified copies of Charpy-V-Notch (CVN) Impact Test by the manufacturer for applicable steel members and components.

1. Charpy-V-Notch (CVN) Impact Test for Base Metal: Moment frame columns and girders subjected to Charpy-V-Notch impact test in accordance with "Seismic Provisions for Structural Steel Buildings", Part I, Section 6.3, as modified by Supplement 1.

2. Charpy-V-Notch test shall be performed by the manufacturer employing Test Frequency (P) in accordance with ASTM A673 and utilizing standard specimen sizes shown in Figure 6 of ASTM E23.

F. Submit certified copies of tests by manufacturer for fine grain practice. Structural steel base material, as described above, shall be manufactured to be fully killed and fine grained having grain size number 5 or better as determined by ASTM E112.

G. Welding Procedure Specifications (WPS): Submit weld procedures for all welding on project to OWNER's testing laboratory for approval. After approval by testing laboratory, submit to ARCHITECT for Record. Weld procedures shall be qualified as described in AWS D1.5, AISC 341 and AISC 358, as applicable. Weld procedures shall indicate joints details and tolerances, preheat and interpass temperature, post-heat treatment, single or multiple stringer passes, peening of stringer passes for groove welds except for the first and the last pass, electrode type and size, welding current, polarity and amperes and root treatment. The welding variables for each stringer pass shall be recorded and averaged; from these averages the weld heat input shall be calculated. Submit the manufacturer's product data sheet for all welding material used.

H. Welder's Certificates: Field welders shall be Project certified in accordance with AWS D1.1. Shop welders shall be Project certified for FCAW in accordance with AWS D1.1.

I. Test Reports: Submit reports of tests conducted on shop and field welded and bolted connections. Include data on type of test conducted and test results.

J. Welding Material Certification: Provide certificate that welding material complies with specifications. Submit to OWNER's testing laboratory.

1.05 QUALITY ASSURANCE

A. Comply with the following as a minimum requirement, except as otherwise indicated:

1. American Institute of Steel Construction (AISC) "Code of Standard Practice for Steel Buildings and Bridges, modified as follows:

a. Replace "Structural Design Drawings" with "Contract Documents' throughout the document.

b. Paragraph 3.2 is hereby modified in its entirety as follows: "Contract Documents including but not limited to architectural, mechanical, plumbing, electrical, civil and kitchen design drawings and specifications shall be used as supplement to the structural plans to define configurations and construction information."

c. Delete Paragraph 3.3.

d. In Paragraph 4.4, delete the following sentence: "These drawings shall be returned to the Fabricator within 14 calendar days."

e. Delete Paragraph 4.4.1.(a) in its entirety.

f. Paragraph 4.4.2 is hereby modified in its entirety as follows: "No review action, implicit or explicit, shall be interpreted to authorize changes in the Contract Documents."

2. Perform welding in accordance with AWS Standards, AWS D1.1, and California Building Code Section 2204A.1 and approved Weld Procedure Specifications (WPS).

3. Welding for moment frames shall be in compliance with AISC 341 and AISC 358.

B. Shop fabrication shall be inspected in accordance with CBC.

C. Erect mock-up panel of fabricated structural steel meeting Architecturally Exposed Structural Steel (AESS) tolerances for exposed areas. Approval by ARCHITECT is required. Mock-up to remain for comparison but may not be left as part of the work.

1.06 DELIVERY, STORAGE AND HANDLING

A. Store structural steel above grade on platforms, skids or other supports.

B. Protect steel from corrosion.

C. Store welding electrodes in accordance with AWS D 12.1.

D. Store other materials in a weather-tight and dry place until installed into the Work.

PART 2 - PRODUCTS

2.01 GENERAL

A. Stock Materials: Provide exact materials, sections, shapes, thickness, sizes, weights, and details of construction indicated on Drawings. Changes because of material stock or shop practices will be considered if net area of shape or section is not reduced thereby, if material and structural properties are at least equivalent, and if overall dimensions are not exceeded.

B. Shapes, bars, plates, tubes and pipes shall be made of materials with at least 16 percent recycled content if produced from Basic Oxygen Furnace (BOF) or at least 67 percent recycled content if produced from Electric Arc Furnace (EAF).

2.02 MATERIALS

A. Structural Steel: Wide flange shapes shall conform to ASTM A992 grade 50. Other steel shall conform to ASTM A36.

B. Unfinished Threaded Fasteners: ASTM A307, Grade A, regular low carbon bolts and nuts.

C. High-Strength Threaded Fasteners: ASTM F3125 or ASTM F959 quenched and tempered, steel bolts, nuts and washers.

D. Primers: Lead-free metal primer:

1. SSPC-Paint 20, Zinc-Rich Coating Inorganic and Organic.

2. SSPC-Paint 23, Latex Primer for Steel Surfaces.

E. Steel Pipe: ASTM A53, Type E or S, Grade B.

F. Structural Tubing:

1. Hot-formed, ASTM A501.

2. Cold-formed, ASTM A500, Grade B.

G. Galvanizing: ASTM A123.

H. Shear stud connectors: ASTM A108, Grade 1015 forged steel, headed, uncoated, granular flux filled shear connector or anchor studs by Nelson Stud Welding Division, or equal.

I. Grout: ASTM C1107, non-shrink type, pre-mixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing additives, capable of developing a minimum compressive strength of 7,000 psi at seven days; of consistency suitable for application and a 30 minute working time.

2.03 FABRICATION

A. Fabricate in accordance to AISC Code of Standard Practice for Steel Buildings and Bridges and AISC 360.

B. Cleaning and Straightening Materials: Materials being fabricated shall be thoroughly cleaned of scale and rust, and straightened before fabrication. Cleaning and straightening methods shall not damage material. After punching or fabrication of component parts of a member, twists or bends shall be removed before parts are assembled.

C. Cutting, Punching, Drilling and Tapping: Unless otherwise indicated or specified, structural steel fabricator shall perform the cutting, punching, drilling and tapping of Work so that Work of other trades will properly connect to steel Work.

D. Milling: Compression joints depending on contact bearing shall be furnished with bearing surfaces prepared to a common plane by milling.

E. Use of Burning Torch: Oxygen cutting of members shall be performed by machine. Gouges greater than 3/16 inch that remain from cutting shall be removed by grinding. Reentrant corners shall be shaped notch free to a radius of at least 1/2 inch. Gas cutting of holes for bolts or rivets is not permitted.

F. Galvanizing: After fabrication, items indicated or specified to be galvanized shall be galvanized per Section 05 5013, Hot-Dip Galvanizing.

G. Welding:

1. Type of steel furnished in welded structures shall provide chemical properties suitable for welding as determined by chemical analysis. Welds shall conform to the verification and inspection requirements of CBC Chapter 17A. Conform to AWS D1.1, and CBC Chapter 22A.

2. Materials and workmanship shall conform to the requirements specified herein and to CBC requirements, modified as follows:

a. No welded splices shall be permitted except those indicated on Drawings unless specifically reviewed by the ARCHITECT.

b. Drawings will designate joints in which it is important that welding sequence and technique be controlled to minimize shrinkage stresses and distortion.

3. Welding shall be performed in accordance with requirements of the AWS Structural Welding Code.

4. Architecturally Exposed Structural Steel: Verify that weld sizes, fabrication sequence, and equipment used for Architecturally Exposed Structural Steel will limit distortions to allowable tolerances. Prevent surface bleeding of back-side welding on exposed steel surfaces. Grind smooth exposed fillet welds ½ inch and larger. Grind flush butt welds. Dress exposed welds.

5. Remove erection bolts on welded, Architecturally Exposed Structural Steel; fill holes with plug welds; and grind smooth at exposed surfaces.

H. Shop Finish:

1. Notify the Project Inspector when Work is ready to receive shop prime coat. Work shall be inspected by the Project Inspector before installation of primer.

2. Structural steel and fittings shall receive a coat of primer, except:

a. Surfaces that will be galvanized.

b. Surfaces that will be fireproofed.

c. Surfaces that will be field welded.

d. Surfaces in contact with concrete.

e. Surfaces high strength bolted.

3. The primer specified shall be spray applied, filling joints and corners and covering surfaces with a smooth unbroken film. The minimum dry film thickness of the primer shall be 2.0 mils.

I. Comply with fabrication tolerance limits of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for structural steel.

J. Fabricate Architecturally Exposed Structural Steel with exposed surfaces smooth, square, and free of surfaces blemishes, including pitting, rust and scale seam marks, roller marks, rolled trade names, and roughness.

1. Remove blemishes by filling, grinding, or by welding and grinding, prior to cleaning, treating and shop priming.

2. Comply with fabrication requirements, including tolerance limits of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for Architecturally Exposed Structural Steel.

K. Architecturally Exposed Structural Steel: use special care in unloading, handling and erecting the steel to avoid marking or distorting the steel members. Minimize damage to any shop paint when temporary braces or erection clips are used. Avoid unsightly surfaces upon removal. Grind smooth tack welds and holes filled with weld metal or body solder. Plan and execute all operations in such a manner that the close fit and neat appearance of the structure will not be impaired.

2.04 SHOP AND FIELD QUALITY CONTROL

A. A special inspector, approved by DSA to inspect the Work of this section, shall inspect high-strength bolted connections. OWNER will provide a DSA approved independent testing laboratory to perform tests and prepare test reports in accordance with CBC 1704A. The Project Inspector shall be responsible for monitoring the work of the special inspector and testing laboratories to ensure that the testing program is satisfactorily completed.

B. An AWS certified welding inspector (CWI), approved by DSA to inspect the Work of this section, shall inspect welded connections in accordance with CBC 1705A.2.5. The OWNER will provide a DSA approved independent testing laboratory to perform tests and prepare test reports. The Project Inspector shall be responsible for monitoring the work of the special inspector and testing laboratories to ensure that the testing program is satisfactorily completed.

C. The independent testing laboratory shall conduct and interpret test and state in each report whether test specimens comply with requirements, and specifically state any deviations there from.

D. Provide access to all places where structural steel Work is being fabricated or produced so required inspection and testing can be performed.

E. The independent testing laboratory may inspect or test structural steel at plant before shipment; however, ARCHITECT reserves the right at any time before Contract Completion to deem materials not in compliance with the specified requirements as defective Work.

F. Correct defects in structural Work when inspections and laboratory test reports indicate noncompliance with specified requirements. Perform additional tests as may be required to reconfirm noncompliance of original Work, and as may be required to show demonstrate compliance of corrected Work.

G. Inspection of Structural Tube Steel/Hollow Structural Sections (HSS): Structural tube steel members (round, square, rectangular), disregarding steel origin, will be

inspected during shop fabrication per DSA Bulletin 07-03. Inspector will perform a visual examination of the seam weld area for visible discontinuities. When defects are suspected, non-destructive testing will be considered.

H. Welding: Inspect and test during fabrication and erection of structural steel assemblies as follows:

1. Certify welders and conduct inspections and tests as required. Record types and locations of defects found in the Work. Record Work required and performed to correct deficiencies.

2. Inspect welds. Welds shall be visually inspected before performing any non-destructive testing. Groove weld shall be inspected by ultrasonic or other approved non-destructive test methods. Testing shall be performed to AWS D1.1 Table 6.3 cyclically loaded non-tubular connections.

3. Ultrasonic testing shall be performed by a specially trained and qualified technician who shall operate the equipment, examine welds, and maintain a record of welds examined, defects found, and disposition of each defect. Repair and test defective welds.

4. Rate of Testing: Completed welds contained in joints and splices shall be tested 100 percent either by ultrasonic testing or by radiography.

5. Welds, when installed in column splices, shall be tested by either ultrasonic testing or radiography.

6. Base metal thicker than 1 ½-inch, when subjected to through-thickness weld shrinkage strains, shall be ultrasonically inspected by shear wave methods for discontinuities directly behind such welds. Tests shall be performed at least 48 hours after completed joint has cooled down to ambient air temperature.

7. Material discontinuities shall be reviewed based on the defect rating in accordance with the criteria of AWS D1.1 table 6.3 by the ARCHITECT and DSA.

8. Other method of non-destructive testing and inspection, for example, liquid dye penetrate testing, magnetic particle inspection or radiographic inspection may be performed on weld if required.

9. Lamellar Tearing: Lamellar-tearing resulting from welding is a crack (with zero tolerance) and shall be repaired in accordance with AWS D1.1.

10. Lamination: The rejection criteria shall be based on ASTM A435.

11. Where testing reveals lamination or conditions of lamellar tearing in base metal, the steel fabricator shall submit a proposed method of repair for review by the ARCHITECT. Test repaired areas as required.

12. Magnetic Particle Testing: Magnetic particle testing when required shall be provided in accordance with AWS D1.1 for procedure and technique. The standards of acceptance shall be in accordance with AWS D1.1 – Qualification.

I. Lamellar Tearing: Prior to welding plates 1 to 1-½ inch thick and greater and rolled shapes within the distance from 6 inches above the top of the joint to 6 inches below the bottom of the joint shall be checked by ultrasonic testing for laminations in base metal which may interfere with the inspection of the completed joint. Should these defects occur, members will be reviewed by the ARCHITECT and DSA. Welding procedure specifications in paragraph 1.04.G specify welding practices to minimize lamellar tearing.

J. Prior Testing of Base Material: Test material before fabrication.

K. Lines and levels of erected steel shall be certified by a State of California licensed surveyor as set forth in related Division 01 section.

L. Welded studs shall be tested and inspected by the special inspector in accordance with requirements of AWS D1.1 – Stud Welding.

M. Record Drawings: After steel has been erected, correct or revise Shop Drawings and erection diagrams to correspond with reviewed changes performed in the field.

PART 3 - EXECUTION

3.01 PREPARATION

A. Verify governing dimensions and conditions of the Work before commencing erection Work.

1. Report discrepancies between drawings and field dimensions to ARCHITECT before commencing work.

2. Beginning of installation means erector accepts existing conditions and surfaces underlying or adjacent to work of this section.

B. Provide temporary shoring and bracing, and other support during performance of the Work. Remove after steel is in place and connected, and after cast-in-place concrete has reached its design strength.

C. Coordinate prime coat repair and application with requirements of Section 09 9000.

3.02 ERECTION

A. Install structural steel accurately in locations, to elevations indicated, and according to AISC specifications and CBC requirements.

B. Clean surfaces of base plates and bearing plates.

1. Install base and bearing plates for structural members on wedges, shims, or setting nuts as required.

2. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims; cut off flush with edge of base or bearing plate before packing with grout.

C. Maintain erection tolerances of structural steel within AISC Code of Standard Practice for Steel Buildings and Bridges.

1. Architecturally Exposed Structural Steel members and components, plumbed, leveled and aligned to a tolerance not to exceed one-half the amount permitted for structural steel. CONTRACTOR to provide adjustable connections between Architecturally Exposed Structural Steel and the structural steel frame or the masonry or concrete supports, in order to provide the erector with means for adjustment.

D. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact after assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.

E. Do not permit thermal cutting during erection of structural steel.

F. Where indicated for field connections, provide standard bolts complying with ASTM A307.

G. Install high strength steel bolts at locations indicated. Assembly and installation shall be in accordance with CBC requirements and AISC specifications.

1. Allowable hole sizes: 1/16 inch larger than bolt size.

2. Use friction type connection with standard hardened steel circular, square or rectangular washer under bolt nut.

3. Thoroughly clean area under bolt head, nut and washer. Remove all paint, lacquer, oil or other coatings except organic zinc-rich paints in accordance with SSPC, SP-2.

4. Tighten bolts by power torque wrench or hand wrench until twist-off.

H. CONTRACTOR shall be responsible for correcting detailing and fabrication errors and for correct fitting of all members and components.

I. Erect structural steel plumb and level and to proper tolerances as set forth in the AISC Manual. Provide temporary bracing, supports or connections required for complete safety of structure until final permanent connections are installed.

J. Install column bases within a tolerance of 1/8 inch of detailed centerlines, level at proper elevations. Support bases on double nuts and solidly fill spaces under bases with cement grout.

K. Provide anchor bolts with templates and diagrams. CONTRACTOR shall be responsible for proper location and installation of bolts. Correct deficiencies and errors.

3.03 FITTING

A. Closely fit members, finished true to line and in precise position required to allow accurate erection and proper joining in the field.

B. Drilling to enlarge unfair holes will not be allowed. Allow only enough drifting during assembly to bring parts into position, but not enough to enlarge holes or distort the metal. Do not heat rolled sections, unless approved by ARCHITECT.

3.04 PUNCHING AND DRILLING

A. Punch material 1/16 inch larger than nominal diameter of bolt, wherever thickness of metal is equal to or less than the diameter of the bolt plus 1/8 inch.

B. Drill or sub-punch and ream where metal is equal to or more than the diameter of the bolt plus 1/8 inch. Make diameter for sub-punched and sub-drilled holes 1/16 inch larger than nominal diameter of bolt.

C. Precisely locate holes to ensure passage of bolt through assembled materials without drifting. Enlarge holes when necessary to receive bolts by reaming; flame cutting to enlarge holes is not acceptable. Structural Steel members with poorly matched holes will be rejected.

3.05 FINISHING

A. After erection, spots or surfaces where paint has been removed, damaged, or burned off, and field rivets, bolts, and other field connections shall be cleaned of dirt, oil, grease, and burned paint and furnished with a spot coat of the same primer installed during shop priming.

B. Touchup:

1. Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint. Install paint to exposed areas with the same material installed during shop painting. Install by brush or spray to provide a minimum dry film thickness of 1.5 mils.

2. Galvanized Surfaces: Clean field welds, connections and damaged areas. Apply two coats of Carbomastic 15, by Carboline or equal product approved by OWNER's OEHS. Brush or roll to a 4 to 6 mil thickness.

3.06 FIELD QUALITY CONTROL

A. OWNER will provide a special inspector and independent testing laboratory to perform field inspections and tests and to prepare test reports.

B. Correct deficiencies in or remove and replace structural steel that inspections and test reports indicate do not comply with specified requirements.

3.07 CLEAN UP

A. Remove rubbish, debris and waste materials and legally dispose of off the Project Site.

3.08 PROTECTION

A. Protect the Work of this section until Substantial Completion.

3.09 HANDLING

A. Both in shop and in the field, transport, handle and erect to prevent damage or overstressing of any component.

END OF SECTION

SECTION 05 5000

METAL FABRICATIONS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Metal fabrications:

1. Miscellaneous fabrications, as indicated on the Drawings.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 03 3000 – Cast-in-Place Concrete.

3. Section 05 0513: Hot-Dip Galvanizing.

1.02 REFERENCES

A. ASTM International (ASTM):

1. ASTM A27 – Standard Specification for Steel Castings, Carbon, for General Application.

2. ASTM A36 – Standard Specification for Carbon Structural Steel.

3. ASTM A47 - Standard Specification for Ferritic Malleable Iron Castings.

4. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

5. ASTM A123 - Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.

6. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

7. ASTM A283 - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.

8. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.

9. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

10. ASTM A501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

11. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts.

12. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

13. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).

14. ASTM D1187 - Standard Specification for Asphalt-Base Emulsions for Use as Protective Coatings for Metal.

15. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.

16. ASTM F2329 - Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.

B. American Welding Society (AWS):

1. AWS D1.1 Structural Welding Code - Steel.

2. AWS D1.3 Structural Welding Code - Sheet Steel.

3. AWS D-19.0 Welding Zinc Coated Steel.

1.03 COORDINATION

A. Coordination between Steel Fabricator and Galvanizer:

1. Prior to fabrication, submit approved fabrication shop drawings to the galvanizer.

2. Notify galvanizer of steel fabrications that exceed the ASTM A385 recommended percentages for carbon, phosphorus, manganese and silicon, so special galvanizing processing techniques are used.

B. Coordinate installation of metal fabrications that are anchored to concrete or masonry, or that receive work specified by other Sections. 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.

C. Field Measurements: Field verify dimensions prior to fabrication.

D. Coordinate selection of shop primers with galvanizing, and with paintings to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and paintings are compatible with one another.

1.04 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings indicating provided materials, dimensions, anchoring detail, and details of termination or connection to adjacent construction. Indicate items that are purchased from a manufacturer and items that are shop fabricated. Indicate component parts requiring Project site fabrication or assembly.

B. Product Data: Submit Product Data for manufactured items. Submit Product Data for primers and finishes.

C. Material Samples: Submit Samples of primers and finishes on fabricated items.

D. Fabricator qualifications per Article “Quality Assurance”.

E. Welding:

1. Welder’s Certificates: Field welders shall be Project certified in accordance with AWS D1.1.

2. Welding Material Certification: Provide certificate that welding material complies with specifications.

F. Research/Evaluation Reports: ICC-ES for post-installed anchors.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Firm with a minimum five year experience in successfully producing metal fabrications similar to that shown on the drawings.

B. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D-1.1– Structural Welding Code – Steel.

2. AWS D1.3 - Structural Welding Code - Sheet Steel.

C. Inspection of Welding: Refer to Section 01 4523: Testing and Inspection.

D. Field applied primers, paintings, sealers and adhesives shall be approved by the OWNER’s Office of Environmental Health and Safety (OEHS).

E. Preassemble items in shop to greatest extent possible to minimize field welding. Mark units for reassembly and coordination of installation. Use marking method compatible with galvanizing.

1.06 DELIVERY, STORAGE AND HANDLING

A. Store miscellaneous metal items above grade on platforms, skids, or other required supports.

B. Protect from damage and from corrosion, dirt, grease and other foreign matter.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Structural Steel Shapes: ASTM A36.

B. Rolled Steel Plates: ASTM A36. Plates to be bent or cold-formed shall conform to ASTM A283, Grade C.

C. Round HSS: ASTM A500 Grade B or C.

D. Square and Rectangular HSS: ASTM A500 Grade B or C.

E. Steel Pipe: ASTM A53 Type E or S, Grade B, standard weight (Schedule 40), unless otherwise noted. Black finish.

F. Steel Sheet: ASTM A1008 or ASTM A1011.

G. Steel Bolts: ASTM A307, Grade A, or F3125 with hex steel nuts per ASTM A563 and washers. Galvanized in accordance with ASTM A153 for exterior locations.

H. Steel Bars: Conforming to ASTM A108 or ASTM A575.

I. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A47, or cast steel, ASTM A27. Provide bolts, washers, and shims, hot-dip galvanized per ASTM A153.

J. Nonshrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

K. Concrete Materials:

1. Concrete per Section 03 3000, Cast-in-Place Concrete.

2. Welded wire fabric and reinforcing per section 03 2000, Concrete Reinforcing.

2.02 FABRICATION

A. General:

1. Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces. Mark units for reassembly and installation.

2. Cut, drill, and punch metals cleanly and accurately. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated or specified. Remove sharp and rough areas on exposed surfaces. Form exposed work with accurate angles and surfaces and straight edges. Form exposed connections with hairline joints, flush and smooth. Locate joints where least conspicuous.

B. Welding:

1. Weld connections unless otherwise indicated.

2. Weld corners and seams continuously and in accordance with requirements of AWS D1.1 Structural Welding Code. Welds shall be inspected as required in Section 05 1200: Structural Steel Framing.

3. Grind exposed welds smooth and flush to match and blend with adjoining surfaces.

2.03 PREPARATION FOR GALVANIZING

A. Fabricate to the largest size possible and whenever possible use slip joints to minimize field welding.

B. Fabricate structural steel in accordance with Class I, II, III guidelines as described in AGA's Recommended Details for Galvanized Structures, to facilitate galvanizing process. Corners of gussets, stiffeners, and bracing shall be cropped to allow free flow of zinc during galvanizing process.

C. Remove welding slag, splatter, anti-splatter compounds and burrs prior to delivery for galvanizing.

D. Marking for Identification: Avoid unsuitable marking paints for identification, such as oil based paints and markers and crayon markers. Use water soluble paints or markers acceptable to galvanizer or steel tags wired to the work.

E. Masking: Use masking materials recommended by the American Galvanizers Association (AGA) to produce ungalvanized areas for field welding and at slip critical bolts.

F. Galvanize fabrications per Section 05 5013, Hot-Dip Galvanizing, in accordance with ASTM A123 and ASTM A153.

2.04 SHOP FINISH

A. Metal fabrications shall be provided with a coat of primer, except those indicated to be hot-dip galvanized.

B. Primers:

1. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.

2. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.

3. Minimum dry film thickness of primer shall be 2.0 mils.

C. Preparation for Primer Painting: Miscellaneous ferrous metal, except items specified galvanized, shall be thoroughly cleaned and prepared for painting, including removal of shipping oils or protective coatings, mill scale, grease, dirt and rust. Prepare in accordance with SSPC recommendations. Deliver to Project site primed or galvanized as indicated, and ready to receive Project site applied finishes.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine the areas where metal fabrications are to be installed. Notify the OAR in writing of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Provide anchorage devices and fasteners as indicated in the drawings and where necessary for securing miscellaneous metal fabrications to in-place construction.

B. Cut, drill, and fit as required for installation of miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

C. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of hot-dip galvanized fabrications intended for bolted or screwed field connections.

D. Alignment: Verify alignment of items with adjacent construction. Coordinate related work.

E. Grout: Follow manufacturer's recommendations for substrate preparation and application.

F. Corrosion Protection: Coat concealed surfaces of metals that will come into contact with grout, concrete, masonry, or wood, with a heavy coat of bituminous paint or zinc chromate primer. Protect dissimilar metals from galvanic corrosion by pressure tapes, coating, or isolators.

3.03 FIELD WELDING

A. Preparation of Weld Area of Galvanized Fabrications: Remove masking from fabrications. Remove remaining zinc coating between one inch and four inches from both sides of members to be welded, by grinding back the zinc coating, burning the zinc away or pushing back the molten zinc from the weld area.

B. Welding: Comply with AWS Code for procedures of manual shielded metal-arch welding, appearance and quality of welds made, methods used in correcting welding work.

1. Weld in accordance to AWS D-1.1.

2. Weld galvanized fabrications in accordance to AWS D-19.0.

C. Remove welding flux immediately. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surfaces matches those adjacent.

D. Upon completion of welding plug vent, drainage and lifting holes of galvanized fabrications with appropriate diameter zinc plugs. Push in about half way by hand, and hammer to a tight fit. With a hand file or an abrasive tool, file away excess material. Repair scratches with a zinc rich coating.

1. Plug railing holes.

2. Plug visible holes of HSS members.

3.04 ADJUSTING AND CLEANING

A. Touch Up Damaged Surfaces:

1. Shop Painted Finishes: Comply with SSPC-PA-1 for touch-up; apply with brush to produce a minimum 2.0 mil dry film thickness.

2. Galvanized Surfaces: Clean field welds, connections and damaged areas. Apply two coats of Carbomastic 15, by Carboline or equal product approved by OWNER's OEHS. Brush or roll to a 4 to 6 mil thickness.

3.05 CLEAN UP

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

3.06 PROTECTION

A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 08 7105

GATE HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Gate hardware for tubular steel gates in tubular steel fence system.

B. Provide hardware not described herein but otherwise required for proper completion of the project, conforming to size, function, quality, and finish of other specified hardware.

1.2 REFERENCED STANDARDS

A. American National Standards Institute (ANSI):

1. ANSI A117.1 Accessible and Usable Buildings and Facilities

B. Builders Hardware Manufacturers Association (BHMA):

1. ANSI/BHMA A156.1 Butts and Hinges.
2. ANSI/BHMA A156.3 Exit Devices.
3. ANSI/BHMA A156.4 Door Controls - Closers.
4. ANSI/BHMA A156.13 Mortise Locks and Latches.
5. ANSI/BHMA A156.25 Electrified Locking Devices.

C. California Code of Regulations, Title 24:

1. California Building Code (CBC)
2. California Referenced Standards Code

D. Door and Hardware Institute (DHI):

1. ANSI/DHI A115.IG Installation Guide for Doors and Hardware
2. DHI Sequence and Format for the Hardware Schedule

1.3 SUBMITTALS

A. Products other than those designated herein must be approved as substitutions prior to submittal of Pedestrian gate Hardware.

B. Pedestrian gate Hardware Schedule: Vertical format conforming to DHI “Sequence and Format for the Hardware Schedule.” Horizontal format schedules will be rejected without review. Format shall be 8-1/2 by 11-inch page size. Organize Schedule into headings, grouping Pedestrian gates to receive same hardware items,

indicating quantity and complete designations of every item required for each opening. The schedule shall include:

1. Cover sheet indicating name and location of Project; name of Architect; name of Contractor; name, address and phone of hardware supplier, name of hardware consultant preparing the schedule; date of submittal or revised submittal.
2. A list of abbreviations used in schedule.
3. An index of gate openings, listed in numerical order, with hardware heading identification cross-referenced to Architect’s set identification.
4. Hardware headings shall be listed in numerical order corresponding, as closely as possible, with numerical order of Architect's set numbers.
5. Each hardware heading shall have each gate listed in numerical order according to opening numbers in the Architect's gate schedule, and denoting: location, configuration (single, pair, etc.), type (elevation, etc.), gate sizes and materials, handing, and key set identification.
6. Type, complete model number, style, function, size, hand, and finish of each hardware item.
7. Manufacturer of each item.
8. Fastenings and other pertinent information.

C. Manufacturer's Technical Product Data / Catalog Cut Sheets: Clearly marked for each hardware item, including installation details, material descriptions, dimensions of individual components and profiles, and finishes. Format shall be 8-1/2 by 11-inch page size.

D. Wiring Diagrams: No later than 14 days after receipt of reviewed hardware schedule submittal, submit detailed wiring diagrams for power, signaling, monitoring, and control of the access control system electrified hardware; identified by opening number(s), and detailed specifically for each type and function of electrified opening. Format shall be 8-1/2 by 11-inch page size. Include the following:

1. System Description of Operation. Include description of component functions including, but not limited to, the following situations: normal secured/unsecured state of gate; authorized access; authorized egress; unauthorized access; unauthorized egress; fire alarm and loss of power conditions, and interfaces with other building control systems.
2. Elevation single-line diagram, showing interface between electrified gate hardware and fire alarm, power, access control, and security systems as applicable.
3. Point-to-point wiring diagram for field-installed wiring.

E. Keying Schedule: In accordance with Owner's final keying instructions for locks. Conform to DHI “Keying Systems and Nomenclature.” Format shall be 8-1/2 by 11 inch page size.

1. Keying Structure/Schedule will be determined based on existing system space.

F. Operation and Maintenance Data: Provide complete operating and maintenance instructions listing routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides.

G. Warranties: Special warranties specified in this Section.

1.4 QUALITY ASSURANCE

A. Obtain each type and variety of hardware from a single manufacturer, unless otherwise indicated.

B. Manufacturers, Hardware Supplier, and Installer shall have no less than three years experience in the provision of Door and Gate Hardware for projects similar in size, complexity and type to this Project.

C. Hardware Schedule and Keying Schedule submittals shall be prepared by a Hardware Consultant holding the credentials of Architectural Hardware Consultant (AHC) issued by the Door and Hardware Institute. Hardware Consultant shall have no less than five years experience in the scheduling of Door and Gate Hardware for projects similar in size, complexity and type to this Project; and shall be available, at no additional cost, during the course of the Work to consult with Contractor, Architect, and Owner regarding Pedestrian gate hardware and keying.

1.5 REGULATORY REQUIREMENTS

A. Comply with all applicable accessibility regulations as set forth in Americans with Disabilities Act (ADA) -- Accessibility Guidelines for Buildings and Facilities (ADAAG); ANSI A117.1; and California Building Code (CBC) Chapter 11B as applicable.

B. Latching and locking pedestrian gates that are hand-activated and that are in a path of travel shall be operable with a single effort by lever-type hardware, panic bars, push-pull activating bars, or other hardware designed to be easy to grasp with one hand, not requiring tight grasping, tight pinching or twisting of the wrist; from egress side shall not require the use of a key, tool, or special knowledge for operation.

1. All hand-activated hardware shall be mounted between 34 inches (864 mm) and 44 inches (1118 mm) above finished floor.

C. At sliding doors, when fully open, operating hardware shall be exposed and usable from both sides.

D. Pedestrian gate closing devices shall comply with the following maximum opening-force requirements:

1. Exterior Hinged Pedestrian Gates: 5 lbf (22.2 N) applied perpendicular to Pedestrian gate at latch.

E. Where closers are provided, adjust sweep speed so that from an open position of 12 degrees the door will take at least 5 seconds to move to a point 3 inches (76 mm) from the latch, measured to the leading edge of the door.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Each article of hardware shall be delivered individually packaged in the manufacturer's standard commercial carton or container, and shall be properly marked or labeled to be readily identifiable with the approved hardware schedule.

B. Manufacturer's printed installation instructions, fasteners, and special tools shall be included in each package.

C. Hardware shall be stored in a dry, secure locked area, complete with shelving for unpacking and sorting of the Pedestrian gate hardware.

D. Deliver all master keys by restricted, receipted delivery directly from the manufacturer to the Owner.

1.7 COORDINATION

A. Provide hardware templates to the parties involved for Pedestrian gates, frames, and other work specified to be factory prepared for Pedestrian gate hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing Pedestrian Gate hardware to comply with indicated requirements.

B. When required by Pedestrian gate fabricator, furnish physical samples of each mortised and recessed hardware item required.

C. Electrical System Rough-in: Coordinate layout and installation of electrified Pedestrian gate hardware with connections to power supplies, fire alarm system and detection devices, access control system, and security system as applicable.

D. Pre-Installation Conference: Arrange conference at job site to coordinate Pedestrian gate, frame, hardware and electronic security hardware installation; to be attended by the Architect, Owner, Contractor and representative personnel of firms involved in the provision and installation of said items.

E. Keying Conference: Arrange conference with Owner, or designated representative, and Manufacturer’s/ Hardware Supplier’s Architectural Hardware Consultant to establish keying requirements. Incorporate keying conference decisions into Keying Schedule. Notify Architect of meeting times and dates, and provide

Architect with copies of meeting minutes and Owner's directive. Architect is otherwise not needed in the actual conference(s).

1.8 WARRANTY

A. In addition to, and not precluding, other warranty requirements in the Contract Documents, the following hardware items shall carry extended minimum warranties as indicated:

1. Hinges: Ten years from date of Substantial Completion.
2. Locks: Five years from date of Substantial Completion.
3. Exit Devices: Three years from date of Substantial Completion.
4. Door Closers: Ten years from date of Substantial Completion.

1.9 MAINTENANCE

A. Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of gate hardware.

PART 2 - MATERIALS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with requirements herein, provide products as scheduled, or Architect-approved equivalent.

B. LEGEND OF ABBREVIATIONS

Abbr	Name
B/O	BY OTHERS
SCH	SCHLAGE
VON	VON DUPRIN
DET	DETEX CORPORATION
LCN	LCN
FAL	FALCON
KEE	KEEDEX INC
LCX	LOCINOX
TRI	TRIMCO
TBD	MANUFACTURER TO BE DETERMINED

2.2 MATERIALS AND FABRICATION

A. Requirements for grade, materials, size, and other distinctive qualities of each type of Pedestrian gate hardware are indicated herein. Furnish items in types, sizes or weight, in accordance with manufacturer's standards, appropriate for the conditions of installation and service, unless otherwise indicated.

B. Products named or identified by make or model number, or other designation and described herein are base products. Base products establish the standards of type, in-service performance, physical properties, appearance, warranty, cost, and other characteristics required by the Project.

2.3 CYLINDERS, KEYING AND KEY STORAGE

A. Lock cylinders shall meet ANSI/BHMA A156.5 requirements.

B. Keying system shall meet ANSI/BHMA A156.28 requirements.

C. All cylinders shall be interchangeable core type.

D. Cylinders at exit devices shall be interchangeable core type. Provide mortise or rim type cylinders as required by device for all exit devices having key locking function.

E. Cylinders, less permanent cores, shall be provided to integrate with existing system as directed.

F. Provide a temporary keying system for interim use during construction.

G. Permanent cores to be Provided, Keyed and Installed by Owner.

H. Owner to coordinate specific keying requirements with individual tenants.

I. Confirm core type directly with Owner contact below to determine correct cylinder configuration to accept owner's existing GMK interchangeable core system.

J. Keys shall be supplied as follows:

1. Construction keys: 5 total.

2. Control (IC Core Extraction) keys: 3 total.

K. Ship interchangeable core control keys to Owner's designated agent.

2.4 LOCKSETS AND LATCHSETS

A. Mortise Locks and Latches shall meet ANSI/BHMA A156.13 Grade 1 requirements.

B. Electrified Locks shall also meet ANSI/BHMA A156.25 requirements.

C. Basis of Design Operating trim shall be lever type: Schlage 06A, or Owner- and Architect-approved equal.

D. Lock backset shall be 2-3/4 inches (70 mm) unless otherwise indicated.

E. Provide curved-lip strike with dust box for each latch or lock bolt, with lip extended to protect frame, finished to match door hardware set, unless otherwise indicated.

F. Electromechanical locksets utilized at fire rated openings shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction, and shall maintain door in positive latched position when power is off.

2.5 EXIT DEVICES

A. Exit devices and exit device accessories shall meet ANSI/BHMA A156.3, Grade 1 requirements.

1. Detex: basis of design, no known equivalent.

B. Electromechanical exit devices shall also meet ANSI/BHMA A156.25 requirements.

C. Panic Exit Devices: Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.

D. Exterior gate panic hardware, including delayed-egress devices: weatherized, with 10 Year Mechanical/3 year Electrical warranty.

E. Outside Trim: Design, material and finish to match locksets, unless otherwise indicated.

F. Adjustable strikes shall be provided for rim type and vertical rod devices.

G. Electromechanical exit devices utilized at fire rated openings shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction, and shall maintain door(s) in positive latched position when power is off.

2.6 GATE HINGING + CLOSING SYSTEM

A. Locinox “Mammoth” gate hardware system, with heavy duty hinges and housed hydraulically-checked closing system. Adaptable for use with tubular steel gates and fencing, and also for chainlink gates & fencing. Available in black and in aluminum coated finishes.

2.7 FINISHES

A. Provide hardware in finishes as indicated.

B. Unless otherwise indicated, finishes shall conform to those identified in ANSI/BHMA A156.18. Comply with base material and finish requirements indicated by the following:

1. BHMA 600: Primed for painting, steel base metal.

2. BHMA 626: Satin chromium plated over nickel, brass or bronze base metal.

3. BHMA 630: Satin stainless steel, stainless-steel base metal.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and frames for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Examine rough-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Gates shall be fabricator-prepared for hardware.

B. Install each Pedestrian gate hardware item according to manufacturer's printed instructions, utilizing templates and proper fasteners provided by manufacturer.

C. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.

3.3 ADJUSTING

A. Adjust and check each operating item of Pedestrian gate hardware and each opening to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended.

3.4 FIELD QUALITY CONTROL

A. Independent Architectural Hardware Consultant:

1. Engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.

2. Independent Architectural Hardware Consultant shall inspect Pedestrian gate hardware and prepare written report whether installed work complies with or deviates from requirements, whether Pedestrian gate hardware is properly installed and adjusted, and prepare a specific list of any deficiencies, a copy of which shall be provided to Architect.

3. Contractor shall correct all deficiencies noted in above report.

4. Independent Architectural Hardware Consultant shall re-inspect Pedestrian gate hardware and prepare a report certifying correction of deficiencies and compliance with requirements.

3.5 COMPLETION

A. When complete all hardware shall be properly secured in place and all exposed surfaces shall be clean and free from scratches, paint, and other defects and damages.

B. Contractor shall demonstrate that all keys properly operate the locks as identified in the approved Keying Schedule.

3.6 GATE HARDWARE SETS

A. The hardware sets represent the design intent and direction of the Owner and Architect. They are a guideline only and should not be considered a detailed hardware schedule. Furnish openings complete.

B. Refer to Gate Schedule and/or Drawings for door opening information, hardware set assignment, and related requirements.

HARDWARE SETS:

HW SET: G01 6FT-WIDE 6FT-HIGH PAIR SWINGING GATES, PANIC HDW ACTV LEAF, BOLTED INACTV LEAF

2	SET	GATE HINGE+CLSR SYS	MAMMOTH-180	BLK	LCX
1	EA	PADLOCK	KS43 SERIES, FSIC	606	SCH
2	EA	PRIMUS CORE	20-740-XP EV29 T	626	SCH
1	EA	ELECTRONIC LOCK	AD-400-MS-70-MT-RHO-FSIC-8B	626	SCE
1	EA	WELD-IN LOCK BOX	K-BXMOR SERIES	600	KEE
2	EA	POST-MT STOP+HOLDER	1260WP (COORD: PIPE)	626	TRI

PADLOCKABLE CANE BOLT: PART OF GATE FABRICATION PKG -- FURNISH 2 KEEPERS.

HW SET: G02, G03 LOCKSET, KEY OPERATION

1	SET	GATE HINGE+CLSR SYS	MAMMOTH-180	BLK	LCX		
1	EA	CONTROLLED LCKG LOCKSET	LV9060L 06N L283-711			630	SCH
1	EA	SS ARMOR COLLAR	1SB-X 630	SAR			
2	EA	MORTISE CYLINDER	20-061-ICX	626	SCH		
2	EA	PERM. CORE, DISTRICT STD	23-030	626	SCH		
1	EA	WELD-IN LOCK BOX	K-BXMOR SERIES	600	KEE		
1	SET	HD STOP/HOLDER	1257M + 1257R	626	TRI		

Abbr	Name
KEE	KEEDEX INC
LCX	LOCINOX
SAR	SARGENT MANUFACTURING CO
SCH	SCHLAGE LOCK COMPANY
TRI	TRIMCO
VON	VON DUPRIN

END OF SECTION

SECTION 09 2423

CEMENT PLASTER AND METAL LATH

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Lath and Portland cement plaster and stucco.

2. Lath and scratch coat of Portland cement plaster as a substrate for ceramic wall tile.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 03 3000 – Cast-in-Place Concrete.

3. Section 06 1000 - Rough Carpentry.

4. Section 07 2100 – Thermal Insulation.

5. Section 07 2719 – Plastic Sheet Air Barriers.

6. Section 09 2216 - Non-Structural Metal Framing.

7. Section 09 3013 - Ceramic Tiling.

1.02 SYSTEM DESCRIPTION

A. Continuous Insulation Under Cement Plaster: Three coat 7/8” cement plaster with fiberglass reinforcing mesh on metal lath over rigid foam insulation with drainage channels over water resistive barrier over plastic sheet air barrier over sheathing over metal studs.

B. Continuous Insulation on Z Channels Under Cement Plaster: Three coat 7/8” cement plaster with fiberglass reinforcing mesh on metal lath over water resistive barrier over plastic sheet air barrier over rigid foam insulation mounted on steel Z channels with foam tape over sheathing over metal studs.

C. Three coat 7/8” cement plaster on metal lath over water resistive barrier over plastic sheet air barrier over sheathing over metal studs.

D. Two coat 1/2” to 5/8” cement plaster over concrete.

E. One coat cement plaster base for ceramic tile installation.

1.03 REFERENCES

A. ASTM International (ASTM):

1. ASTM A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

2. ASTM A510 - Standard Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel, and Alloy Steel.

3. ASTM A641 – Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.

4. ASTM A653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

5. ASTM C150 – Standard Specification for Portland Cement.

6. ASTM C206 – Standard Specification for Finishing Hydrated Lime.

7. ASTM C841 - Standard Specification for Installation of Interior Lathing and Furring.

8. ASTM C847 - Standard Specification for Metal Lath.

9. ASTM C897 – Standard Specification for Aggregate for Job Mixed Portland Cement-Based Plasters.

10. ASTM C926 – Standard Specification for Application of Portland Cement-Based Plaster.

11. ASTM C932 - Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.

12. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.

13. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.

14. ASTM C1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.

15. ASTM C1116 – Standard Specification for Fiber-Reinforced Concrete.

16. ASTM E1190 – Standard Test Methods for Power-Actuated Fasteners Installed in Structural members.

B. Federal Specifications (FS):

1. FS FF-N-105: Nails, Brads, Staples and Spikes: Wire, Cut and Wrought.

2. UU-B-790A: Building Paper, Vegetable Fiber: (Kraft, Waterproofed, Water Repellent, and Fire Resistant).

C. International Code Council (ICC):

1. ICC-ES AC11: Acceptance Criteria for Cementitious Exterior Wall Coatings.

2. ICC-ES AC 191: Acceptance Criteria for Metal Plaster Bases (Lath).

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product data for each material and component proposed for installation.

B. Plaster Samples: Submit minimum 48-inch by 48-inch samples of each stucco, Portland cement plaster texture and construction layout for review. Samples shall be representative of texture, color, and proposed fabrication and finish quality. Maintain reviewed Samples on Project site for reference.

C. Accessories Samples: Submit 12 inch long samples of metal lath accessories: control joints, expansion joints, corner reinforcements, reveals and screeds.

D. Certificates: Submit test reports or ICC Evaluation Reports indicating that materials are in compliance with CBC requirements. Cementitious materials shall meet the acceptance requirements of ICC AC11, and metal lath the acceptance requirements of ICC AC191.

1.05 QUALITY ASSURANCE

A. Pre-Installation Conference: CONTRACTOR shall coordinate and conduct pre-installation conference in accordance to Section 01 3119, Project Meetings, to review the progress of construction activities and preparations for the installation of metal lath and cement plaster and other related work of this Section.

1.06 DELIVERY, STORAGE AND HANDLING

A. Store weather sensitive materials under cover, off the ground, and kept in a dry condition until ready for use.

B. Deliver materials to the Project site in manufacturer's sealed and labeled packages.

PART 2 - PRODUCTS

2.01 METAL LATH AND WEATHER RESISTIVE BACKING

A. Metal Lath:

1. Walls and Ceilings: Diamond mesh expanded metal lath, in conformance to ASTM C847, without paper backing. 3.4 pounds per square yard, hot-dip galvanized coating G60 in accordance with ASTM A653. Alabama Metal Industries Corporation (AMICO), California Expanded Metal Products Company (CEMCO), ClarkDietrich, Marino-Ware, or equal.

a. V-grooved self-furring type for installation over sheathing. Lath shall be furred out a minimum of 1/4 inch when installed over a solid surface in accordance to DSAIR 25-4.

b. Flat type for installation over spaced framing.

2. Walls: Self-furring Welded Wire Lath: Weight 1.95 pounds per square yard, with Class 1 galvanized coating in conformance to ASTM A641. Structa Mega Lath per ICC ESR-2017, as manufactured by Structa Wire Corp, or equal.

3. Walls & Ceilings: Self-furring Welded Wire Lath: Weight 2.2 pounds per square yard, with Class 1 galvanized coating in conformance to ASTM A641 with heavy perforated Kraft paper. V-Truss per ICC ESR-2017, as manufactured by Structa Wire Corp, or equal.

B. Water Resistive Barrier Backing for Metal Lath:

1. One layer of air barrier membrane per Section 07 2719, Plastic Sheet Air Barriers.

2. One layer of asphalt saturated, water resistant Kraft paper backing conforming to Fed Spec UU-B-790A, Type 1, Grade D60, manufactured by Fortifiber, Davis Wire, Leather back, or equal. Furnish for exterior plastering (except on soffits and ceilings), and for mortar-set ceramic wall tile.

C. Self-Adhered Flashing:

1. Compatible with the Plastic Sheet Air Barrier, minimum 25 mils thick, self-sealing and waterproof.

2. Adhesives, primers and sealers for self-adhered flashings and water repellant backing shall be as recommended by manufacturer for installation with specified products and substrates, and shall be approved by the OWNER’s Office of Environmental Health and Safety (OEHS).

2.02 METAL LATH ACCESSORIES

A. Materials: Minimum 0.0172 inch galvanized steel or 0.0207 zinc alloy with expanded wings. PVC is not permitted. Furnish casing beads, expansion and control joints, weep and vent screeds.

B. Manufacturers: Alabama Metal Industries Corporation (AMICO), California Expanded Metal Products Company (CEMCO), ClarkDietrich, Stockton Products, Marino-Ware, equal.

C. Products:

1. Exterior Stress Relief Joints: Sizes and profiles, indicated or required. Control joints shall have expanded wings when attachment flange is installed above the primary water-resistant barrier.

2. Expansion Joints: Two piece sections designed to accommodate expansion, contraction and shear forces. Industry generic name: #40-2 piece joint.

3. Control Joints: One-piece sections, with flange designed to engage plaster. Grounds shall provide full 7/8 inch thickness of cement plaster. Industry generic name: XJ-15.

4. Soffit Drip Screed: Similar to Stockton Products No. 5, with key holes.

5. Casing Beads: Expanded or standard flange type with 7/8 inch grounds to establish plaster thickness. Industry generic names: J-Mold or # 66.

6. Welded Wire Corner Reinforcement: 2-5/8 inch wire wings square or bullnose. Industry generic name: CornerAid.

7. Inner Corner Reinforcement: Shaped reinforcing expanded metal with 3 inch legs, for angle reinforcement. Industry generic name: Cornerite.

8. Lath Reinforcement: Flat expanded metal lath reinforcing units. Industry generic name: Striplath.

9. Outside Corner Reinforcing: 2 1/2" legs Class 1 Galvanized Coating complying with ASTM A641. VTruss Straight Corner per ICC ESR-2017, as manufactured by Structa Wire Corp, or equal.

10. Ventilating Screeds: Soffit, attic, fascia, edge, channel and expansion channel vent screeds, perforated web type, with integral plaster grounds, of sizes indicated on drawings.

11. Foundation Weep Screeds: Integral plaster ground and weep screed; 3-1/2” minimum attachment flange. Industry generic name: #7 Weep Screed.

12. Foundation Casing at Walls with Continuous Insulation: Custom shaped galvanized steel “J” mold with weep holes. Width shall be sized to accommodate insulation thickness plus 7/8 inch plaster.

2.03 LATH FASTENERS

A. Fasteners through Continuous Insulation: Fastener spacing as indicated on drawings.

1. Wood Studs: Fasteners shall be corrosion resistant.

a. Nails: In accordance to FS FF-N-105, **[0.113 inch] [0.120 inch] [0.131 inch]** with a 3/8 inch diameter head with length that penetrates wood framing (exclusive of sheathing) 1-1/4 inch minimum.

b. Lag Screws: 1/4 inch diameter with length that penetrates wood framing (exclusive of sheathing) 1-1/2 inch minimum.

2. Metal Studs: Corrosion resistant coated wafer head steel **[#8] [#10]** screws with length that penetrates framing steel thickness plus three threads minimum.

B. Fasteners at Locations with no Continuous Insulation:

1. Wood Studs: Fasteners shall be corrosion resistant.

a. Nails: In accordance to FS FF-N-105, 0.113 with a 3/8 inch diameter head with length that penetrates wood framing (exclusive of sheathing) 3/4 inch minimum.

b. Screws: Type A, in accordance to ASTM C1002, length that penetrates wood framing (exclusive of sheathing) 3/4 inch minimum.

c. Staples: In accordance to FS FF-N-105. Minimum 3/4 inch crown, 0.053 inch steel. Staples shall have sufficient length to penetrate studs at least 3/4 inch.

2. Metal Studs: Wafer head type S or S-12, corrosion resistant, with length to penetrate framing steel thickness plus three threads minimum.

a. Screws for fastening to steel members from 0.033 inch to 0.112 inch in thickness shall be in accordance to ASTM C954.

b. Screws for fastening to steel members 0.033 inch in thickness and less shall be in accordance to ASTM C1002.

C. Fasteners for Concrete and CMU Substrates: Power Actuated Fasteners: For attachment of lath to concrete and concrete masonry, recommended by manufacturer for the specific use intended. Minimum 3/4 inch long hardened drive style pin with a 1/2 inch diameter style washer. Fasteners shall be Fasteners shall be corrosion resistant and provide minimum withdrawal resistance of 50 pounds minimum.

D. Wire: Wire for fastening lath to supports, tying ends and edges of lath sheets, and securing accessories to lath, 0.0475 inch diameter (# 18 wire). Galvanized soft-annealed steel wire in conformance to ASTM A641.

2.05 PLASTER MATERIALS

A. Factory Blended Portland Cement Plaster Basecoats and Finish: Products as fabricated by California Stucco, La Habra, Shamrock Stucco, Merlex, Omega Stucco, Inc., Expo Stucco, Spec Mix, Quikrete or other manufacturer member of the Stucco Manufacturer's Association (SMA).

1. Material Standards:

a. Portland Cement: ASTM C150.

b. Hydrated Lime: ASTM C206.

c. Sand: ASTM C897.

d. Fibers: ASTM C1116.

2. Three Coat Systems:

a. Scratch and Brown Coats: Factory blended fiber reinforced plaster and sand mix conforming to ASTM C926, and requiring only the addition of water. Total thickness of coats: 3/4 inch.

b. Finish Coat: Factory blended cementitious stucco color coat, integrally colored with fade-resistant pigments. Coat thickness 1/8 inch.

1) Finish: **[Light Dash] [Light Sand]**

2) Color: As selected by ARCHITECT.

3. Two Coat Systems:

a. Brown Coat: Factory blended fiber reinforced plaster and sand mix conforming to ASTM C926, and requiring only the addition of water. Coat thickness 3/8 to ½ inch.

b. Finish Coat: Factory blended cementitious stucco color coat, integrally colored with fade-resistant pigments. Coat thickness 1/8 inch.

1) Finish: Light Sand

2) Color: As selected by OWNER.

B. Water: Clean, potable and from domestic source.

C. Plaster Bonding Agent: In conformance to ASTM C932 and formulated for exterior use. "Weld-Crete", manufactured by Larsen Products Co., or equal.

D. Plaster Patching Materials:

1. Bonding Agent: Acrylic resin type, Acryl 60, LHP Bonder, or equal.

2. Patching Plaster: Manufactured by Merlex Stucco, Inc., or equal. Furnish fast setting, compatible with existing plaster materials, "Exterior Pronto Patch," Portland cement base coat material, requiring only addition of water. Material shall provide initial set within 20 minutes and final set within one hour.

E. Flashing: Single ply self-adhesive waterproofing membrane as manufactured by W.R. Grace Company, Jiffy-Seal by Protecto Wrap, W.R. Meadows, Inc., or equal. Furnish for installation behind stress relief joints and backing on horizontal and vertical surfaces exposed to weather; under metal copings and flashings; and window jambs and sills.

F. Continuous Insulation: Refer to Section 07 2100, Thermal Insulation.

G. Miscellaneous Materials: Provide additional components and materials required for a complete installation.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that installation of plastic sheet air barrier and flashings, per Section 07 2719, and continuous insulation per Section 07 2100 are complete before starting Work of this Section.

3.02 INSTALLATION-OF WATER RESISTIVE BARRIER

A. Install one layer of water resistant barrier over air barrier. Install Kraft paper horizontally with each course weather lapped 2 inches over layer below and 6 inches on ends.

B. Repair and seal tears and holes in water resistive barrier prior to installing lath.

C. Install single ply self-adhesive flashing per manufacturer‘s recommendations in areas indicated on the Drawings and at locations where the plaster will be in less than a 60 degree plane or where water can pond, with a six inches extension onto the vertical wall surface. Apply self-adhesive flashing in a “shingle fashion”.

3.03 Not USED.

3.04 INSTALLATION OF LATH AND LATH ACCESSORIES

A. Exterior Lathing, General: Install in conformance to ASTM C1063 and CBC Chapter 25.

B. Install longest length of metal lath as possible. Do not use pieces shorter than six feet in length. Attach lath to framing supports not more than seven (7) inches apart along framing supports only.

C. Apply metal lath with long dimension at right angles to framing or furring supports and lap lath a minimum 1/2 inch at sides and minimum 1 inch on ends. Lap wire lath

minimum one mesh on sides and ends. Stagger vertical laps at least 16 inches. Lath shall lap flanges of solid flanged trim accessories by a minimum of 50%.

D. Ends of lath on open framing (unsheathed) shall occur over supports. Where necessary, install additional studs to provide support for lath ends and support for separate flanges of stress relief joints.

E. Install trim accessories plumb, level and straight, attachments should not exceed 24 inches on center.

F. Lath shall not be continuous through control joints. Two-piece Expansion Joints shall have the lath cut, be attached to framing and lath lap the flanges. Place control joints as indicated on elevations. Water resistant barrier shall be continuous behind all control joints and vertical reveals.

G. Install a weep screed at or below foundation plate line on exterior stud walls in conformance to CBC section 2512. Screed shall be of a type permitting water to drain to exterior of building. Weather-resistant barrier and exterior lath shall cover and terminate on attachment flange of screed.

H. Powder Actuated Fasteners shall be used on concrete/masonry substrates when lath is applied. Fasteners shall be driven home and avoid spalling of concrete. Pattern shall simulate that of framed walls.

I. Interior Lathing, General: Install in conformance to ASTM C841 and CBC Chapter 25.

J. Metal lath shall be fastened to metal supports with specified fastener spaced not more than 6 inches apart or with other recognized fasteners.

3.05 PLASTER APPLICATION - GENERAL

A. Verify that installation of lath is complete prior to start plastering. Notify the Technical Service Information Bureau upon completion of lath and prior to start of plaster to schedule a lathing installation compliance meeting. TSIB will submit a written field observation report delineating any deficiencies. Site meeting shall be coordinated with OAR.

B. Proportion, mix, apply, and cure plaster in conformance with ASTM C926 and CBC Chapter 25.

C. Install each plaster coat to an entire wall or ceiling panel without interruption to avoid cold joints and abrupt changes in uniform appearance of succeeding coats. Wet plaster shall abut existing plaster at naturally occurring interruptions in plane of plaster (such as corner angles, openings and control joints) wherever possible. Cut joining, where necessary, square and straight and at least 6 inches away from a joining in preceding coat.

D. Provide sufficient moisture or curing methods to permit continuous and complete hydration of cementitious materials, considering climatic and Project site conditions. If water cured, each basecoat shall be continuously damp for at least 48 hours, including weekends and holidays. Other curing methods, spray applied curing compounds, or OEHS approved equal are permitted.

E. Provide sufficient time between coats to permit each coat to cure or develop enough rigidity to resist cracking or other damage when next coat is installed.

3.06 Not USED.

3.07 INTERIOR PLASTERING

A. Portland Cement Plaster, Scratch Coat: Install to vertical lathed surfaces where ceramic tile is indicated, and install Portland cement plaster finishes where indicated.

B. Preparation for Plastering:

1. Verify that lath has been installed securely and that grounds, screeds, casing beads and other accessories are straight, in correct position, and securely fastened in place.

2. Bonding Agent: Install to vertical concrete or masonry surfaces to receive ceramic tile.

3. Concrete and masonry surfaces on which suction must be reduced shall be sufficiently moistened before plastering operations start.

4. Install galvanized expanded metal lath on supports in conformance with requirements of ASTM C1063 and CBC.

C. Number of Coats and Thickness: Interior plastering to receive paint shall consist of the following, with thickness measured from face of supports or surface:

1. On Concrete or Masonry: two coats, brown and finish, 5/8 inch thick.

2. On Metal Lath: three coats, scratch, brown and finish 7/8 inch thick.

D. Proportions for Interior Plaster: Adhere to current edition of CBC for proportions and curing requirements.

1. Admixtures shall be proportioned, mixed and installed in accordance with printed directions of manufacturer.

E. Mix factory blended plaster using only sufficient water to obtain proper consistency before installation. Do not mix any more material at any time than can be installed within ½ hour after mixing. Do not allow material to remain in mixer or mixing boxes overnight.

F. Application:

1. Dash Bond Coat: Dash on surface, leave undisturbed, and maintain damp at least 24 hours following installation. Omit Dash bond coat when liquid bonding agent is used.

2. Scratch Coat: Install with sufficient material to form good keys, thoroughly cover lath, and cross scratch.

3. Brown Coat: Rod to a straight, true and even surface. Brown coat must be 1/16 inch below face of grounds to provide adequate space for finish coat. Float surface to increase density.

4. Smooth Finishes: Install two coats for a thickness of 1/8 inch. Install second coat after finish coat begins to set. Install to a true, even plane and trowel to a smooth finish, free from blemishes.

5. Float Finishes: Install to a thickness between 1/16 inch to 1/8 inch, install and uniformly float to true planes.

6. Plaster Screeds: On metal lath or wire fabric lath, install plaster screeds wherever permanent grounds are too far apart to serve as guides for rodding.

G. Curing Interior Plaster: Adhere to requirements of CBC.

3.08 QUALITY CONTROL

A. Finish interior and exterior plaster to a uniform texture, free of imperfections and flat within 1/4 inch in 5 feet. Form a suitable foundation for paint and other finishing materials. Avoid joining marks in finish coats.

3.09 REPAIR OF DAMAGED PLASTER

A. Plaster Detached from Framing:

1. Remove loose and broken plaster.

2. Repair or replace damaged water-resistant backing and lath in compliance with specified standards.

3. Remove stucco finish from surrounding area in the same plane by sandblasting.

4. Install a scratch coat and a brown coat mixed with liquid bonding agent instead of water to the areas devoid of plaster.

5. Install a coat of liquid bonding agent to entire wall plane.

6. Install a 1/8 inch thick stucco finish coat to entire wall plane and match existing texture and color.

B. Cracked Plaster 1/8 inch to 1/2 inch:

1. Remove loose material from crack with a wire brush.

2. Fill crack with slurry of stucco and liquid bonding agent.

3. Install a coat of liquid bonding agent to entire wall plane.

4. Install 1/8 inch thick stucco finish to entire wall plane and match existing texture and color.

C. Cracks Larger than ½ inch - Painted:

1. Remove loose material from crack with a wire brush.

2. Fill crack with slurry of one part Portland cement to three parts masonry or stucco sand and liquid bonding agent to match existing texture of adjacent surface.

3. Paint entire wall plane, color to match existing.

4. Where patching of plaster over existing lath is feasible, fasten loose lath and install new lath with nails at 6 inch centers. Where metal is furnished, lap new lath over existing 6 inches and tie at 6 inch centers. Install paper backings as required, shingled into existing.

5. Patching of Holes, Cracks, and Gouges: Holes, cracks, gouges, missing sections, and other defects in existing improvements shall be patched. For holes over 1 inch in size, cut small sections of lath and place in opening attached to existing material. Install 3 coats of plaster. For holes one inch and smaller, install bonding agent to existing surfaces and neatly fill hole with plaster, installing necessary coats to match adjacent surfaces, eliminate cracks and match existing surface texture. Cracks, gouges, and other defects shall be filled with plaster or spackle as required and neatly finished to match adjacent existing improvements.

3.10 CLEANING

A. Remove rubbish, debris, and waste material and legally dispose of off the Project site.

3.11 PROTECTION

A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 09 3013

CERAMIC TILING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Ceramic tile.

3. Waterproof membrane for tile.

5. Mortar setting beds for floor and wall tile.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 03 3000 - Cast-In-Place Concrete.

3. Section 06 1000 - Rough Carpentry

4. Section 07 9200 - Joint Sealants

5. Section 09 2423 - Cement Plaster and Metal Lath.

6. Section 09 2900 - Gypsum Board.

1.02 SUBMITTALS

A. Product Data: Manufacturer's data, standard specifications, Material Safety Data Sheets, and other technical information for each product specified.

B. Material Samples: Manufacturer’s standard palette, indicating full range of tile colors, textures, and grout colors.

C. Mock-Ups: For each type, color, and texture, minimum one foot square or three full tile courses, on Plexiglas to demonstrate proper bond mortar and coverage; grout color, hardness and depth.

D. Installation Instructions: Manufacturer's preparation and installation instructions.

E. Product Certificates: Signed by manufacturer certifying that products furnished comply with requirements of this Specification.

1.03 QUALITY ASSURANCE

A. Comply with applicable parts of the following codes or standards as a minimum requirement:

1. ANSI A108, American National Standard Specifications for the Installation of Ceramic Tile.

2. ANSI A118, American National Standard Specifications for Ceramic Tile Installation Materials.

3. ANSI A136.1, Standard Specifications for Ceramic Tile.

4. ASTM A185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.

5. ASTM C185 - Standard Test Method for Air Content of Hydraulic Cement Mortar.

6. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.

7. ASTM C150 - Standard Specification for Portland Cement.

8. ASTM C241 - Standard Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic.

9. ASTM C206 - Standard Specification for Finishing Hydrated Lime

10. ASTM C503 - Standard Specification for Marble Dimension Stone.

11. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.

12. ASTM D4551 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Flexible Concealed Water-Containment Membrane.

13. Tile Council of North America (TCNA) – Current edition of "Handbook for Ceramic Tile installation".

14. CHPS Low-Emitting Materials Table: Materials submitted for tile assemblies must bee listed as low emitting on the CHPS website www.CHPS.net.

B. Grade Certificate and Labeling: With each delivery of tile, furnish manufacturer's "Master Grade Certificate" to the Project Inspector.

C. Source of Materials: Provide materials obtained from one source for each type and color of tile, grout, and setting materials.

D. Consistent Quality: Products shall be consistent in appearance and physical properties.

E. Comply with requirements of California Building Code and ADAAG.

F. Qualifications of Tile Manufacturer: Company specializing in ceramic tile, mosaics, pavers, trim units, and thresholds with five years minimum experience.

G. Qualification of Installation System Manufacturer: Company specializing in installation systems/ mortars, grouts/ adhesives with ten years minimum experience.

H. Qualifications of Installer: Company specializing in installation of ceramic tile, mosaics, pavers, trim units and thresholds with five years experience with installations of similar scope, materials, and design.

I. Pre-Construction Meetings: Prior to start of Work of this section and after approval of submittals, schedule an on-site meeting between Contractor, OAR, Project Inspector, and representatives of the material manufacturer and tile installer to review construction conditions and Drawings for conformance with the requirements of this Specification for each substrate.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver tile and other materials in sealed containers, with manufacturer's labels intact.

B. Keep all materials clean and dry.

1.05 MAINTENANCE

A. Extra Materials: Provide a minimum of five percent of each type and color as the installed tile, in manufacturers' cartons and labeled.

1.06 WARRANTY

A. Manufacturer shall provide a five year material warranty.

B. Installer shall provide a five year fabrication and installation warranty.

C. For waterproofing, manufacturer shall provide a 10 year material warranty for waterproofing installation, tile setting, and grouting materials.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Tile: To establish quality, Specification is based on ANSI A137.1 Standard Grade. Equivalent tile products from the following manufacturers may be provided:

1. Dal-Tile Corporation.

2. American Olean Company.

3. Florida Tile, Inc.

4. Equal.

B. Installation Materials: To establish quality for setting and waterproofing materials, Specification is based on ANSI A137.1. Products and methods of the following manufacturers may be provided:

1. Laticrete International, Inc.

2. Custom Building Products.

3. Mapei.

4. Equal.

2.02 MATERIALS

A. Colors, Textures, and Patterns: Tile shall be from manufacturer's standard product line. 90 percent shall be from "price group 2", and "10 percent from price group 3", unless indicated otherwise. Tile trim and accessories shall match adjoining tile. Grout color shall match tile unless otherwise indicated.

B. Tile sizes: Tile sizes specified are modular dimensions unless otherwise indicated.

C. Mortar Sand: ASTM C144.

D. Portland Cement: ASTM C 50, Type I or II.

E. Hydrated Lime: ASTM C207, Type S; or ASTM C206 Type S

F. Portland Cement Mortar: ANSI 118.1

G. Portland Cement Mortar Bed: Sand-cement mortar mix gauged with Laticrete Acrylic Admix or Custom Building Products Thin-Set Mortar Admix.

H. Portland Cement Mortar Bed for Shower Areas: Laticrete 226 Thick Bed Mortar Mix Gauged with Laticrete 3701 Mortar and Grout Admix or on site mix per ANSI A108.1A with Custom Building Products Thin-Set Mortar Admix.

I. Latex Portland Cement Bond Mortar: Laticrete 317 Floor & Wall Thinset gauged with Laticrete 3701 Admix, or Custom Building Products Master Blend mixed with Thin-Set Mortar Admix.

J. Waterproof Membrane: Cold-applied, single component liquid with embedded reinforcing fabric where recommended by manufacturer: Laticrete Hydro Ban Waterproof Membrane or Custom Building Products Red Guard Waterproof Membrane.

K. Reinforcing Wire Fabric: 2-inch by 2-inch, 16 by 16 gage, galvanized electrically welded wire reinforcing, per ASTM A 185.

L. Latex Portland Cement Grout: Laticrete Sanded Grout (1500 Series), Custom Polyblend Sanded Grout or Laticrete Unsanded Grout 1600 Series (for joints smaller than 1/8”), Custom Polyblend Unsanded Grout.

M. Epoxy Grout for Quarry Tile: Laticrete Spectralock Pro Epoxy Grout for Floors and Walls or Custom 100 percent Solids Epoxy Grout.

N. Cleavage Membrane and Wall Backing Paper: Cleavage membrane shall be 15-pound asphalt-saturated felt manufactured according to ASTM D226 Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

O. Separation Material (for all sealed joints including perimeters and quarry-tile fields of floor mortar beds): Quality Foam, QF 200 white, 3/8 inch wide by 5-inch high.

P. Backer Rod for sealants (for ceramic mosaic fields): Polyethylene foam, closed-cell, flexible and compressible, 3/16 inch diameter.

Q. Cleaner and Sealer:

1. Cleaner and sealer shall be from one manufacturer, acceptable to tile and grout manufacturers. To establish quality, the Specification is based on Aqua Mix Inc. Equivalent products from Miracle Sealants Co., Watco Tile and Brick, or equal may be provided.

2. Cleaner: Aqua Mix Concentrated Tile Cleaner, neutral phosphate-free cleaner, or Custom Building Products Tile Lab Concentrated Tile and Stone Cleaner.

3. Sealer: Aqua Mix Penetrating Sealer, fungus- and bacteria-resistant, stain-resistant, and slip-resistant as specified for tile, Custom Building Products Tile Lab Surface Gard, or equal.

R. Sealants:

1. Sealant and primer shall be from one manufacturer, acceptable to tile and grout manufacturers. See Section 07 9200 - Joint Sealants.

2. Ceramic Mosaic Tile: One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.

3. Quarry Tile: Multipart, Pourable Urethane Sealant for Use T: ASTM C 920; Type M; Grade P; Class 25; Uses T, M, A, and, as applicable to joint substrates indicated, O.

2.03 TILE

A. Unglazed Ceramic Mosaic Floor Tile:

1. Size: 1 inch by 1 inch or as indicated.

2. Colors and patterns as selected by Architect from price groups specified.

3. Slip Resistance: Resistant to slipping appropriate to the installed conditions of use, as required by the California Building Code and ADAAG.

a. As a minimum, the coefficient of friction as measured by ASTM C1028 shall be 0.6 except ramps shall be 0.8.

b. For tile in shower and locker areas, incorporate grit into tile to increase slip resistance.

B. Glazed Wall Tile:

1. Size: 4-1/4 inch by 4-1/4 inch face dimensions by 5/16 inch thick (ceramic mosaic tile may also be used on walls).

2. Colors and patterns as selected by Architect from price groups specified.

D. Trim:

1. Integral bullnose at external corners.

2. Provide bullnose where tile projects from jamb.

3. Mosaic tile base with wall tile above: A3401.

4. Mosaic tile base without wall tile above: S3619T (6-inch high sanitary coved base).

5. Bullnose at wainscot: A4200 and A4402.

3.01 EXAMINATION AND PREPARATION

A. Examine substrates and conditions for compliance with installation requirements. Verify that all penetrations through substrate have been installed. Proceed with Work only after all conditions are in compliance.

B. Substrates shall be firm; dry; clean and within flatness tolerances required by relevant ANSI A108 tile installation standards. Prepare surfaces as follows:

1. Concrete Floors: Allow concrete floors to cure for 28 days minimum before beginning tile and grout installation. Remove laitance, sand, dust, and loose particles.

2. Plywood Subfloors: Before installing mortar setting bed over plywood sub-floors, install cleavage membrane over sub-floor. Anchor firmly in place and lap joints 6 inches minimum. Turn membrane up 6 inches at walls and beneath building felt on walls.

C. Substrates to receive wall tile and base shall be:

1. Scratch coat of cement plaster, as specified in Section 09 2423 - Cement Plaster and Metal Lath (required in student restrooms, showers and locker rooms, and quarry tile bases).

2. Cementitious backing panels, as specified in Section 09 2900 - Gypsum Board.

D. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical items of Work, and similar items located in or behind tile has been completed before installing tile.

E. Verify that joints and cracks in tile substrates are coordinated with caulked-joint locations; if not coordinated, adjust as required by the Architect.

F. Do not install tile until construction in spaces is completed and ambient temperature and humidity conditions are maintained in compliance with referenced standards and manufacturer's written instructions.

G. Protect adjacent surfaces during progress of Work of this section.

3.02 TILE INSTALLATION, GENERAL

A. Install tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Center the tile fields in both directions for each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.

B. For tile mounted in sheets: Joints between tile sheets shall be the same width as joints within tile sheets.

C. Extend Work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions, unless otherwise indicated. Terminate Work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

D. Accurately form intersections and returns. Perform cutting and drilling of tile without damaging tile. Carefully grind the cut edges of tile abutting trim, finish, or built-in items. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

E. Locate joints, directly above joints in concrete substrates, at horizontal and vertical changes in plane, or where indicated during installation of mortar beds. In quarry tile floors, provide at 12 feet on center maximum. Provide 3/8-inch wide foam at joints. Do not saw-cut joints after installing tiles.

F. Prepare and clean joints to be sealed. Apply sealants to comply with requirements of Section 07 9200 - Joint Sealants.

G. Conform to manufacturers printed instructions, and applicable requirements of ANSI and TCNA Standards.

3.03 TILE INSTALLATION, FLOOR

A. Install reinforcing and latex Portland-cement mortar setting bed over cured concrete slab or cleavage membrane on plywood floor. Lap reinforcing at least one full mesh, and support or lift so that it is approximately in the middle of mortar bed. Do not abut against vertical surfaces. Install foam separation material at perimeters and expansion joint locations for caulked joints.

B. Mix setting mortar in accordance with ANSI recommendations.

C. Once begun, mortar installation must continue until room is completed. Discard any batch not floated and finished within ½ hour of mixing. Firmly compact before screeding. Screed to true plane and pitch as indicated. Slope mortar bed sufficiently that water flows to drain and no puddling will occur. Slope mortar down to floor drains for proper installation of waterproof membrane. After screeding, firmly rub down with steel or wood float.

D. Cure mortar bed with a light fog spray of water and cover with 6-mil Visqueen for 72 hours.

E. Waterproof Membrane:

1. Install waterproof membrane where indicated and in all kitchen, toilet, shower, and locker areas according to TCNA Standards. Extend membrane up wall mortar or backing board as follows:

   a. 3 inches above top of curb wall.

   b. 6 inches minimum above floor.

2. Insure that layers of membrane are fully inserted into clamping ring of floor drain. After membrane installation and before tile setting, install pea gravel around sub drain to prevent blockage of weep holes and place mortar to proper level for setting tile.

3. For tile installations other than slab on grade, before setting tile and after seven days curing, water test membrane by damming drains and doors, filling floor with water to 4-inch minimum depth, and leaving for 24 hours. Correct any leaks and re-test before proceeding. After testing, protect membrane from traffic until tile Work begins.

F Thin Set Method: Confirm substrate is completely clean and free of dust. Cut foam at floor perimeters flush with top of mortar bed. Insure that bond coats do not intrude into

joints to be sealed. Install tile over properly cured setting bed or waterproof membrane utilizing "thin-set" method with latex portland cement bond mortar, in accordance with manufacturer's printed instructions and ANSI A108.5.

G. Minimum coverage of bond mortar shall be 80 percent except 95 percent in shower areas, for quarry tile, and exterior installations. Place tile into fresh mortar press tile to insure full contact. Before setting proceeds, set and remove three tiles or sheets of tiles to confirm specified coverage of bond mortar. If coverage is insufficient, utilize a larger toothed trowel or back butter tiles until proper coverage is provided.

H. Install tile on floors with the following joint widths:

1. Ceramic Mosaic Tile: 1/16 to 1/8 inch.

3.04 TILE INSTALLATION, WALLS

A. Install wall mortar beds before floor mortar beds.

B. On plaster walls, clean scratch coat surface of loose or foreign materials, fog spray with water, and install brown coat mortar bed over scratch coat to a thickness not less than 3/8 inch and not greater than ¾ inch. Once started, wall mortar installation must continue until wall is completely floated. Discard any batch not floated and finished within ½ hour of mixing. As soon as wall mortar is dried to sufficient hardness, but still plastic, firmly rub with wood float.

C. Cover cure with 40-weight Kraft paper for 72 hours minimum.

D. Install tile over properly cured setting bed, waterproof membrane, or cementitious backing panels utilizing "thin-set" method with latex portland cement bond mortar, in accordance with manufacturer's printed instructions and ANSI A108.5. Confirm substrate is completely clean and free of dust. Insure that bond coats do not intrude into joints to be caulked.

E. Minimum coverage of bond mortar shall be 80 percent except 95 percent in shower areas or exterior installations. Set and test as specified for floors.

F. Lay out Work so tiles will be centered on each wall or section of wall in order to minimize tile cuts. Lay out tile wainscots to next full tile beyond dimensions indicated. Spot setting bed with mortared tile, set plumb and true, accurately indicate plane of finished tile surfaces.

G. Install tile on walls with following joint widths:

1. Glazed Wall Tile: 1/16 inch.

2. Ceramic Mosaic Tile: 1/16 to 1/8 inch.

H. Horizontal joints shall be level, vertical joints plumb with surfaces true and plumb, edges of tiles flushed.

I. Rub exposed cuts smooth with a fine stone; no cut edge shall be set against a fixture or adjoining surface without a 1/16 inch joint to be caulked.

J. Install access doors where required, furnished under another section, in correct location, plumb or level, flush with adjacent construction, and securely fastened to framing.

3.05 GROUTING

A. Prior to starting, ensure that all tile surfaces are clean and excessive bond mortar is scraped and vacuumed from joints (approximately 2/3 depth of tile should be open for grouting). Follow manufacturer's instructions for mixing grout. Once grout Work commences, proceed until complete wall or floor area is finished utilizing one batch of grout.

B. Latex portland cement grouting: Dampen tile surface and joints with water using sponge, but leaving no puddles in joints. Force grout into joints using sufficient pressure on rubber float so as to fill joints completely, and scrape excess grout off tile surface with rubber float. Smooth or tool grout to uniform joint finish. Do not over water.

C. Curing latex Portland cement grout: Remove final grout haze with clean soft cloth, and cover with 40-weight Kraft paper to cure. Leave paper in place for protection. Cover wall surfaces with 40-weight Kraft paper for 72 hours.

D. Epoxy grouting: Do not dampen tile. Follow manufacturer's instructions for mixing grout. Force grout into joints with sufficient pressure on rubber float so as to fill joints completely, and scrape excess grout off tile surface with rubber float. Smooth or tool grout to uniform joint finish. Do not allow grout to harden on face of tile.

E. Curing epoxy grout: Do not cover floor, but do not allow foot traffic for 72 hours. Then, if grout is not tacky, cover with 40-weight Kraft paper for protection.

3.06 CLEANING AND SEALING

A. If grout scum is not visible on tile surface after curing, clean tile surface with clear water. Remove and replace cracked, broken or defective Work with proper material.

B. If, when curing membrane is removed, grout scum is visible on tile surface, use the following cleaning method:

1. Immediately recover floor with paper or felt and allow to continue curing for a minimum of 14 days; uncover floor and maintain entire tile surface saturated with clean cool water for not less than two hours.

2. Utilize a neutral cleaner acceptable to manufacturers of tile and grout, and follow manufacturer's instruction. Do not provide generic acid cleaners.

3. Wet tile floors and apply cleaning solution to floor surface, then scrub with a brush. Rinse area several times with clean water to flush solution off floor surface.

C. Apply penetrating sealer in accordance with manufacturer's instructions utilizing a dense sponge applicator, paint pad, sprayer or brush. Avoid overlapping, puddling, and rundown. Completely wipe surface dry within 3 to 5 minutes using cotton or paper towels; do not allow sealer to dry on tile. After two hours, test surface by applying water droplets to surface. If water is absorbed, apply a second coat. Avoid surface traffic for 24 hours.

3.06 SEALANTS

A. Insure joints to be sealed are free of setting and grouting materials and construction debris. Do not permit any foot traffic on installed sealants for a minimum of 48 hours or protect with hardboard strips.

B. Install in accordance with Section 07 9200 - Joint Sealants.

3.07 PROTECTION

A. Admit no traffic where tile is installed until mortar and grout has set for a minimum of 72 hours.

B. Protect Work of this section until Substantial Completion.

3.08 CLEAN UP

A. Remove rubbish, debris, and waste material and legally dispose of off the Project site.

END OF SECTION

SECTION 09 9000

PAINTING AND COATING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Interior and exterior painting.

B. Following items shall not be painted:

1. Brass valves, chromium or nickel-plated piping and fittings.

2. Boiler control panels and control systems.

3. Fabric connections to fans.

4. Flexible conduit connections to equipment, miscellaneous name plates, stamping, and instruction labels and manufacturer's data.

5. Mechanical and electrical utility lines, piping and heating and ventilation ductwork in tunnels, under-floor excavated areas or crawl spaces, attic spaces and enclosed utility spaces.

6. Flag, floodlight, parking light poles and loudspeaker poles, metal stairs, handrails and chain-link fence with a galvanized finish, unless otherwise noted.

7. Structural and miscellaneous steel, open web steel joists and metal floor decking, which will not be exposed in final construction, shall have no finish other than one coat of shop primer.

8. Hardboard covering on tops and backs of counters and benches.

9. Brass, bronze, aluminum, lead, stainless steel and chrome or nickel-plated surfaces.

10. Non-metallic walking surfaces unless specifically shown or specified to be painted.

1.02 REGULATORY REQUIREMENTS

A. Paint materials shall comply with the Food and Drug Administration’s (F.D.A.) Lead Law and the current rules and regulations of local, state and federal agencies governing the use of paint materials.

1.03 SUBMITTALS

A. List of Materials: Before submittal of samples, submit a complete list of proposed paint materials, identifying each material by distributor's name, manufacturer's name, product name and number, including primers, thinners, and coloring agents, together with manufacturers' catalog data fully describing each material as to contents, recommended installation, and preparation methods. Identify surfaces to receive various paint materials.

B. Material Samples: Submit manufacturer's standard colors samples for each type of paint specified. Once colors have been selected, submit Samples of each color selected for each type of paint accordingly:

1. Samples of Paint and Enamel must be submitted on standard 8 ½" x 11" Leneta Opacity-Display Charts. Each display chart shall have the color in full coverage. The sample shall be prepared from the material to be installed on the Work. Identify the school on which the paint is to be installed, the batch number, the color number, the type of material, and the name of the manufacturer.

2. Elastomeric shall be submitted in duplicate samples of the texture coating. Samples will be not less than 2 ½ by 3 ½ in size and installed upon backing. Finished Work will match the reviewed Sample in texture.

3. Materials and color samples shall be reviewed before starting any painting.

C. For transparent and stained finishes, prepare samples on same species and quality of wood to be installed in the Work, with written description of system used.

1.04 QUALITY ASSURANCE

A. Certification of Materials: With every delivery of paint materials, the manufacturer shall provide written certification the materials comply with the requirements of this section.

B. Coats: The number of coats specified is the minimum number. If full coverage is not obtained with the specified number of coats, install additional coats as required to provide the required finish.

C. Install coats and undercoats for finishes in strict accordance with the recommendations of the paint manufacturer as reviewed by the Architect.

D. Paint materials shall comply with the following as a minimum requirement:

1. Materials shall be delivered to Project site in original unbroken containers bearing manufacturer's name, brand number and batch number.

2. Open and mix ingredients on premises in presence of the Project Inspector.

1.05 DELIVERY, STORAGE AND HANDLING

A. Storage and Mixing of Materials: Store materials and mix only in spaces suitable for such purposes. Maintain spaces clean and provide necessary precautions to prevent fire. Store paint containers so the manufacturer's labels are clearly displayed.

1.06 SITE CONDITIONS

A. Temperature: Do not install exterior paint in damp, rainy weather or until surface has thoroughly dried from effects of such weather. Do not install paint, interior, or exterior, when temperature is below 50 degrees F, or above 90 degrees F, or dust conditions are unfavorable for installation.

1.07 WARRANTY

A. Manufacturer shall provide a three year material warranty.

B. Installer shall provide a three year application warranty.

1.08 MAINTENANCE

A. Provide at least one gallon of each type, color and sheen of paint coating installed. Label containers with color designation indicated on Drawings.

PART 2 - PRODUCTS

2.01 PAINT MATERIALS

A. Furnish the products of only one paint manufacturer unless otherwise specified or required. Primers, intermediate and finish coats of each painting system must all be the products of the same manufacturer, including thinners and coloring agents, except for materials furnished with shop prime coat by other trades.

B. Factory mix paint materials to correct color, gloss, and consistency for installation to the maximum extent feasible.

C. Paint materials to be minimum “Architectural Grade”.

D. Gloss degree standards shall be as follows:

HIGH GLOSS	70 and above	EGGSHELL	30 to 47
SEMI-GLOSS	48 to 69	SATIN	15 to 29

2.02 MANUFACTURERS

A. Acceptable manufacturers, unless otherwise noted:

1. Dunn-Edwards Corporation Paints

2. Frazee Paints and Wall coverings

3. Vista Paints

4. Sherwin Williams

5. ICI Paints

6. Equal.

A. Anti-Graffiti Coating: Per Section 09 9623 Graffiti-Resistant Coatings.

PART 3 - EXECUTION

3.01 PREPARATION

A. Examine surfaces to receive paint finish. Surfaces which are not properly prepared and cleaned or which are not in condition to receive the finish specified shall be corrected before prime coat is installed.

B. New woodwork shall be thoroughly cleaned, hand sandpapered, and dusted off. Nail holes, cracks or defects in Work shall be filled. On stained woodwork, fill shall be colored to match stain. Filling shall be performed after the first coat of paint, shellac or varnish has been installed.

C. Plaster surfaces except veneer plaster shall be allowed to dry at least 3 weeks before painting. Veneer plaster shall be allowed to dry sufficiently to receive paint as determined by moisture meter tests.

D. Metal surfaces to be painted shall be thoroughly cleaned of rust, corrosion, oil, foreign materials, blisters, and loose paint.

E. Do not install painting materials to wet, damp, dusty, dirty, finger marked, rough, unfinished or defective surfaces.

F. Concrete surfaces shall be dry, cleaned of dirt and foreign materials and in proper condition to receive paint. Neutralize spots demonstrating effects of alkali.

G. Mask off areas where necessary.

3.02 APPLICATION

A. Backpainting: Immediately upon delivery to the Project site, finish lumber and millwork shall be backpainted on surfaces that will be concealed after installation. Items to be painted shall be backpainted with priming coat specified under "Priming".

B. Priming: New wood and metal surfaces specified to receive paint finish shall be primed. Surfaces of miscellaneous metal and steel not embedded in concrete, and surfaces of unprimed plain sheet metal Work shall be primed immediately upon delivery to the Project site. Galvanized metal Work and interior and exterior woodwork shall be primed immediately after installation. Priming of surfaces and priming coat shall be as follows:

1. Knots, Pitch and Sap Pockets: Shellac before priming.

2. Exterior Woodwork and Wood Doors: Prime with one coat of exterior waterborne emulsion wood primer.

3. Interior Woodwork: Where indicated to be painted, prime with one coat of waterborne wood primer.

4. Stain: Woodwork indicated to receive a stain and varnish finish shall be stained to an even color with water borne stain. On open-grained hardwood, mix stain with paste filler and completely fill pores in wood.

5. Galvanized Metal Work: Clean oil, grease and other foreign materials from surfaces. Install vinyl wash pretreatment coating. Follow manufacturer's instructions for drying time, and then prime with one coat of metal primer.

6. Unprimed Iron, Steel, and Other Uncoated Metals: Where specified to be painted, prime with one coat of metal primer.

7. Shop Primed Metal Items: Touch up bare and abraded areas with metal primer before installation of second and third coats.

8. Coats shall be installed evenly and with full coverage. Finished surfaces shall be free of sags, runs and other imperfections.

C. Allow at least 24 hours between coats of paint.

D. Rollers shall not be used on wood surfaces.

E. Each coat of painted woodwork and metal, except last coat, shall be sandpapered smooth when dry. Texture-coated gypsum board shall be sanded lightly to remove surface imperfections after first coat of paint has been installed.

F. Each coat of paint or enamel shall be a slightly different tint as required. Each coat of paint, enamel, stain, shellac, and varnish will be inspected by the IOR before next coat is applied. Notify the Project Inspector that such Work is ready for inspection.

1. Tinting Guideline: The first coat, primer/undercoat(s) to be untinted or tinted up to 50 percent lighter or darker (at the discretion of the installer) than the finish coat. The second coat (or third coat if a seal coat and undercoat have been specified) is to be factory tinted in the range of 10 percent to 15 percent lighter or darker (at the discretion of the installer) than the finish coat. The final coat is to be factory tinted to the required color selected. These tinting guidelines shall be provided on all surfaces receiving paint.

G. Do not "paint-out" UL labels, fusible links and identification stamps.

H. Paint Roller, brush and spray.

1. Only Paint rollers shall be used on interior plaster, drywall, masonry/plaster and plywood surfaces, nap shall not exceed one half inch in length.

2. First coat on wood overhang and ceilings shall have material applied by roller and then brushed out in a professional manner to leave surface free of imperfections. Finish coat may be sprayed.

3. Other surfaces shall have all coatings applied with brushes of proper size.

4. Spray work is permitted only on radiators, acoustic plaster, masonry and plaster.

I. Where ceilings are specified to be painted, beams, cornices, coves, ornamental features, plaster grilles, etc. shall be included.

J. Ceilings shall be white, including classrooms, storage rooms, offices, arcades, etc. Boiler room and fan room ceiling color shall match adjacent walls.

3.03 CLEANING

A. Remove rubbish, waste, and surplus material and clean woodwork, hardware, floors, and other adjacent Work.

B. Remove paint, varnish and brush marks from glazing material and, upon completion of painting Work, wash and polish glazing material both sides. Glazing material, which is damaged, shall be removed and replaced with new material.

C. Clean hardware and other unpainted metal surfaces with recommended cleaner. Do not furnish abrasives or edged tools.

3.04 SCHEDULE

A. Interior:

1. Woodwork, Painted: 3 coats.

a. First Coat: As specified in this section under Priming.

b. Second and Third Coats: Interior enamel, semi-gloss or gloss as indicated.

2. Woodwork, Stained and Varnished: 4 coats.

a. First Coat: As specified in this section under Priming.

b. Second, Third and Fourth Coats: Varnish, semi-gloss.

3. Wood Corridor doors: 4 coats.

a. First Coat: As specified in this section under Priming.

b. Second, Third, and Fourth Coats: Varnish, gloss.

4. Other Wood Doors: 4 coats.

a. Varnished or painted as indicated.

b. If varnished, same finish system as painted woodwork, with semi-gloss or gloss finish to match adjacent wall.

5. Miscellaneous Woodwork: 4 coats. Wood items including, but not limited to: stair treads and risers, handrails, rolling ladders, wood base and shoe, chair rails, counter tops and locker room benches.

   a. First Coat: As specified in this section under Priming.

   b. Second, Third and Fourth: Exterior varnish, gloss.

6. Casework: Interior surfaces of casework (except plastic laminate-faced casework) including top, edges and underside of shelving, poles, surfaces of drawers (except fronts), interior surfaces of mailbox pigeonholes, and particle board.

   a. First Coat: Waterborne stain.

   b. Second and Third Coats: Satin varnish.

7. Plaster: 4 coats.

   a. First Coats: Pigmented wall sealer.

   b. Second coat: Enamel under coater.

   c. Third and Fourth Coats – Interior enamel, semi-gloss or gloss as indicated.

8. Gypsum Board: 4 coats.

   a. First Coat: Drywall sealer.

   b. Second Coat: Enamel under coater.

   c. Third and Fourth Coats: Interior enamel, semi-gloss or gloss as indicated.

9. Concrete: 3 coats.

   a. First: Concrete sealer.

   b. Second and Third: Interior enamel, semi-gloss or gloss as indicated.

10. Concrete Block: 3 coats.

    a. First: Concrete block filler.

    b. Second and Third: Interior enamel, semi-gloss or gloss as indicated.

11. Metal: Shall be cleaned, pre-treated and painted with 3 coats. Items to be painted include, but are not limited to: exposed structural and miscellaneous steel, metal doors and frames, ladders, table and bench legs.

a. First Coat: Metal primer.

b. Second and Third Coats: Interior gloss enamel, except metal doors and frames which shall be semi-gloss or gloss to match adjacent wall.

B. Exterior:

1. Metal: 3 coats. Shall be cleaned and pre-treated. Items to be painted include, but are not limited to: rain gutters, downspouts and metal flashings

a. First Coat: As specified in this section under Priming.

b. Second and Third Coats: Exterior gloss enamel.

C. Mechanical and Electrical Work:

1. Except where interior mechanical and electrical Work to be painted is specified to receive another paint finish, Work occurring in finished rooms and spaces shall be cleaned, pre-treated, and painted with 3 coats. Items to be painted include, but are not limited to: steel and copper piping, pipes, vents, fittings, ducts, plenums, miscellaneous supports and hangers, electrical conduit, fittings, pull boxes, outlet boxes, unfinished surfaces of plumbing fixtures, miscellaneous metal cabinets, panels, and access doors and panels.

a. First Coat: As specified in this section under Priming.

b. Second and Third Coats: Interior enamel, semi-gloss or gloss to match adjacent wall or ceiling finish.

2. Insulation and Taping on Pipes and Ducts: 3 coats.

a. Finished Rooms:

1) First Coat: Interior waterborne primer.

2) Second and Third Coats: Interior semi-gloss or gloss enamel to match adjoining wall or ceiling finish.

b. Building Exterior:

1) First Coat: Exterior waterborne primer.

2) Second and Third Coats: Exterior gloss enamel.

3. Inside surfaces of ducts, vents, dampers and louvers as far back as visible from PROTECTION

A. Protect the Work of this section until Substantial Completion.

3.05 CLEANUP

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 11 6813

PLAY FIELD EQUIPMENT AND STRUCTURES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes the following types of play equipment and structures:

1. Playground equipment and shade structure furnished by owner as indicated on the Drawings to be installed by contractor.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 03 3000 - Cast-In-Place Concrete.

3. Section 32 1816 - Playground Protective Surfacing.

1.02 SUBMITTALS

A. Coordination Drawings: Layout plans and elevations indicating extent of playground equipment with playground surface systems. Indicate playground equipment locations, use zones, fall heights, extent of protective surfacing, and critical heights.

B. Product Data: For each type of product specified. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

C. Certificates: Signed by manufacturers of playground equipment certifying that products furnished comply with DSA and Contract Documents.

1.03 QUALITY ASSURANCE

A. Comply with California Code of Regulations Title 22.

PART 2 - PRODUCTS

2.01 GENERAL

A. Products: In the locations indicated on the Drawings, provide the products specified for each designation. If location is not shown, provide unit located per the OAR’s directions.

2.02 PLAYGROUND EQUIPMENT, GENERAL

A. OFCI: Owner furnished, and contractor installed.

2.03 FABRICATION

A. General: OFCI.

2.04 CAST-IN-PLACE CONCRETE

A. Concrete Materials and Properties: Comply with requirements of Section 03 3000 - Cast-in-Place Concrete to provide normal-weight, air-entrained concrete with a minimum 28-day compressive strength of 3,000 psi, 4-inch slump, and one inch maximum size aggregate.

2.05 GENERAL METAL FINISHES

A. NOT USED.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions for compliance with requirements for Project site clearing, earthwork, surface and sub-grade drainage, and other conditions affecting installation.

B. Do not begin installation before final grading for placing protective surfacing is completed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Verify locations of playground perimeter and pathways. Verify that playground layout and equipment locations comply with requirements for each type and component of equipment.

3.03 INSTALLATION, GENERAL

A. General: Comply with manufacturer’s written recommendations unless more stringent requirements are indicated.

B. Install other playground equipment as indicated on the Drawings.

C. Post and Footings:

1. Excavation: Hand-excavate holes for posts and footings to dimensions, profile, spacing, and in locations indicated on Drawings, in firm, undisturbed or compacted subgrade soil. Level bearing surfaces with drainage fill, to required elevation.

2. Post Setting: Install mainframe equipment posts in concrete footing. Protect portion of posts above footing from concrete splatter. Install concrete around posts and vibrate or tamp for consolidation. Verify that posts are set plumb or at the correct angle and are aligned and at the correct height and spacing. Brace posts in position during placement and finishing operations until concrete is sufficiently hydrated. Smooth tops of concrete footings, and slope top surface for positive shedding of water.

3.04 ADJUSTING AND PROTECTION

A. Adjust movable playground equipment components to operate smoothly, easily and quietly, free from binding, warp, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range.

B. Protect the Work of this section until Substantial Completion.

3.05 CLEANING AND CLEANUP

A. After completing playground equipment installation, inspect components. Remove spots and dirt. Repair damaged finishes to match original finish or replace component.

B. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 22 0523

GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.01 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. Submittal scheduling 01 32 00

2. Submittal Procedures 01 33 00

3. Substitution Procedures 01 25 00

Should the Contractor desire to substitute any material, equipment or other items for those specified, he shall submit a complete list, including detailed equipment layouts. Any changes required by the furnishing and installation of substituted material, equipment and other item shall be arranged for and paid for by the contractor; any expense incurred is part of this contract.

4. Equivalent Equipment 01 25 00

In addition to detailed specifications of materials and equipment, the specifications make reference to “substitutions” which is not to be, construed as equivalent.

“Equivalent equipment” will be considered as complying with the contract documents if the quality, features, performance, physical shape and appearance of the “equivalent equipment” are in the Architect’s opinion the same or similar to those of the material and equipment described in detailed specifications.

5. Drawings and Specifications: The drawings and specifications are deemed to be complementary. In case of discrepancy or overlapping conflicting requirements between the drawings and the specifications, the contractor shall provide the more expensive alternate unless he has obtained a written clarification prior to bid opening. Anything shown on the drawings and not mentioned in the specifications, and not shown on the drawings, shall be deemed to have mentioned in both. Should the material and equipment shown on the drawings not be specified by name, model number and description, the contractor shall provide such material and equipment in accordance with the Architect’s selection unless he has obtained a written clarification prior to bid opening.

1.02 SUMMARY

A. Section Includes:

1. Bronze ball valves.

B. Related Sections:

1. Division 22 plumbing piping Sections for specialty valves applicable to those Sections only.

2. Division 22 Section "Identification for Plumbing Piping and Equipment" for valve tags and schedules.

3. Division 33 water distribution piping Sections for general-duty and specialty valves for site construction piping.

1.03 DEFINITIONS

A. C.W.P: Cold Working Pressure

1.04 SUBMITTALS

A. Product Data: For each type of valve indicated.

1.05 QUALITY ASSURANCE

A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

B. ASME Compliance:

1. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.

C. NSF Compliance: NSF 61 for valve materials for potable-water service.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.

2. Protect threads, flange faces, grooves, and weld ends.

3. Set gate, and globe valves closed to prevent rattling.

4. Set ball valves open to minimize exposure of functional surfaces.

5. Block checks valves in either closed or open position.

B. Use the following precautions during storage:

1. Maintain valve end protection.

2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS FOR VALVES

A. Refer to valve schedule articles for applications of valves.

B. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.

C. Valve Sizes: Same as upstream piping unless otherwise indicated.

D. Valves in Insulated Piping: With 2-inch stem extensions and the following features.

1. Ball Valves: With extended operating handle of non-thermal-conductive material, and protective sleeve that allows operation of valve without breaking the vapor seal or disturbing insulation.

E. Valve-End Connections:

1. Flanged: With flanges according to ASME B16.1 for iron valves.

2. Solder Joint: With sockets according to ASME B16.18.

3. Threaded: With threads according to ASME B1.20.1.

F. Valve Bypass and Drain Connections: MSS SP-45.

2.02 BRONZE BALL VALVES

A. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. NIBCO INC.

   b. Apollo

   c. Hammond Valve.

2. Description:

   a. Standard: MSS SP-110.

   b. SWP Rating: 150 psig.

   c. CWP Rating: 600 psig.

   d. Body Design: Two piece.

   e. Body Material: Bronze.

   f. Ends: Threaded or Soldered.

   g. Seats: PTFE or TFE.

   h. Stem: Bronze.

   i. Ball: Chrome-plated brass.

   j. Port: Full.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.

B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.

C. Examine threads on valve and mating pipe for form and cleanliness.

D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.

E. Do not attempt to repair defective valves; replace with new valves.

3.02 VALVE INSTALLATION

A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.

B. Locate valves for easy access and provide separate support where necessary.

C. Install valves in horizontal piping with stem at or above center of pipe.

D. Install valves in position to allow full stem movement.

E. Install chainwheels on operators for ball, gate and globe valves NPS 4 and larger and more than 96 inches above floor. Extend chains to 60 inches above finished floor.

3.03 ADJUSTING

A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.04 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

A. If valve applications are not indicated, use the following:

1. Shutoff Service: Ball, or gate valves.

B. If valves with specified SWP classes or CWP ratings are not available, the same types of valves with higher SWP classes or CWP ratings may be substituted.

C. Select valves, with the following end connections:

1. For Copper Tubing, NPS 2 and Smaller: Threaded ends except where solder-joint valve-end option is indicated in valve schedules below.

2. For Copper Tubing, NPS 2-1/2 to NPS 4: Flanged ends except where threaded valve-end option is indicated in valve schedules below.

3. For Copper Tubing, NPS 5 and Larger: Flanged ends.

4. For Steel Piping, NPS 2 and Smaller: Threaded ends.

5. For Steel Piping, NPS 2-1/2 to NPS 4: Flanged ends except where threaded valve-end option is indicated in valve schedules below.

6. For Steel Piping, NPS 5 and Larger: Flanged ends.

3.05 DOMESTIC, HOT- AND COLD-WATER VALVE SCHEDULE

A. Pipe NPS 2 and Smaller:

1. Bronze Valves: May be provided with solder-joint ends instead of threaded ends.

2. Class 125, Class 150, bronze disc.

3. Ball Valves: Two piece, full port, bronze trim.

END OF SECTION

SECTION 22 0523

GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.01 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. Submittal scheduling 01 32 00

2. Submittal Procedures 01 33 00

3. Substitution Procedures 01 25 00

Should the Contractor desire to substitute any material, equipment or other items for those specified, he shall submit a complete list, including detailed equipment layouts. Any changes required by the furnishing and installation of substituted material, equipment and other item shall be arranged for and paid for by the contractor; any expense incurred is part of this contract.

4. Equivalent Equipment 01 25 00

In addition to detailed specifications of materials and equipment, the specifications make reference to “substitutions” which is not to be, construed as equivalent.

“Equivalent equipment” will be considered as complying with the contract documents if the quality, features, performance, physical shape and appearance of the “equivalent equipment” are in the Architect’s opinion the same or similar to those of the material and equipment described in detailed specifications.

5. Drawings and Specifications: The drawings and specifications are deemed to be complementary. In case of discrepancy or overlapping conflicting requirements between the drawings and the specifications, the contractor shall provide the more expensive alternate unless he has obtained a written clarification prior to bid opening. Anything shown on the drawings and not mentioned in the specifications, and not shown on the drawings, shall be deemed to have mentioned in both. Should the material and equipment shown on the drawings not be specified by name, model number and description, the contractor shall provide such material and equipment in accordance with the Architect’s selection unless he has obtained a written clarification prior to bid opening.

1.02 SUMMARY

A. Section Includes:

1. Bronze ball valves.

B. Related Sections:

1. Division 22 plumbing piping Sections for specialty valves applicable to those Sections only.

2. Division 22 Section "Identification for Plumbing Piping and Equipment" for valve tags and schedules.

3. Division 33 water distribution piping Sections for general-duty and specialty valves for site construction piping.

1.03 DEFINITIONS

A. C.W.P: Cold Working Pressure

1.04 SUBMITTALS

A. Product Data: For each type of valve indicated.

1.05 QUALITY ASSURANCE

A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

B. ASME Compliance:

1. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.

C. NSF Compliance: NSF 61 for valve materials for potable-water service.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.

2. Protect threads, flange faces, grooves, and weld ends.

3. Set gate, and globe valves closed to prevent rattling.

4. Set ball valves open to minimize exposure of functional surfaces.

5. Block checks valves in either closed or open position.

B. Use the following precautions during storage:

1. Maintain valve end protection.

2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS FOR VALVES

A. Refer to valve schedule articles for applications of valves.

B. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.

C. Valve Sizes: Same as upstream piping unless otherwise indicated.

D. Valves in Insulated Piping: With 2-inch stem extensions and the following features.

1. Ball Valves: With extended operating handle of non-thermal-conductive material, and protective sleeve that allows operation of valve without breaking the vapor seal or disturbing insulation.

E. Valve-End Connections:

1. Flanged: With flanges according to ASME B16.1 for iron valves.

2. Solder Joint: With sockets according to ASME B16.18.

3. Threaded: With threads according to ASME B1.20.1.

F. Valve Bypass and Drain Connections: MSS SP-45.

2.02 BRONZE BALL VALVES

A. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. NIBCO INC.

   b. Apollo

   c. Hammond Valve.

2. Description:

   a. Standard: MSS SP-110.

   b. SWP Rating: 150 psig.

   c. CWP Rating: 600 psig.

   d. Body Design: Two piece.

   e. Body Material: Bronze.

   f. Ends: Threaded or Soldered.

   g. Seats: PTFE or TFE.

   h. Stem: Bronze.

   i. Ball: Chrome-plated brass.

   j. Port: Full.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.

B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.

C. Examine threads on valve and mating pipe for form and cleanliness.

D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.

E. Do not attempt to repair defective valves; replace with new valves.

3.02 VALVE INSTALLATION

A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.

B. Locate valves for easy access and provide separate support where necessary.

C. Install valves in horizontal piping with stem at or above center of pipe.

D. Install valves in position to allow full stem movement.

E. Install chainwheels on operators for ball, gate and globe valves NPS 4 and larger and more than 96 inches above floor. Extend chains to 60 inches above finished floor.

3.03 ADJUSTING

A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.04 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

A. If valve applications are not indicated, use the following:

1. Shutoff Service: Ball, or gate valves.

B. If valves with specified SWP classes or CWP ratings are not available, the same types of valves with higher SWP classes or CWP ratings may be substituted.

C. Select valves, with the following end connections:

1. For Copper Tubing, NPS 2 and Smaller: Threaded ends except where solder-joint valve-end option is indicated in valve schedules below.

2. For Copper Tubing, NPS 2-1/2 to NPS 4: Flanged ends except where threaded valve-end option is indicated in valve schedules below.

3. For Copper Tubing, NPS 5 and Larger: Flanged ends.

4. For Steel Piping, NPS 2 and Smaller: Threaded ends.

5. For Steel Piping, NPS 2-1/2 to NPS 4: Flanged ends except where threaded valve-end option is indicated in valve schedules below.

6. For Steel Piping, NPS 5 and Larger: Flanged ends.

3.05 DOMESTIC, HOT- AND COLD-WATER VALVE SCHEDULE

A. Pipe NPS 2 and Smaller:

1. Bronze Valves: May be provided with solder-joint ends instead of threaded ends.

2. Class 125, Class 150, bronze disc.

3. Ball Valves: Two piece, full port, bronze trim.

END OF SECTION

SECTION 22 1116

DOMESTIC WATER PIPING

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. Submittal scheduling 01 32 00

2. Submittal Procedures 01 33 00

3. Substitution Procedures 01 25 00

Should the Contractor desire to substitute any material, equipment or other items for those specified, he shall submit a complete list, including detailed equipment layouts. Any changes required by the furnishing and installation of substituted material, equipment and other item shall be arranged for and paid for by the contractor; any expense incurred is part of this contract.

4. Equivalent Equipment 01 25 00

In addition to detailed specifications of materials and equipment, the specifications make reference to “substitutions” which is not to be, construed as equivalent.

“Equivalent equipment” will be considered as complying with the contract documents if the quality, features, performance, physical shape and appearance of the “equivalent equipment” are in the Architect’s opinion the same or similar to those of the material and equipment described in detailed specifications.

5. Drawings and Specifications The drawings and specifications are deemed to be complementary. In case of discrepancy or overlapping conflicting requirements between the drawings and the specifications, the contractor shall provide the more expensive alternate unless he has obtained a written clarification prior to bid opening. Anything shown on the drawings and not mentioned in the specifications, and not shown on the drawings, shall be deemed to have mentioned in both. Should the material and equipment shown on the drawings not be specified by name, model number and description, the contractor shall provide such material and equipment in accordance with the Architect’s selection unless he has obtained a written clarification prior to bid opening.

1.2 SUMMARY

B. Section Includes:

1. Domestic water pipes, tubes, fittings, and specialties inside the building.

2. Escutcheons.

3. Sleeves and sleeve seals.

4. Wall penetration systems.

C. Related Section:

1. Division 22 Section Domestic Water Piping Specialties

1.3 PERFORMANCE REQUIREMENTS

D. Seismic Performance: Domestic water piping and support and installation shall withstand effects of earthquake motions determined according to Section 1632 Part 2 C.B.C.

1.4 SUBMITTALS

E. Product Data: For Pipe, Tube, Fittings and Couplings.

F. Water Samples: Specified in “Cleaning” Article.

G. Coordination Drawings: For piping in equipment rooms and other congested areas, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:

1. Fire-suppression-water piping.

2. Domestic water piping.

H. Field quality-control reports.

1.5 QUALITY ASSURANCE

I. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.6 COORDINATION

J. Coordinate sizes and locations of concrete bases with actual equipment provided.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Comply with requirements in Part 3 “Piping Schedule” Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

2.2 COPPER PIPE FITTINGS

B. Hard Copper Pipe: ASTM B 88, Type L and ASTM B 88, Type M water pipe, drawn temper.

1. Wrought-Copper Solder-Joint Fittings: ASME B16.22, wrought-copper pressure fittings.

2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint ends.

3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends

4. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. NIBCO INC.

b. Viega; Plumbing and Heating Systems.

c. Or approved equal.

2.3 PIPING JOINING MATERIALS

C. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

D. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated.

2.4 SPECIALTY VALVES

E. Comply with requirements in Division 22 Section “General-Duty Valves for Plumbing Piping” for general-duty metal valves.

F. Comply with requirements in Division 22 Section “Domestic Water Piping Specialties” for balancing valves, drain valves, backflow preventers, and vacuum breakers.

2.5 TRANSITION FITTINGS

G. General Requirements:

1. Same size as pipes to be joined.

2. Pressure rating at least equal to pipes to be joined.

3. End connections compatible with pipes to be joined.

H. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting.

2.6 DIELECTRIC FITTINGS

I. General Requirements: Assembly of copper alloy and ferrous materials or ferrous material body with separating nonconductive insulating material suitable for system fluid, pressure, and temperature.

J. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Watts Regulator Co.; a division of Watts Water Technologies, Inc.

b. Zurn Plumbing Products Group; Wilkins Water Control Products.

c. Or approved equal.

2. Description:

a. Pressure Rating: 150 psig at 180 deg F.

b. End Connections: Solder-joint copper alloy and threaded ferrous.

2.7 ESCUTCHEONS

K. General: Manufactured ceiling, floor, and wall escutcheons and floor plates.

L. One Piece, Cast Brass: Polished, chrome-plated finish with setscrews.

M. One Piece, Deep Pattern: Deep-drawn, box-shaped brass with chrome-plated finish.

N. Split Casting, Cast Brass: Polished, chrome-plated finish with concealed hinge and setscrew.

O. One-Piece Floor Plates: Cast-iron flange with holes for fasteners.

P. Split-Casting Floor Plates: Cast brass with concealed hinge.

2.8 SLEEVES

Q. Cast-Iron Wall Pipes: Fabricated of cast iron, and equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop unless otherwise indicated.

R. PVC-Pipe Sleeves: ASTM D 1785, Schedule 40.

2.9 SLEEVE SEALS

S. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Metraflex, Inc.

2. Pipeline Seal and Insulator, Inc.

3. Or approved equal.

T. Description: Modular sealing element unit, designed for field assembly, used to fill annular space between pipe and sleeve.

1. Sealing Elements: EPDM-rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.

2. Pressure Plates: Plastic.

3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements.

2.10 WALL PENETRATION SYSTEMS

U. 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:

1. SIGMA.

V. Description: Wall-sleeve assembly, consisting of housing and gland, gaskets, and pipe sleeve.

1. Carrier-Pipe Deflection: Up to 5 percent without leakage.

2. Housing: Ductile-iron casting with hub, waterstop, anchor ring, and locking devices. Include gland, bolts, and nuts.

3. Housing-to-Sleeve Gasket: EPDM rubber.

4. Housing-to-Carrier-Pipe Gasket: AWWA C111, EPDM rubber.

5. Pipe Sleeve: ASTM A 53/A 53M, Schedule 40, zinc-coated steel pipe.

2.11 GROUT

PART 3 - EXECUTION

3.1 EARTHWORK

A. Comply with requirements in Division 31 Section “Earth Moving” for excavating, trenching, and backfilling.

3.2 PIPING INSTALLATION

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of domestic water piping. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

C. Install copper tubing under building slab according to CDA’s “Copper Tube Handbook.”

D. Buried Pipe Wrapping

1. All copper pipes for installation below ground shall be shop wrapped.

2. Prior to wrapping, pipe shall be cleaned with a non-oily solvent and then cleaned thoroughly with a wire brush.

3. After cleaning, pipe shall be spirally wrapped with 2” wide 20 mils thick Manville Trantex VID-20 polyvinyl chloride pressure sensitive tape with ½” lap without wrinkles.

4. All fittings and field joints in buried copper piping shall be wrapped. Prior to wrapping, fittings and field joints shall be washed with a non-oily solvent and then cleaned with a wired brush. After cleaning, fittings and field joints shall be coated and wrapped as follows:

a. Coat of Koppers “Jet-Set” coal tap primer, applied uniformly to dry surface.

b. Two layers of 2” wide 35 mils thick Polyken 931 black butyl rubber molding tape with 1” lap, covered with one layer of ¾” wide 15 mils thick Polyken 930 black polyethylene pressure sensate tape with ¼” lap.

c. Field wrapping shall extend 3 in. over undisturbed shop applied pipe coating.

E. Install sleeve with water stop and mechanical sleeve seal at each service pipe penetration through foundation wall. Select number of interlocking rubber links required to make installation watertight. Sleeves and mechanical sleeve seals are herein before specified in Part 2 – Products.

F. Install wall penetration system at each service pipe penetration through foundation wall. Make installation watertight. Wall penetration systems are herein before specified in Part 2 – Products.

G. Install shutoff valve, five (5) feet outside building at each domestic water service entrance.

H. Install shutoff valve immediately upstream of each dielectric fitting.

I. Install domestic water piping level and plumb.

J. Install seismic restraints on piping. Comply as herein before specified in Part 1

K. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.

L. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

M. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.

N. Install piping adjacent to equipment and specialties to allow service and maintenance.

O. Install piping to permit valve servicing.

P. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than system pressure rating used in applications below unless otherwise indicated.

Q. Install piping free of sags and bends.

R. Install fittings for changes in direction and branch connections.

S. Install unions in copper tubing at final connection to each piece of equipment, machine, and specialty.

T. Install pressure gauges on suction and discharge piping from each plumbing pump.

U. Install thermometers on outlet piping from each water heater.

3.3 JOINT CONSTRUCTION

V. Ream ends of pipes and tubes and remove burrs.

W. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.

X. Brazed Joints: Join copper tube and fittings according to CDA's "Copper Tube Handbook," "Brazed Joints" Chapter.

Y. Soldered Joints: Apply ASTM B 813, water-flushable flux to end of tube. Join copper tube and fittings according to ASTM B 828 or CDA's "Copper Tube Handbook."

Z. Flanged Joints: Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service. Join flanges with gasket and bolts according to ASME B31.9.

AA. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.

3.4 VALVE INSTALLATION

BB. General-Duty Valves: Comply with requirements in Division 22 Section "General-Duty Valves for Plumbing Piping" for valve installations.

CC. Install shutoff valve close to water main on each branch and riser serving plumbing fixtures or equipment, on each water supply to equipment, and on each water supply to plumbing fixtures that do not have supply stops. Use ball valves for piping NPS 2 and smaller. Use butterfly or gate valves for piping NPS 2-1/2 and larger.

DD. Install drain valves for equipment at base of each water riser, at low points in horizontal piping, where required to drain water piping.

3.5 TRANSITION FITTING INSTALLATION

EE. Install transition couplings at joints of dissimilar piping.

FF. Transition Fittings in Underground Domestic Water Piping:

1. Fitting-type coupling.

GG. Transition Fittings in Aboveground Domestic Water Piping: Plastic-to-metal transition fittings.

3.6 DIELECTRIC FITTING INSTALLATION

HH. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.

3.7 PIPE HANGER AND SUPPORT INSTALLATION

II. Vertical Piping: MSS Type 8 or 42, clamps.

1. Individual, Straight, Horizontal Piping Runs:

a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.

b. Longer than 100 Feet: MSS Type 43, adjustable roller hangers.

c. Longer Than 100 Feet If Indicated: MSS Type 49, spring cushion rolls.

2. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.

3. Base of Vertical Piping: MSS Type 52, spring hangers.

JJ. Support vertical piping at base and at each floor.

KK. Rod diameter may be reduced one size for double-rod hangers, to a minimum of 3/8 inch.

LL. Install hangers for copper piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 3/4 and Smaller: 60 inches with 3/8-inch rod.

2. NPS 1 and NPS 1-1/4: 72 inches with 3/8-inch rod.

3. NPS 1-1/2 and NPS 2: 96 inches with 3/8-inch rod.

4. NPS 2-1/2 : 108 inches with 1/2-inch rod.

5. NPS 3 to NPS 5: 10 feet with 1/2-inch rod.

6. NPS 6: 10 feet with 5/8-inch rod.

7. NPS 8: 10 feet with 3/4-inch rod.

MM. Install supports for vertical copper tubing every 10 feet.

NN. Support piping and tubing not listed in this article according to MSS SP-69 and manufacturer’s written instructions.

3.8 CONNECTIONS

OO. Drawings indicate general arrangement of piping, fittings, and specialties.

PP. Install piping adjacent to equipment and machines to allow service and maintenance.

QQ. Connect domestic water piping to exterior water-service piping.

RR. Connect domestic water piping to water-service piping with shutoff valve; extend and connect to the following:

1. Water Heaters: Cold-water inlet and hot-water outlet piping in sizes indicated, but not smaller than sizes of water heater connections.

2. Plumbing Fixtures: Cold- and hot-water supply piping in sizes indicated, but not smaller than required by plumbing code. Comply with requirements in Division 22 plumbing fixture Sections for connection sizes.

3. Equipment: Cold- and hot-water supply piping as indicated, but not smaller than equipment connections. Provide shutoff valve and union for each connection. Use flanges instead of unions for NPS 2-1/2 and larger.

3.9 ESCUTCHEON INSTALLATION

SS. Install escutcheons for penetrations of walls, ceilings, and floors.

TT. Escutcheons for New Piping:

1. Piping with Fitting or Sleeve Protruding from Wall: One piece, deep pattern.

2. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One piece, cast brass with polished chrome-plated finish.

3. Bare Piping at Ceiling Penetrations in Finished Spaces: One piece, cast brass with polished chrome-plated finish.

4. Bare Piping in Unfinished Service Spaces: One piece, cast brass with rough-brass finish.

5. Bare Piping in Equipment Rooms: One piece, stamped steel with set screw

6. Bare Piping at Floor Penetrations in Equipment Rooms: One-piece floor plate.

3.10 SLEEVE INSTALLATION

UU. General Requirements: Install sleeves for pipes and tubes passing through penetrations in floors, partitions, roofs, and walls.

VV. Sleeves are not required for core-drilled holes.

WW. Permanent sleeves are not required for holes formed by removable PE sleeves.

SECTION 31 1000

SITE CLEARING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Removal of vegetation, grass, grass roots, shrubs, tree stumps, trees, upturned stumps, weed growth, tree roots, brush, masonry, concrete, rubbish, debris and other materials.

2. Removal of concrete and bituminous surfaces.

3. Removal of existing fences and gates.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 31 2200 - Grading.

3. Section 31 2313 - Excavation and Fill.

4. Section 31 2316 - Excavation and Fill for Pavement.

5. Section 31 2323 - Excavation and Fill for Utilities.

6. Section 31 2326 - Base Course.

7. Section 32 3113 - Chain Link Fences and Gates.

8. Section 32 9000 - Planting.

1.02 SUBMITTALS

A. Shop Drawings: Submit site plan indicating extent of site clearing.

1.03 QUALITY ASSURANCE

A. Comply with Standard Specifications for Public Works Construction, current edition, as a minimum requirement.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 TREE AND STUMP REMOVAL

A. Remove trees and stumps indicated or required to be removed. Remove trees, together with bulk of roots, to a minimum depth of 4 feet below required grade, and within a radius of approximately 7 feet beyond perimeter of trunk at grade.

B. Fill and compact excavation from tree and stump removal. Fill in 6 inch layers, each compacted to 90 percent of maximum density in accordance with ASTM D1557.

1. Back filling shall not commence until the excavation is inspected and tested.

3.02 CONCRETE AND BITUMINOUS SURFACING REMOVAL

A. Break up and completely remove existing concrete surfacing, curbs, gutters, walks and bituminous surfacing to indicated limits. Cutting shall be performed to a neat and even line with proper tools or a concrete cutting saw. Minimum depth of cut shall be 1 1/2-inch, unless otherwise indicated. Remove concrete broken beyond the indicated limits to the nearest joint or score line and replace with new concrete to match existing.

3.03 FENCING

A. Existing fences scheduled to remain may be removed to facilitate the Work, provided they are installed to their original condition in accordance with requirements of Section 32 3113 - Chain Link Fences and Gates.

B. Fencing indicated to be removed and not reinstalled shall be completely removed, including footings. Fill and compact excavations.

C. Install chain link fencing indicated to be relocated or reset in accordance with applicable requirements specified under Section 32 3113 - Chain Link Fences and Gates.

3.04 CLEANUP

A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 31 2316

EXCAVATION AND FILL FOR PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Excavating, backfill, and compacting for paved areas.

2. Installation of fill materials.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 01 4524 - Environmental Import/Export Materials Testing.

3. Section 31 1000 - Site Clearing.

4. Section 31 2200 - Grading.

5. Section 31 2319 – Excavation and Fill for Structures.

6. Section 31 2323 - Excavation and Fill for Utilities.

10. Section 32 1313 – Concrete Paving.

1.02 PROJECT REQUIREMENTS

A. Import and Export of Earth Materials:

1. Fees: Pay as required by authorities having jurisdiction over the area.

2. Bonds: Post as required by authorities having jurisdiction over the area.

3. Haul Routes and Restrictions: Comply with requirements of authorities having jurisdiction over the area.

1.03 QUALITY ASSURANCE

A. Comply with Standard Specifications for Public Works Construction, current edition, except as modified herein.

B. Sampling, testing, and certification of imported and/or exported soils shall be performed in accordance with Section 01 4524 - Environmental Import/Export Materials Testing.

1.04 TESTING

A. OWNER will retain a Geotechnical Engineer as an OWNER Consultant who will provide observations, tests, inspections and approvals identified in the Contract Documents as being responsibility of OWNER.

B. Imported Soils: The Geotechnical Engineer will obtain initial product Sample for testing in accordance Article 3.05 of this Section.

1.05 PROJECT CONDITIONS

A. Information on Drawings or in soils report does not constitute a guarantee of accuracy or uniformity of soil conditions over the Project site.

PART 2 - PRODUCTS

2.01 BASE MATERIALS

A. Concrete Slabs on Grade: Provide “Crushed Aggregate Base “as specified in the Standard Specifications for Public Works Construction, Section 200: “Rock Materials,” with ¾ inch maximum size aggregates. Provide 3-inch-thick base, unless noted otherwise.

B. Bituminous Surfacing: As indicated on Drawings and specified in Section 31 2326 - Base Course.

2.02 FILL AND BACKFILL MATERIALS

A. Fill and backfill materials shall be previously excavated materials or imported fill material, free of clods and stones larger than 3-inch, foreign materials, vegetable growths, sod, expansive soils, rubbish and debris. Material shall conform to these specified requirements and related sections.

B. Fill material exhibiting a wide variation in consistency and moisture content shall be blended or aerated to stabilize and upgrade the material.

C. Imported Fill Material:

1. Provide suitable materials obtained from Project site excavations for earthwork and fill materials. If excavated materials are not of suitable quality or sufficient quantity, import additional materials as necessary.

2. Imported fill shall be a granular material with sufficient binder to form a firm and stable unyielding subgrade and shall not have more than 60 percent of fines passing 200 mesh sieve. Material shall have a coefficient of expansion of not more than 2 percent from air dry to optimum moisture content and not more than 6 percent from air dry to saturation. Imported material shall be clean and free of rubbish, debris, and toxic or hazardous contaminants. Adobe or clay soils are not permitted.

D. Brick rubble and broken concrete originating from the Project site shall be legally disposed of off the Project site. No such materials shall be imported from outside the Project site.

E. Permeable Backfill:

1. Provide permeable backfill material behind retaining structures consisting of gravel, crushed gravel, crushed rock, natural sands, manufactured sand, or combinations of these materials conforming to the following gradations:

Sieve Size:	Percentage Passing:
3/4 inch (19mm)	100
3/8 inch (10mm)	80 to 100
No. 100	0 to 8
No. 200	0 to 3

2. Those portions of fill material passing a No. 4 sieve shall provide a sand equivalent of at least 60.

3. Provided backing for weep holes shall consist of two cubic feet of aggregate in burlap sacks, securely tied. Aggregate shall conform to requirements for No. 3 concrete aggregate as specified in subsection 200-1.4 of the Standard Specifications for Public Works Construction.

4. Permeable Backfill Alternate Materials: Instead of the materials specified for retaining structures backfill, a drainage matting system, Miradrain by Mirafi, Inc., or approved equal, may be provided if reviewed and approved by the ARCHITECT and Civil Engineer.

PART 3 - EXECUTION

3.01 GENERAL

A. Before initiating intrusive activities, contact Underground Service Alert of Southern California (USA or Dig Alert) to obtain a Dig Alert ticket for location information on buried public and USA member utilities and pipelines at least 48-hours prior to beginning work. A copy of the Dig Alert ticket shall be forwarded to the OWNER. For on-site utilities, retain a state-licensed third-party underground utility locating service.

B. Clear the Project site as indicated in Section 31 1000 - Site Clearing.

3.02 PROTECTION

A. Protect and guard excavations against danger to life, limb, and property as required by, but not limited to, Cal-OSHA regulations.

B. Protect adjacent existing improvements including landscaping against damage.

3.03 EXISTING UTILITY LINES

A. Protect existing utility lines from damage or displacement.

B. Remove conduits or pipes not in service, exposed during Work, unless a minimum cover of 2 feet is provided. Remove concrete, clay or other non-metallic pipe over 8 inches in diameter, unless otherwise indicated.

3.04 EXCAVATION

A. Unclassified Excavations: Comply with the Standard Specifications for Public Works Construction, Section 300: "Earthwork," except as modified herein.

3.05 FILL

A. Unclassified Fill and Compaction: Comply with the Standard Specifications for Public Works Construction, Section 300: "Earthwork," except as modified herein.

B. Provide fill materials as specified in Part 2 - Products. If excavated materials from the Project site are not of required quality or sufficient quantity, import additional materials as necessary.

C. In addition to the requirements of this Section, import and/or exported materials shall comply with the requirements of Section 01 4524 - Environmental Import/Export Materials Testing.

D. Imported fill materials will be sampled by the Geotechnical Engineer for compliance with the requirements of Part 2 of this Section.

E. The Geotechnical Engineer will submit samples to an independent testing laboratory for testing.

F. Initial sampling will be performed by the Geotechnical Engineer before importing material to the Project site. Identify the location of the source site in addition to the address, name of the person and/or entity responsible for the source site. The Geotechnical Engineer will obtain both the initial and additional samples from the identified site and will submit samples to the approved independent testing laboratory for testing.

G. The Geotechnical Engineer will perform additional sampling during import operations. If the total quantity of import is determined to be greater than 1,000 cubic yards of material, one sample shall be obtained and submitted for testing for each 250 cubic yards of imported material. If the total quantity of import is determined to be less than 1,000 yards, one sample shall be obtained and submitted for testing for each 100 cubic yards of imported material.

H. The independent approved testing laboratory will perform the required tests and report results of tests noting if the tested material passed or failed such tests and will furnish copies to the Project Inspector, ARCHITECT, OAR, City of Long Beach, CONTRACTOR, and others as required. Report shall state tests were conducted under the responsible charge of a licensed State of California professional engineer and the material was tested in accordance with applicable provisions of the Contract Documents, CBC, and the City of Long Beach. Upon completion of the Work of this Section, the independent testing laboratory and Geotechnical Engineer shall submit a verified report to the OAR and AOR as required by CBC.

I. Bills of lading or equivalent documentation will be submitted to the Project Inspector on a daily basis.

J. Upon completion of import operations, provide the OAR a certification statement attesting that imported material has been obtained from the identified source site.

3.06 INSTALLATION OF MATERIALS

A. Fill or backfill materials shall be installed in horizontal layers of 6 inches, unless otherwise required. Each layer shall be evenly placed and moistened or aerated as necessary. Unless otherwise reviewed by the Geotechnical Engineer, each layer of fill material shall cover the length and width of the area to be filled before the next layer of material is installed. Top surface of each layer shall be installed to an approximate level with a crown or crossfall of at least 1 in 50, but no more than 1 in 20. Provide adequate drainage at all times during construction of the Work of this Section.

3.07 COMPACTING

A. Each layer of fill material shall be compacted by tamping, sheepsfoot rollers, or pneumatic-tired rollers to provide specified relative compaction. At inaccessible locations, provide specified compaction by manually held, operated and directed compaction equipment.

B. Unless otherwise indicated, compact each layer of earth fill to a relative compaction of at least 95 percent.

C. When fill materials, or a combination of fill materials, are encountered or provided which develop densely packed surfaces as a result of installation or compacting

operations, scarify each compacted layer before installing the next succeeding layer.

3.08 INSPECTION AND TESTING

A. The Geotechnical Engineer will inspect and test excavations, sample material quality as required in Part 2, and observe installation and compaction of fill materials.

B. The Geotechnical Engineer will sample imported fill materials from their designated source before delivery to the Project site.

C. Installation of backfill will be observed by the Geotechnical Engineer.

D. The Geotechnical Engineer will inspect and test excavation Work before the installation of fill and/or other materials.

E. Compaction: Test compaction in accordance with ASTM D1557, Method C.

3.09 PROTECTION

A. Protect the Work of this Section until Substantial Completion.

3.10 CLEANING

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 31 2319

EXCAVATION AND FILL FOR STRUCTURES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Excavating, backfilling, and compacting for buildings and structures.

2. Fill materials.

B. Related Requirements:

1. Division 01 - General Requirements.

1.02 PROJECT REQUIREMENTS

A. Import and Export of Earth Materials:

1. Fees: Pay as required by authorities having jurisdiction over the area.

2. Bonds: Post as required by authorities having jurisdiction over the area.

3. Haul Routes and Restrictions: Comply with requirements of authorities having jurisdiction over the area.

1.03 SUBMITTALS

A. Imported Soils: A Geotechnical Engineer, retained by the Owner as an Owner Consultant, will obtain initial product Sample for testing in accordance with the terms of Article 3.05 of this Section.

B. Shoring calculations as required in Article 3.03 of this Section.

1.04 QUALITY ASSURANCE

A. Comply with the following as a minimum requirement: Standard Specifications for Public Works Construction, current edition, except as modified herein.

B. Sampling, testing, and certification of imported and/or exported soils shall be performed in accordance with Section 01 4524 - Environmental Import/Export Materials Testing.

1.05 TESTING

A. OWNER will retain a Geotechnical Engineer as an OWNER Consultant who will provide observations, tests, inspections and approvals identified in the Contract Documents as being responsibility of OWNER.

B. Imported Soils: The Geotechnical Engineer will obtain initial product Sample for testing in accordance Article 3.05 of this Section.

1.06 PROJECT CONDITIONS

A. Information on Drawings or in soils report does not constitute a guarantee of accuracy or uniformity of soil conditions over the Project site.

PART 2 - PRODUCTS

2.01 FILL AND BACKFILL MATERIALS

A. Fill and backfill materials shall be a granular material previously removed from excavation, or imported fill material, free of large clods and stones larger than 3 inches, foreign materials, vegetable growths, sod, expansive soils, rubbish and debris. Material shall conform to these specified requirements and related sections.

B. Fill material exhibiting a wide variation in consistency and or moisture content shall be blended and/or aerated to stabilize and upgrade the material.

C. Imported Fill Material:

1. Provide suitable materials obtained from Project site excavations for earthwork and fill materials. If excavated materials are not of suitable quality or sufficient quantity, import additional materials as necessary.

2. Imported fill shall be a granular material with sufficient binder to form a firm and stable unyielding subgrade and shall not have more than 60 percent of fines passing 200 mesh sieve. Material shall have a coefficient of expansion of not more than two percent from air dry to optimum moisture content and not more than six percent from air dry to saturation. Imported material shall be clean and free of rubbish, debris and toxic or hazardous contaminants. Adobe or clay soils are not permitted.

D. Brick rubble and broken concrete originating from the Project site shall be legally disposed of off the Project site No such materials shall be imported from outside the Project site.

E. Permeable Backfill:

1. Provide permeable backfill material behind retaining structures consisting of gravel, crushed gravel, crushed rock, natural sands, manufactured sand, or combinations of these materials conforming to the following gradations:

Sieve Size	Percentage Passing
3/4 inch	100
3/8 inch	80 to 100
No. 100	0 to 8
No. 200	0 to 3

2. Those portions of fill material passing a No. 4 sieve shall provide a sand equivalent of at least 60.

3. Provided backing for weep-holes shall consist of two cubic feet of aggregate in burlap sacks, securely tied. Aggregate shall conform to requirements for No. 3 concrete aggregate as specified in subsection 200-1.4 of the Standard Specifications for Public Works Construction.

4. Permeable Backfill Alternate Materials: Instead of the materials specified for retaining structures backfill, a drainage matting system, Miradrain by Mirafi, Inc., or equal, may be provided if reviewed and approved by the ARCHITECT.

PART 3 - EXECUTION

3.01 GENERAL

A. Before initiating intrusive activities, contact Underground Service Alert of Southern California (USA or Dig Alert) to obtain a Dig Alert ticket for location information on buried public and USA member utilities and pipelines at least 48-hours prior to beginning work. A copy of the Dig Alert ticket shall be forwarded to the OWNER. For on-site utilities, retain a state-licensed third-party underground utility locating service.

B. Clear the Project site as indicated in Section 31 1000 - Site Clearing.

3.02 PROTECTION

A. Protect and guard excavations against danger to life, limb, and property as required by, but not limited to, Cal-OSHA regulations.

B. Protect adjacent existing improvements including landscaping against damage.

C. Shore, crib, or lag excavations and earthen banks as necessary to prevent caving-in, erosion or gullying of sides.

D. Divert or de-water excavations until concrete is placed, forms are removed, and backfilling is complete.

3.03 SHORING

A. Provide shoring as necessary to properly and safely support earth sides of excavations, curbs, sidewalks, gutter, drives and stairs, against movement and collapse.

B. Design and Calculations: Provide in accordance with requirement of Cal-OHSA. Remove shoring upon completion of Work, or when no longer needed.

3.04 EXCAVATION

A. Form sides of footings, pads, grade beams, and slab foundations, unless otherwise indicated. Provide excavations of sufficient size to permit installation and removal of forms and other Work as required.

B. Machine-drill excavation for round footings to size and depth indicated. Provide a collar or casing, or other adequate protection, to exclude dirt and debris. Protect excavations with plank covers until concrete is placed.

C. Provide excavation bottoms level and free from loose material. Excavate to indicated or required elevations of undisturbed earth.

D. Provide excavations free from standing water by pumping, draining, or providing protection against water intrusion. If soil becomes soft, soggy, or saturated, excavate to firm undisturbed soil and fill as required. Slope adjacent grades away from excavations to minimize entry of water.

E. Calculate excavation quantities based on elevations or depths indicated on Drawings.

F. Provide 2,000 psi concrete for backfill of over-excavated areas to indicated or required elevations.

G. Special preparation of bottom of excavated planes areas: Excavate areas designated on Drawings as bottom of excavated planes (B.E.P.), by excavating and filling to indicated grades and elevations.

3.05 IMPORT/EXPORT OF MATERIALS

A. Provide fill materials as specified in Part 2- Products. If excavated materials from the Project site are not of required quality or sufficient quantity, import additional materials as necessary.

B. In addition to the requirements of this Section, import and/or exported materials shall comply with the requirements of Section 01 4524 - Environmental Import/Export Materials Testing.

C. Imported fill materials will be sampled by the Geotechnical Engineer for compliance with the requirements of Part 2 of this Section.

D. The geotechnical engineer will submit all samples to a DSA approved independent testing laboratory for testing.

E. Initial sampling will be performed by the Geotechnical Engineer before importing material to the Project site. Identify the location of the source site in addition to the address, name of the person and/or entity responsible for the source site. The Geotechnical Engineer will obtain both the initial sample and additional samples from the identified site and will submit samples to the approved independent testing laboratory for testing.

F. The Geotechnical Engineer will perform additional sampling during import operations. If the total quantity of import is determined to be greater than 1,000 cubic yards of material, one sample shall be obtained and submitted for testing for each 250 cubic yards of imported material. If the total quantity of import is determined to be less than 1,000 yards, one sample shall be obtained and submitted for testing for each 100 cubic yards of imported material.

G. The independent approved testing laboratory will perform the required tests and report results of tests noting if the tested material passed or failed such tests and will furnish copies to the Project Inspector, ARCHITECT, OAR, DSA, CONTRACTOR, and others as required. Report shall state tests were conducted under the responsible charge of a licensed State of California professional engineer and the material was tested in accordance with applicable provisions of the Contract Documents, CBC and the DSA. Upon completion of the Work of this Section, the independent testing laboratory and Geotechnical Engineer will submit a verified report to the DSA as required by CBC.

H. Bills of lading or equivalent documentation will be submitted to the Project Inspector on a daily basis.

I. Upon completion of import operations, provide the OAR a certification statement attesting that all imported material has been obtained from the identified source site.

3.06 BACKFILLING

A. After concrete has been placed, forms removed and concrete Work inspected, backfill excavations to indicated or required grades. Backfill simultaneously on each side of walls or grade beams. Remove rubbish, debris, and other waste materials from excavations before placing backfill.

B. Before installing backfill, adequately cure concrete and provide bracing to stabilize structures. Protect waterproofing or dampproofing against damage during backfilling operations with required protection board. Remove bracing as backfill operation progresses.

C. Do not furnish or install expansive soils for below grade building walls.

D. Install each layer of material in a not to exceed thickness of 6 inches, unless otherwise required.

E. Rigidly control the amount of water to be installed to provide optimum moisture content for type of fill material furnished. Do not over-saturate or compact by flooding or jetting.

F. Install wall backfill before installing railings and fences on walls.

G. Impervious backfill materials shall be installed in layers along with and by the same methods specified for structure backfill. Impervious backfill materials shall be at the approximate grade and elevation and where exposed to erosion, shall be covered with at least a 12-inch layer of fill material as reviewed by the Geotechnical Engineer.

H. Install weep hole drainage at the backside of walls so the backing completely covers the weep holes, is horizontally centered and extends at least 12 inches above the bottom of the weep opening. Provide an 8-inch square section of 1/4 inch galvanized or aluminum screen, with a minimum wire diameter of 0.03 inch, and install at the backside of each weep hole before installing the backfill material.

I. Where a reviewed drainage matting system is provided instead of permeable backfill for retaining structures, install in accordance with the manufacturer recommendations.

3.07 COMPACTING

A. Compact each layer of fill material by tamping, sheepsfoot rollers or pneumatic-tired rollers, to such extent as to provide specified relative compaction. At inaccessible locations, compact to specified requirements with hand-held, operated and directed compaction equipment.

B. Unless otherwise indicated, compact each layer of fill material to a relative compaction of at least 90 percent.

C. Do not compact by flooding or jetting.

D. When fill materials, or a combination of fill materials, are encountered or provided which develop densely packed surfaces as a result of installation or compacting

operations, scarify each layer of compacted fill before installing the next succeeding layer.

3.08 INSPECTION AND TESTING

A. The Geotechnical Engineer will inspect and test excavations, sample material quality as required in Part 2, and observe installation and compaction of fill materials.

B. The Geotechnical Engineer will sample imported fill materials from their designated source before delivery to the Project site.

C. Installation of backfill shall be observed by the Geotechnical Engineer.

D. The Geotechnical Engineer will inspect and test excavation Work before the installation of fill and/or other materials.

E. Compaction: Test compaction in accordance with ASTM D1557, Method C.

F. The Project Inspector will inspect foundation excavations when completed and ready for forms, after forms are in place and before first placement of concrete.

3.09 PROTECTION

A. Protect the Work of this Section until Substantial Completion.

3.10 CLEANUP

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 31 2326

BASE COURSE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Installation of base material.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 01 4524 – Environmental Import / Export Material Testing.

2. Section 31 1000 - Site Clearing.

3. Section 31 2200 - Grading.

4. Section 31 2313 - Excavation and Fill.

5. Section 31 2316 - Excavation and Fill for Paving.

6. Section 32 0117 - Pavement Repair.

7. Section 32 1216 - Asphalt Paving.

8. Section 32 1313 - Site Concrete Work.

1.02 SUBMITTALS

A. Crushed aggregate base (CAB) shall consist of native rock without naturally occurring asbestos or recycled materials. The CONTRACTOR shall submit written documentation, which identifies the source, volume, and proposed transport date of the material for review and approval by OWNER'S Office of Environmental Health and Safety (OEHS) prior to importing the material. A statement on company letterhead from the CAB source, stamped by either a California Professional Geologist or Engineer, which states that the subject materials are native rock, do not contain any recycled materials and that the source quarry does not mine ultramafic materials, a source of natural occurring asbestos shall be included in the submittal to OEHS. The CONTRACTOR may request variance from analytical testing required by Section 01 4524 for CAB. To be considered for a variance, the CONTRACTOR shall submit a documentation package for OEHS approval, which includes all of the aforementioned information at least 48 hours in advance of planned import.

1. Frequently used suppliers for LAUSD projects include:

a. Hansen Aggregates.

b. Vulcan Materials, Reliance Company.

c. Vulcan Materials Durbin.

C. Product Data: Submit material source, technical information and test data for base materials. Gradation and quality certifications shall be dated within 30 days of the submittal.

D. Sample: Submit sample of proposed base course material.

1.03 QUALITY ASSURANCE

A. Comply with the following as a minimum requirement: Standard Specifications for Public Works Construction, current edition.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Crushed Aggregate Base (CAB) materials shall conform to the requirements of the Standard Specifications for Public Works Construction: Section 200 - Rock Materials.

B. Crushed Miscellaneous Base (CMB) or materials generated on site shall not be used as a base course material.

2.02 MATERIAL APPROVAL

A. Base material shall be inspected by the Project Inspector for gradation and material content prior to installation. The OWNER may choose to have additional tests performed by a geotechnical engineer, retained by the OWNER, before installation.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install base course material in layers not exceeding 4 inches in thickness, unless required otherwise. Grade and compact to indicated levels or grades, cut and fill, water and roll until the surface is hard and true to line, grade and required section. Provide a relative compaction of at least 95 percent, unless otherwise required.

B. Grade base course to elevations indicated on Drawings, ready to receive surfacing, in accordance with Section 31 2200 - Grading.

3.02 PROTECTION

A. Protect the Work of this section until Substantial Completion.

3.03 CLEANUP

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 32 1313

CONCRETE PAVING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes exterior Portland cement concrete paving for the following:

1. Roadways.

2. Curbs and gutters.

3. Walkways.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. “Earth Moving” Section for subgrade preparation, grading and base course.

2. “Cast-in-Place Concrete” Section for general building applications of concrete.

3. “Concrete Paving Joint Sealants” Section for joint fillers and sealants within concrete paving and at joints with adjacent construction.

4. “Pavement Marking” Section for pavement marking requirements.

1.03 SYSTEM DESCRIPTION

A. Provide concrete pavement according to the materials, workmanship, and other applicable requirements of the following standard specifications:

1. Reference Specification: Perform all work in accordance with applicable provisions of "Standard Specifications for Public Works Construction", latest edition. Unless otherwise noted, mention herein of section numbers refers to sections of the Reference Specification. Where Reference Specification refers to "Agency", substitute the word "Owner". Where Reference Specification refers to "Engineer", substitute the word

"Architect". Where Reference Specification is in conflict with these Specifications, these Specifications shall govern.

2. Measurement and payment provisions and safety program submittals included in Reference Specifications do not apply to this Section.

1.04 SUBMITTALS

A. General: Submit the following according to the Conditions of the Contract and Division 01 Specification Sections.

B. Design mixes for each class of concrete. Include revised mix proportions when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

C. Product data for integral colored concrete pigments. Include manufacturer's instructions for mixing, placement, curing, and sealing.

D. Minutes of pre-installation conference.

1.05 QUALITY ASSURANCE

A. Concrete Standards: Comply with provisions of the following standards, except where more stringent requirements are indicated.

1. American Concrete Institute (ACI)

a. 211.1, Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete

b. 301, Specifications for Structural Concrete

c. 305.1, Specification for Hot Weather Concreting

d. 306.1, Standard Specification for Cold Weather Concreting

e. 318, Building Code Requirements for Structural Concrete and Commentary

2. American Society for Testing and Materials International (ASTM)

a. A 307, Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60000 PSI Tensile Strength

b. A 615, Standard Specification for Deformed and Plain Carbon-Steel Bars

c. A 1064, Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

d. C 31, Standard Specification for Making and Curing Concrete Test Specimens in the Field

e. C 33, Standard Specification for Concrete Aggregates

f. C 39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens for Concrete Reinforcement

g. C 42, Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

h. C 94. Standard Specification for Ready-Mixed Concrete

i. C 143, Standard Test Method for Slump of Hydraulic-Cement Concrete

j. C 150, Standard Specification for Portland Cement

k. C 171, Standard Specification for Sheet Materials for Curing Concrete

l. C 172, Standard Practice for Sampling Freshly Mixed Concrete

m. C 231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

n. C 309, Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

o. C 881, Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete

p. C 979, Standard Specification for Pigments for Integrally Colored Concrete

q. C 1028, Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method

r. C 1059, Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete

s. C 1602, Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete

t. D 2047, Standard Test Method for Static Coefficient of Friction of Polish- Coated Flooring Surfaces as Measured by the James Machine

3. American State Highway and Transportation Officials (AASHTO)

a. M 182, Standard Specification for Burlap Cloth Made from Jute or Kenaf and Cotton Mats

B. Concrete Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

C. Concrete Testing Service: Engage a qualified independent testing agency to perform materials evaluation tests and to design concrete mixes.

D. Pre-installation Conference: Conduct conference at Project site to comply with requirements of Section "Project Management and Coordination" and the following:

1. Before installing Portland cement concrete paving, meet with representatives of authorities having jurisdiction, Owner, Architect, consultants, independent testing agency, and other concerned entities to review requirements. Notify participants at least 3 working days before conference.

1.06 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.01 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other acceptable panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.

1. Use flexible or curved forms for curves of a 100-foot or less radius.

B. Form Release Agent: Provide commercial formulation form-release agent with a maximum of 350 g/L volatile organic compounds (VOCs) that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

a. Debond Form Coating, L & M Construction Chemicals.
b. Crete-Lease 880 VOC, Cresset Chemical Company.
c. MasterFinish Series, BASF Corporation

2.02 REINFORCING MATERIALS

A. Reinforcing Bars and Tie Bars: ASTM A 615, Grade 40 for #3 bars and Grade 60 for bars larger than #3, deformed.

B. Plain, Cold-Drawn Steel Wire: ASTM A 1064.

C. Joint Dowel Bars: Plain steel bars, ASTM A 615, Grade 60. Cut bars true to length with ends square and free of burrs.

D. Dowel Sleeves: Speed Dowel, Aztec Concrete Accessories, Inc.

E. Hook Bolts: ASTM A 307, Grade A bolts, internally and externally threaded. Design hook bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.

F. Supports for Reinforcement: Chairs, spacers, dowel bar supports and other devices for spacing, supporting, and fastening reinforcing bars, welded wire fabric, and dowels in place. Use wire bar-type supports complying with CRSI specifications.

1. Use supports with sand plates or horizontal runners where base material will not support chair legs.

2.03 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type II, low alkali,

1. Use one brand of cement throughout Project. Coordinate with Section "Cast-In-Place Concrete."

2. Provide white cement when required to achieve specified color in integral colored concrete.

B. Normal-Weight Aggregates: ASTM C 33, Class 4M non-reactive, and as follows. Provide aggregates from a single source.

1. Maximum Aggregate Size: 1-inch.

2. Do not use fine or coarse aggregates that contain substances that cause spalling.

3. Local aggregates not complying with ASTM C 33 that have been shown to produce concrete of adequate strength and durability by special tests or actual service may be used when acceptable to Architect.

C. Water: ASTM 1602, Potable.

D. Admixtures: Comply with requirements specified in Section "Cast-In-Place Concrete."

1. Integral Colored Concrete: Use admixtures only as approved by the color pigment manufacturer. Do not use admixtures that will alter the color of integral colored concrete.

2. Do not use admixtures containing calcium chloride or chloride ions.

E. Aggregate for Integral Colored Concrete: ASTM C 33, Class 4M, non-reactive, and as follows: Provide aggregates from a single source.

1. Maximum Aggregate Size and Type: 3/8-inch (range from 1/4-inch to 3/8-inch), pea gravel.

2. Do not use fine or coarse aggregates that contain substances that cause spalling.

3. Percentage of Fine Aggregate to Pea Gravel: 60 percent fines to 40 percent course aggregate.

4. Local aggregates not complying with ASTM C 33 that have been shown to produce concrete of adequate strength and durability by special tests or actual service may be used when acceptable to Architect.

2.04 CURING MATERIALS

A. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 3.

B. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.

1. Waterproof paper.

2. Polyethylene film.

3. White burlap-polyethylene sheet.

C. Liquid Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B. Moisture loss not more than 0.55 kg./sq. meter in 72 hours when applied at a rate of 200 sq. ft./gal.

1. Provide material that has a maximum volatile organic compound (VOC) rating of 350 g/L.

2. Products: Subject to compliance with requirements, provide one of the following:

a. L & M Cure R, L & M Construction Chemicals, Inc.
b. 1100-Clear, W.R. Meadows, Inc.
c. MasterKure CC 180WB (formerly Kure-N-Seal), BASF Corporation

3. Do not use sodium silicate type curing agents.

4. For integral colored concrete plaza and stair pavement, provide curing compound meeting the specified requirements and approved by the manufacturer of the integral color pigments for use on integral colored concrete paving. Coordinate with manufacturer of integral colored concrete pigments and determine compatibility of the curing compound with integral color pigment. Curing compound manufactured by the pigment manufacturer that also meets the requirements of this Section is acceptable.

   a. Do not use curing compound that will alter the color of integral colored concrete.

D. Evaporation Control: Monomolecular film-forming compound applied to exposed concrete slab surfaces for temporary protection from rapid moisture loss.

1. Products: Subject to compliance with requirements, provide one of the following:

   a. Eucobar; Euclid Chemical Co.
   b. E-Con; L&M Construction Chemicals, Inc.
   c. MasterKure ER 50 (formerly Confilm), BASF Corporation,

2.05 RELATED MATERIALS

A Bonding Agent: Acrylic or styrene butadiene, complying with ASTM C 1059, Type II.

B. Epoxy Adhesive: ASTM C 881, two-component material suitable for dry or damp surfaces. Provide material type, grade, and class to suit requirements.

C. Products: Subject to compliance with requirements, provide one of the following:

1. Bonding Agent:

   a. SBR Latex; Euclid Chemical Co.
   b. Daraweld C; W.R. Grace & Co.
   c. Everbond; L&M Construction Chemicals, Inc.

2. Epoxy Adhesive:

   a. MasterEmaco ADH Series (formerly Concresive Series); BASF Corporation
   b. Rezi-Weld 1000; W.R. Meadows, Inc.

D. Concrete Sealer: Water-based, deep penetrating, non-staining, non-darkening silane micro emulsion.

1. Positive chloride-ion screening, prevents water intrusion, minimizes rebar corrosion and potential concrete spalling, and protects against damaging effects of alkalis and other contaminants.

2. Provide material that has a maximum volatile organic compound (VOC) rating of 350 g/L.

3. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

   a. Pentane WB, L & M Construction Chemicals, Inc. This product is intended to establish the characteristics and level of quality intended for this Project.

   b. MasterProtect H 1000 (formerly Hydrozo 100), BASF Corporation

4. For integral colored concrete plaza and stair pavement, provide sealer meeting the specified requirements and approved by the manufacturer of the integral color pigments for use on integral colored concrete paving. Coordinate with manufacturer of integral colored concrete pigments and determine compatibility of the sealer with integral color pigment. Sealer manufactured by the pigment manufacturer that also meets the requirements of this Section is acceptable.

   a. Do not use sealer that will alter the color of integral colored concrete.

E. Color Pigments/Coloring Admixtures: ASTM C 979. For integral colored concrete use coloring pigments that are finely ground non-fading mineral oxides of synthetic or natural varieties and do not contain fillers, adulterants, or admixtures that will affect the characteristics or performance of the concrete mix design.

1. Color: Match existing or Architect's sample.

2. Products:

   a. Davis Colors, Davis Colors Co.
   b. Chromix Admixtures, L. M. Scofield Co.
   c. MasterColor, BASF Corporation
   d. Approved equal

2.06 CONCRETE MIX

A. Prepare design mixes for each type and strength of normal-weight concrete by either laboratory trial batch or field experience methods as specified in ACI 301. For the trial batch method, use a qualified independent testing agency for preparing and reporting proposed mix designs.

1. Do not use the Owner's field quality-control testing agency as the independent testing agency.

2. Prepare mixes for integral colored concrete in accordance with color pigment manufacturer's instructions.

   a. Maximum Pigment Dosage Rate: 10 percent of the weight of cement.
   b. Use the same aggregate, brand and type of cement for all integral colored concrete.

B. Proportion mixes according to ACI 211.1 and ACI 301 to provide normal-weight concrete with the following properties:

1. Compressive Strength (28-Day): 4000 psi, for walks.

2. Compressive Strength (28-Day): 3500 psi, for curbs and gutters.

3. Compressive Strength (28-Day): 3000 psi, for all other site concrete.

4. Minimum cement content: shall be 5-1/4 sacks per cubic yard.

5. Maximum concrete slump: shall be 3 inches, plus or minus 1/2 inch, for all walks; and 4 inches, plus or minus 1 inch for all other Portland cement concrete paving, except for integral colored concrete paving maintain a slump of 3 inches.

6. Water/Cement Ratio: shall be less than or equal to 0.5.

C. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, project conditions, weather, test results, or other circumstances warrant.

D. Admixtures: Comply with requirements specified in Section "Cast-In-Place Concrete".

2.07 CONCRETE MIXING

A. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94.

1. When air temperature is between 85 deg F (30 deg C) and 90 deg F (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.

2.08 HERBICIDE TREATMENT

A. Commercial chemical for weed control, registered by Environmental Protection Agency. Provide granular, liquid, or wettable powder form.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include, but are not limited to, the following:

   a. Dow Chemical U.S.A.
   b. E.I. Du Pont de Nemours & Co., Inc.
   c. FMC Corp.
   d. U.S. Borax and Chemical Corp.

2.09 SOURCE QUALITY CONTROL

A. Color Control for Integral Colored Concrete: Arrange for the services of a qualified technical representative of the color pigment manufacturer, equipped with wet-batch color control test devices, at the ready-mix plant to ensure concrete of uniform color and matching Architect's sample for the mock-up and after mock-up is approved, matching mock-up with final concrete.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

A. Proof-roll subgrade or base surface prepared by others to check for unstable areas and verify need for additional compaction. Do not begin paving work until such conditions have been corrected and are ready to receive paving.

B. Remove loose material from compacted subbase surface immediately before placing concrete.

C. Herbicide Treatment: Apply chemical weed control agent in strict compliance with manufacturer's recommended dosages and application instructions. Apply to compacted, dry subbase prior to application of prime coat.

3.02 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for paving to required lines, grades, and elevations. Install forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.

B. Check completed formwork and screeds for grade and alignment to following tolerances:

   1. Top of Forms: Not more than 1/8 inch in 10 feet.

   2. Vertical Face on Longitudinal Axis: Not more than 1/4 inch in 10 feet.

C. Clean forms after each use and coat with form release agent as required to ensure separation from concrete without damage.

3.03 PLACING REINFORCEMENT

A. General: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars" for placing and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities or replace units as required before placement. Set mats for a minimum 2-inch overlap to adjacent mats.

3.04 JOINTS

A. General: Construct contraction, construction, and isolation joints true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to the centerline, unless indicated otherwise.

1. When joining existing paving, place transverse joints to align with previously placed joints, unless indicated otherwise.

2. Make joints, including sawed joints, full depth required and from edge to edge of paving.

B. Contraction Joints: Provide weakened-plane contraction joints, sectioning concrete into areas approximately 10 feet square, unless otherwise shown on Drawings. Construct contraction joints for a depth equal to at least 1/4 of the concrete thickness, as follows:

1. Tooled Joints: Form contraction joints in fresh concrete by grooving and finishing each edge of joint with a radiused jointer tool.

2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into hardened concrete when cutting action will not tear, abrade, or otherwise damage surface and before development of random contraction cracks.

3. Inserts: Form contraction joints by inserting pre-molded plastic, hardboard, or fiberboard strips into fresh concrete until top surface of strip is flush with

paving surface. Radius each joint edge with a jointer tool. Carefully remove strips or caps of two-piece assemblies after concrete has hardened. Clean groove of loose debris.

C. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than 1/2 hour, unless paving terminates at isolation joints.

1. Continue reinforcement across construction joints unless indicated otherwise. Do not continue reinforcement through sides of strip paving unless indicated.

2. Provide tie bars at sides of paving strips where indicated.

3. Use bonding agent on existing concrete surfaces that will be joined with fresh concrete.

4. Locate construction joints to correspond with a planned contraction joint or score line as shown on the drawings.

D. Isolation Joints:

1. Isolation-Type Joints: Form isolation joints of preformed joint filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, and other fixed objects.
2. Extend joint fillers full width and depth of joint, not less than 1/2 inch or more than 1 inch below finished surface where joint sealant is indicated. Place top of joint filler flush with finished concrete surface when no joint sealant is required.

3. Furnish joint fillers in one-piece lengths for full width being placed wherever possible. Where more than one length is required, lace or clip joint filler sections together.

4. Protect top edge of joint filler during concrete placement with a metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint

E. Installation of joint fillers and sealants is specified in Division 03 Section "Cast-in-Place Concrete".

F. 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.

G. Where plastic "zip strips" are used to construct concrete joints, cut and remove, as a minimum, the top 1/4 inch of these strips after concrete has cured, and coordinate installation of joint filler, if shown on the Drawings.

3.05 CONCRETE PLACEMENT

A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.

B. Moisten subgrade or base to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they are at the required finish elevation and alignment.

C. Comply with requirements and with ACI 301 for measuring, mixing, transporting, and placing concrete.

D. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

E. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

F. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete complying with ACI 301.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocating reinforcing, dowels, and joint devices.

G. Screed paved surfaces with a straightedge and strike off. Use bull floats or darbies to form a smooth surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces prior to beginning finishing operations.

H. Curbs and Gutters: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results that meet or exceed requirements. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results are not acceptable, remove and replace with formed concrete.

I. Cold-Weather Placement: Comply with provisions of 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 air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a

concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.

2. Do not use frozen materials or materials containing ice or snow.

3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.

4. Do not place concrete on surfaces that are frozen.

J. Hot-Weather Placement: Place concrete complying with ACI 305.1 and as specified when hot weather conditions exist.

1. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 deg F (32 deg C). Mixing water may be chilled 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. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.

3. Fog spray forms, reinforcing steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.06 CONCRETE FINISHING

A. Float Finish: Begin floating when bleed water sheen has disappeared and the concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Finish surfaces to true planes within a tolerance of 1/4 inch in 10 feet as determined by a 10-foot-long straightedge placed anywhere on the surface in any direction. Cut down high spots and fill low spots. Refloat surface immediately to a uniform granular texture.

1. Burlap Finish: Drag a seamless strip of damp burlap across concrete, perpendicular to line of traffic, to provide a uniform gritty texture finish.

2. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across concrete surface perpendicular to line of traffic to provide a uniform fine line texture finish.

3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating surface 1/16 inch to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

4. Do not use troweling machines within 12 inches of electrical junction and outlet boxes which are set to finish flush with concrete slabs. Float and trowel such areas by hand with wood floats and steel trowels, taking care to see that concrete is finished flush with box cover and matches adjacent surfaces.

B. Finishing formed surfaces:

1. Curb forms shall leave a smooth face.

2. Remove all fins.

C. Provide steel trowel finish on tops of curbs and flow lines of curbs, gutters and integral curb and gutters.

D. Final Tooling: Tool edges of paving, gutters, curbs, and joints formed in fresh concrete with a jointing tool to the following radius. Repeat tooling of edges and joints after applying surface finishes. Eliminate tool marks on concrete surfaces.

1. Radius: 1/4 inch.

2. Radius: 3/8 inch.

E. Finish surfaces to produce a uniform appearance throughout area involved and throughout adjacent areas with the same treatment.

F. Where concrete finishing occurs adjacent to finished metal or other surfaces, particularly where serrated or indented surfaces occur, remove all traces of cement film before allowing to harden.

G. Apply integral wood float and broom finish to the all concrete pavements and walkways, unless otherwise shown on the Drawings.

1. After screeding and compacting, finish with a wood float using a circular motion to produce a uniform texture and finish throughout.

2. For vehicular traffic areas, the finish shall be coarse enough to provide a non-slip surface with a minimum static friction coefficient of 0.6.

3. For pedestrian traffic areas, finish shall be a non-slip surface with a minimum static coefficient of friction of 0.6.

a. For ramps, the static coefficient of friction shall be a minimum of 0.8. Ramps are defined as any sloping path of travel with a slope in the direction of travel of 5.0%, or greater.

4. Tests for coefficient of friction shall be either ASTM C-1028 (field test) or ASTM D-2047 (laboratory test).

3.07 SPECIAL FINISHES

A. Integral Colored Concrete Finish: Apply a float finish as described in "Concrete Finishing" Article. After float finish, apply textured finishes as follows:

1. Where indicated, apply a medium-to-coarse-textured broom finish as described for pedestrian traffic areas in the "Concrete Finishing" Article.

2. Where indicated, apply a sandblast finish as follows:

a. Sandblast surfaces uniformly, at the same age, using the same equipment and operators. Match approved mock-up for texture and color.

b. Medium Sandblast Finish: Expose course aggregate with maximum reveal of 1/4-inch. Make color uniform.

3. Cure concrete with the specified curing compound in accordance with pigment manufacturer's curing instructions. Apply the curing compound immediately after final finishing. Do not use any other curing method unless specifically approved in writing by the pigment manufacturer and the Architect.

3.08 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with the recommendations of ACI 306.1 for cold weather protection and ACI 305.1 for hot weather protection during curing.

B. Evaporation Control: In hot, dry, and windy weather, protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material. Apply according to manufacturer's instructions after screeding and bull floating, but before floating.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure integral colored concrete by curing compound as approved by the manufacturer of the color pigments used in the concrete mix. Cure other concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:

1. Moisture Curing: Keep surfaces continuously moist for not less than 7 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 a 12-inch 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, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.

E. Spray-apply concrete sealer to all concrete pavement. Comply with sealer manufacturer's application instructions.

F. Integral Colored Concrete: Comply with recommendations of color pigment manufacturer for curing, sealing, and protecting integral colored concrete to provide color retention and uniformity.

3.09 FIELD QUALITY CONTROL TESTING

A. The Owner will employ a qualified testing and inspection agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include the following:

1. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.

a. Slump: ASTM C 143; one test at point of placement for each compressive-strength test but no less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.

b. Air Content: ASTM C 231, pressure method; one test for each compressive-strength test but no less than one test for each day's pour of each type of air-entrained concrete.

c. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.

d. Compression Test Specimens: ASTM C 31; one set of four standard cylinders for each compressive-strength test, unless directed otherwise. Mold and store cylinders for laboratory-cured test specimens except when field-cured test specimens are required.

e. Compressive-Strength Tests: ASTM C 39; Frequency as specified in ACI 301.

2. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.

3. When total quantity of a given class of concrete is less than 50 cu. yd., Architect may waive strength testing if adequate evidence of satisfactory strength is provided.

4. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

5. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.

B. Test results will be reported in writing to Architect, concrete manufacturer, and Contractor within 24 hours of testing. Reports of compressive strength tests shall contain the Project identification name and number, date of concrete placement, name of concrete testing agency, concrete type and class, location of concrete batch in paving, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-day and 28-day tests.

C. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.

D. Additional Tests: The testing agency will make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements have not been met, as directed by Architect. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

E. Manufacturer's Field Service: When placing integral colored concrete, arrange for the services of a qualified technical representative of the color pigment manufacturer, equipped with wet-batch color control test devices to ensure concrete of uniform color and matching approved mock-up.

3.10 REPAIRS AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective, or does not meet the requirements of this Section. Concrete which is not true to line and

plane, which is not thoroughly troweled and properly surfaced as required, which varies in excess of 1/4-inch along a 10-foot straight edge, which is scuffed or has a rough top surface, except where required, or which does not connect properly to adjoining work, does not slope as required for drainage or is not properly cured, will be deemed defective.

1. General: Patch defective areas immediately following form removal. Remove defective concrete to a width and depth necessary for proper patching, but in no case less than 1 inch deep. Make the walls of the cut area perpendicular to the surface and do not feather out the edge. Dampen the patch area and the adjacent area 6 inches around the patch area.

2. Exposed concrete: Prepare a patching mortar of one part Portland cement, adjusted to match the color of the surrounding concrete, and 2-1/2 parts sand with the least water required to produce a workable mass. Re-work this mortar until it is the stiffest consistency that will permit placing. Brush the patch area with a bond of neat cement and water paste and apply patching mortar when the water sheen is off the bond. Strike off the mortar slightly higher than the surrounding surface, let set for 1 hour and finish flush with the surrounding surface.

B. Drill test cores where directed by Architect when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with Portland cement concrete bonded to paving with epoxy adhesive.

C. Protect concrete from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep concrete paving not more than 2 days prior to date scheduled for Substantial Completion inspections.

E. Comply with pigment manufacturer's instructions for patching integral colored concrete.

END OF SECTION

SECTION 32 1373

CONCRETE JOINT SEALANTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.

2. Hot-applied joint sealants.

1.02 PRECONSTRUCTION TESTING

A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, eight samples of materials that will contact or affect joint sealants. Use ASTM C 1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

1.03 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples: For each kind and color of joint sealant required.

C. Pavement-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.

D. Product certificates.

E. Product test reports.

F. Preconstruction compatibility and adhesion test reports.

1.04 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Compatibility: Provide joint sealants, backing materials, 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.

2.02 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Non-sag, Silicone Joint Sealant for Concrete: ASTM D 5893, Type NS.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Crafco Inc., an ERGON company; RoadSaver Silicone.

b. Dow Corning Corporation; 888.

c. Pecora Corporation; 301 NS.

B. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Crafco Inc., an ERGON company; RoadSaver Silicone SL.

b. Dow Corning Corporation; 890-SL.

c. Pecora Corporation; 300 SL.

C. Multi-Component, Pourable, Traffic-Grade, Urethane Joint Sealant for Concrete: ASTM C 920, Type M, Grade P, Class 25, for Use T.

1. Products: Subject to compliance with requirements, provide the following available products that may be incorporated into the Work include, but are not limited to, the following:

a. Pecora Corporation; Urexpan NR-200.

2.03 HOT-APPLIED JOINT SEALANTS

A. Hot-Applied, Single-Component Joint Sealant for Concrete: ASTM D 3406.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Crafco Inc., an ERGON company; Superseal 444/777.

B. Hot-Applied, Single-Component Joint Sealant for Concrete and Asphalt: ASTM D 6690, Types I, II, and III.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Meadows, W. R., Inc.; Sealtight Hi-Spec or Sealtight 3405.

b. Right Pointe; D-3405 Hot Applied Sealant.

2.04 JOINT-SEALANT BACKER MATERIALS

A. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.

C. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.05 PRIMERS

A. Primers: Product 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.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Cleaning of Joints: Clean out joints immediately before installing joint sealants.

C. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

D. Install joint-sealant backings of kind indicated to support joint 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 joint-sealant backings.

2. Do not stretch, twist, puncture, or tear joint-sealant backings.

3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

E. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place joint 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 Non-sag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements 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 joint sealant from surfaces adjacent to joints.

2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

G. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

H. Clean off excess joint 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.

END OF SECTION

SECTION 32 1723

PAVEMENT MARKINGS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Parking stripes, markings and accessibility symbols.
2. Exterior athletic court markings.
3. Playground markings.
4. Fire lane “No Parking.”
5. Curb marking and red curbs.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 32 1236 - Seal for Bituminous Surfacing.

1.02 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings, indicating location, extent, color and texture of markings.

B. Material Samples: Submit color Samples.

1.03 PROJECT CONDITIONS

A. Do not install markings when adverse weather conditions are forecasted.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Paint: Water emulsion-based traffic paint must be approved by OEHS (LAUSD’s Office of Environmental Health and Safety)

1. Dunn Edwards: Vin-L-Stripe.
2. Pervo Paint Company: Acrylic Traffic Paint.

3. Sherwin Williams: Setfast Acrylic Traffic Paint.

4. Vista Paint Corporation: Traffic Paint.

5. Equal.

PART 3 - EXECUTION

3.01 PAVEMENT MARKINGS

A. Application of Paint:

1. Prior to application of paint, allow the pavement to properly cure. Clean and prepare in accordance with paint manufacturer's written recommendations.

2. Provide mechanical equipment to apply paint in a uniform, straight or curved pattern, without gaps, holidays, runs, or other defects.

3. Do not permit traffic until paint has completely cured.

4. Apply two coats in thickness recommended by manufacturer.

5. Playground Markings: Submit Samples to Architect for review. Limited color palettes may be submitted.

B. Marking Width and Color: Unless indicated otherwise, marking width and color are as follows:

Location	Width	Color
Parking stall lines	4 inches	White
Traffic markings		
Striping:	4 inches	Yellow
General	4 inches	Yellow
Accessible Parking	4 inches	Blue
International Symbol of Accessibility (ISA)	2 inches	White on blue background
Athletic Court Lines:	2 inches	*White
Letters and numbers:		As indicated

*Where two sets of lines overlap, one set shall be white and the other set shall be yellow.

3.02 PROTECTION

A. Protect the Work of this section until Substantial Completion.

3.03 CLEANUP

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 32 1816

PLAYGROUND PROTECTIVE SURFACING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Provide all necessary materials, labor, tools and equipment to perform the work included in the section for the installation of the poured-in-place resilient playground surfacing and sub base.

1.02 RELATED WORK

A. Playground equipment to be installed by contractor.

1.03 QUALITY ASSURANCE:

A. Manufacturer shall have manufactured and installed playground poured-in-place surfacing systems to current ASTM F1292 test criteria for a minimum of 8 years. The installation of the poured-in-place product shall be completed by manufacturer certified contractors or by direct employees of the manufacturer's installation division.

1.04 SUBMITTALS

A. Make submittals in accordance with Section 01300.

B. Manufacturer's product literature and specification data.

C. Impact attenuation test report complying with ASTM F1292 “Impact Attenuation of Surface Systems Under and Around Playground Equipment”

D. Flammability test report complying with ASTM E108

E. Slip resistance test report complying with ASTM E303.

F. Statement of Warranty for a minimum five year period with detailed warranty claim requirements of the owner and specific procedures to be followed by the manufacturer in terms of response and repair of warranty claims.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Surfacing shall be Saf Deck (818-541-0397), Pro-Tect Turf, Inc. (1-888-272-1191, or www.protectturf.com), www.IPEMA.org, SpectraPour Safety Surfacing by SpectraTurf, Inc. (800-875-5788) or approved equal. Surface shall consist of a dual durometer poured-in-place system with a wearing layer upper membrane and an underlying impact attenuation cushion layer. The surface shall be manufactured from EPDM and SBR rubber compounds mixed with a 100% MDI based polyurethane resin. Polyurethane contained any TDI shall not be allowed due to environmental regulations.

B. The finished surface shall be porous and capable of being installed at varying thicknesses to comply with critical fall height requirements of playground equipment installed in conjunction with the surface. Thickness shall comply with manufacturer's test report per ASTM F1292 as follows:

Fall Height	SpectraPour Thickness (inches)	Fall Height	SpectraPour Thickness (inches)
4' or less	1.75	8'	3.75
5'	2.00	9'	4.50
6'	2.50	10'	5.00
7'	3.25	12'	6.00

C. Cushion course shall be a mixture of shredded and a 1-4mm SBR rubber particles of heterogeneous distribution bonded by a polyurethane binder applied to 100% of the rubber and installed to a designated thickness as required by the Consumer Product Safety's Commission's Guidelines and ASTM F1292 Test Criteria.

D. Wearing surface shall be a mixture of black EPDM or colored EPDM 1-4 MM granules bonded by a polyurethane binder applied to 100% of the granules and applied to a minimum thickness of 3/8" over the cushion layer. Color choice and blend ratios to be of color selected by the owner.

E. Finish Texture: Pebble grain.

F. Color: to be selected by Owner from a complete range of 50% color-50% black).

PART 3 - INSTALLATION

3.01 SUB-BASE REQUIREMENTS

A. Preparation: The sub-base of the entire area to be surfaced shall be cleared of any foreign materials and treated to eliminate growth of grass, weeds, shrubbery, trees, etc.

B. The native sub-base shall be graded to allow for proper water drainage that will prevent sub-base erosion.

C. The native sub-base shall be compacted to 90% maximum density.

D. Curbing shall be installed at the perimeter of the area to be installed and may be concrete that will not deteriorate over the anticipated life of the system. Curbing shall be set at an acceptable grade level to permit proper drainage and contain the area. All curbing shall be covered by protective surfacing.

E. Aggregate Base: Installation of a minimum four (4) inch layer of aggregate crushed rock or road base shall be completed and compacted to 90% and a + ¼" level when measured with a ten foot straight edge in any direction. The compaction shall be completed in two (2) inch lifts after the area has been water sprayed. The entire area shall be graded at a minimum of 1.5 - 2% for drainage in compliance with existing site conditions.

F. Compacted Aggregate Base: A geotextile fabric shall be applied over the compacted and graded stone sub-base. The application of the poured in-place system shall be applied over the geotextile membrane.

G. Any portion of the above stated work shall be inspected by manufacturer’s certified inspector prior to application of the safety surfacing materials. Any corrections deemed necessary by manufacturer or the Architect shall be completed by the parties responsible for the appropriate portion of the work prior to the installation of the Safety Surfacing system.

3.02 INSTALLATION

A. Install impact attenuation surface where indicated on Drawings in accordance with manufacturer's instructions and recommended installation procedures.

3.03 SITE TESTS

A. Upon completion of installation, CONTTRACTOR shall have surface system tested by an independent testing laboratory in accordance with ASTM F355 and provide certification that installed surfacing meets requirements of ASTM F1292.

3.03 CLEAN-UP

A. Upon completion, repair damage caused by work, remove debris and surplus materials from the project site. Leave installation in condition ready for use and acceptance by the Architect.

END OF SECTION

SECTION 32 3119

ORNAMENTAL FENCES AND GATES

PART 1 - GENERAL

1.01 SUMMARY

A. Provisions of Division 01 apply to this section.

B. Section Includes:

1. Steel picket fences and pedestrian gates as indicated on the drawings.

C. Related Sections:

1. Division 01 – General Requirements.
2. Section 03 2000 – Concrete Reinforcement.
3. Section 03 3000 – Cast-in-Place Concrete.
4. Section 05 0513 – Hot-Dip Galvanizing.
5. Section 08 7000 - Door Hardware.
6. Section 31 2319: Excavating and Fill for Structures.

1.02 REFERENCES

A. American Galvanizers Association (AGA):

1. Inspection of Products Hot-Dip Galvanized After Fabrication.
2. Quality Assurance Manual.

B. ASTM International:

1. ASTM A36 – Standard Specification for Carbon Structural Steel.
2. ASTM A-53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
3. ASTM A123 – Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.

4. ASTM A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

5. ASTM A385 – Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip).

6. ASTM A500 – Standard Specification for Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

7. ASTM A501 – Standard Specification for Hot Formed Welded and Seamless Carbon Steel Structural Tubing.

8. ASTM A513 – Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.

9. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

10. ASTM A780 – Standard Practice for of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

C. American Welding Society (AWS):

1. AWS D1.1 – Structural Welding Code - Steel.

2. AWS D-19.0. – Welding Zinc-Coated Steel.

1.03 SUBMITTALS

A. Shop Drawings: Submit plans and details indicating extent of fences, locations of gates, dimensions and details of attachment and footings.

B. Product Data: Submit product data for galvanizing repair material indicating compliance to referenced standards.

C. Hardware Schedule: Submit complete product data of all hardware items to be used, include manufacturer’s name, catalog number, relevant dimensions, fasteners, location of item in Work, gate index number, gate dimensions.

D. Certificates: Manufacturer’s Certificates certifying that materials and galvanizing comply with referenced standards.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this Section with a minimum of five years of documented experience.

B. Installer Qualifications: Company specializing in the installation of the products specified in this Section with a minimum of five years of documented experience.

C. Welders: Welders shall be AWS certified.

D. Mockup: Build mockup to set quality standards for fabrication and installation. Mockup shall include a fence panel set between two posts. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.05 DELIVERY, HANDLING AND STORAGE

A. Deliver, handle and store fence components to protect galvanized coating from damage during delivery, unloading and installation.

B. Store components and materials above grade on platforms, skids, or other required supports.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Steel Members: Size and thickness as indicated on the Drawings.

1. Line Posts, End Posts, and Rails: Carbon steel tubing conforming with ASTM A36, ASTM A53, or ASTM A500.

2. Fence Pickets: In conformance with ASTM A513 or ASTM A36.

3. Plates and Shapes: In conformance with ASTM A36.

4. Perforated Sheet Metal: In conformance with ASTM A653, G90.

B. Reinforced Concrete:

1. Normal weight complying with requirements in Section 03 3000, Cast-in-Place Concrete. Compressive strength 3,000 PSI minimum at 28 days.

2. Concrete Reinforcement Materials: Per Section 03 2000, Concrete Reinforcement.

C. Accessibility Signage at Gates: Refer to Section 10 1400, Signage.

2.02 GATE HARDWARE

A. Exit Devices: Panic Hardware on push side.

1. Precision 2108 X V4908A X 630 X 48".

2. Mortise lock with lever handle on push and pull sides: SCHLAGE L-9070 X 32D with 06 N trim.

B. Lockset: Schlage L-9070 x 32 D with 06 N Trim.

C. Door Closer: 120-degree, delayed action.

1. Pull Side: L.C.N. 4040 with RW/PA arm kit.

2. Push Side: L.C.N. 4040 XP with EDA arm.

D. Weldable Gate Box: Keedex KBX-M0R1 10G.

E. Hinges: Weld-on hinges by D&D Technologies or equal Brookfield Industries series W.

1. D&D Technologies VersaWeld CI3075 (round posts).

2. D&D Technologies VersaWeld CI3950 (square posts).

3. D&D Technologies SureClose 75108113M, 75108114M, 75108123M, 75108124M (square posts at 4'-0", high gates only).

4. Maximum of two hinges per each ADA pedestrian swing gate with both hinges supporting the weight of the gate.

F. Refer to Section 08 7000 Door Hardware for cylinders and keying.

2.03 FABRICATION

A. General:

1. Fabricate items in shapes and sizes indicated on drawings in as large sections as possible to minimize assembly and field welding at project site.

2. Form all work true to line and level with accurate angles.

3. Exposed work shall be smooth and free of blemishes. Remove blemishes by grinding and/or sanding prior to cleaning, treating and finishing. Ease exposed edges unless otherwise indicated or specified.

4. Form bent metal corners to smallest radius possible without causing grain separation or otherwise damaging Work.

5. Form exposed connections with hairline joints, flush and smooth.

6. One end of pickets shall be flattened and trimmed to an arrowhead with a one press stroke. If indicated on drawings, pickets shall be shaped to radius indicated. Space pickets at five inches on center maximum.

7. Provide vent and drain holes per ASTM A385 for the galvanizing process. Coordinate with the galvanizer for locations and sizes.

8. Remove loose rust, mill scale, cutting, and burrs.

B. Shop Welding:

1. Weld connections as indicated on drawings. Weld corners and seams continuously and in accordance with requirements of AWS D1.1.

2. Exposed welds shall be ground, sanded smooth and flush to match and blend with adjoining surfaces. Remove welding slag, splatter, anti-splatter compounds and burrs prior to delivery for galvanizing.

2.04 GALVANIZING

A. Hot-Dip galvanize after fabrication in accordance with Section 05 0513 Hot-Dip Galvanizing.

PART 3 – EXECUTION

3.01 FENCE INSTALLATION

A. Install fence in accordance with manufacturer’s instructions and approved installation drawings.

B. Drill post footings to depths indicated on the drawings, shore and compact per specification Section 31 2319, Excavating and Fill for Structures.

C. Place panel posts into drilled holes at locations indicated on drawings; set panels plumb, aligned and at correct height. Stabilize panels into position before pouring concrete footings.

D. Concrete Footings: Install reinforcement in accordance with Section 03 2000 Concrete Reinforcement. Place concrete around posts per Section 03 3000, Cast-in-Place Concrete and vibrate or tamp for consolidation. Protect fence from concrete splatter. Maintain fence stabilized until concrete is cured.

3.02 FIELD WELDING

A. Preparation of Weld Area of Galvanized Fabrications: Remove masking from fabrications. Remove remaining zinc coating between one inch and four inches from both sides of members to be welded, by grinding back the zinc coating, burning the zinc away or pushing back the molten zinc from the weld area.

B. Welding: Welding and welding procedures shall be performed in accordance with American Welding Society D1.1 structural steel code for SMAW, FCAW, GMAW, GTAW processes.

C. Welding and tacking shall be performed by AWS D1.1 Certified Welders, for the process being utilized in this fabrication, construction. Welders and tackers shall provide current certifications for each welding process to be utilized. Welders shall provide a valid picture Identification before fabrication, welding, installation and during construction.

D. Welding shall be evaluated per AWS D1.1 weld criterion for appearance, quality, materials and recommendations, methods used in correcting welding work.

1. Welding shall be in accordance with AWS D1.1 Structural Steel Code.

2. Weld galvanized fabrications in accordance with AWS D-19.0.

E. Remove welding flux immediately. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surfaces matches those adjacent.

F. Upon completion of welding plug vent and drainage holes of galvanized fabrications with appropriate diameter zinc plugs. Push in about halfway by hand, and hammer to a tight fit. With a hand file or an abrasive tool, file excess material. Repair damaged surfaces with two coats of Carbomastic 15, by Carboline or equal product approved by OWNER’s Office of Environmental Health and Safety (OEHS).

G. Weld adjoining fence panels as indicated on drawings.

3.02 INSTALLATION OF GATES

A. Gates shall be installed with a 1-1/2-inch clearance at bottom and 1/2” inch clearance at top, between transom panel and gate.

B. Fabricate and install as indicated on Drawings.

C. Install accessibility signs as indicated on the drawings.

3.03 COMPLETION

A. Completed fencing shall form continuous units between points indicated with required parts, accessories, and fittings provided and installed.

B. Clean exposed metal surfaces of splattered cement, grout and other foreign substances.

3.04 PROTECTION

A. Protect the Work of this section until Substantial Completion.

3.05 CLEANUP

A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 32 8413

POTABLE WATER IRRIGATION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Potable water irrigation system.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 01 4524 - Environmental Import/Export Materials Testing.

3. Division 22 - Plumbing.

4. Division 26 - Electrical.

5. Section 31 2313 - Excavation and Fill.

6. Section 31 2323 - Excavation and Fill (Utilities).

7. Section 32 9000 - Planting.

1.02 SUBMITTALS

A. Materials List: Provide manufacturer’s name and description of items to be furnished.

B. Product Data: Provide catalog cuts, technical data, and manufacturer’s specifications.

C. Shop Drawings: Provide Shop Drawings indicating proposed system layout, locations of controllers, valves, backflow devices, flow sensors, master valves, quick couplers, heads and point of connections. Include details for sleeves, yard boxes, backflow devices, and controller installations.

D. Provide proof of purchase for energy saving devices to the OWNER. OWNER will receive rebates as part of energy savings program.

E. Record Documents:

1. Before Contract Completion, provide project record documents as follows:

    a. Indicate the location of each numbered sprinkler controlled valves and quick coupling valves with legible dimensions from two permanent points of reference such as building corners or sidewalks.

2. Closeout Submittals-As Built:

    a. Submit three copies of as-built including complete list of materials, manufacturer's name, and product installation literatures.

    b. Record drawings: Submit dimensioned drawings and details, before Contract Completion.

    c. Record Drawings shall contain the following:

        1) As-Built shall be computer generated (AutoCad).

        2) Print shall show the locations of the numbered remote control valves, manual control valves, locations and size of supply and lateral lines, location and type of sprinkler heads, quick coupling valves, gate valves, backflow devices, point of connections, controllers and other related equipment.

        3) Dimensions shall be legible from two permanent points of reference such as buildings and sidewalks.

        4) Shall be 24-inch by 36-inch minimum size.

        5) Provide reduced size As-Built with color coded valve stations for new Controller Charts (18-inch by 24-inch minimum size)

    d. Proof of Backflow Registration:

        1) CONTRACTOR to provide proof of registration with the jurisdictional authority.

        2) Backflow test results shall be acceptable to the jurisdictional authority.

3. Operation and Maintenance Manuals:

a. Provide complete operating and maintenance instruction manuals for equipment.

b. This service shall be performed by a certified water auditor and paid by the CONTRACTOR. This report shall identify designed controller setting for water discharge and actual installed discharged tested. The audit report shall also include the status of items indicated in paragraph 1.07.C based on final inspection and testing.

1.03 REFERENCES

A. ASTM International (ASTM):

1. ASTM A53 – Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

2. ASTM B88 – Standard Specification for Seamless Copper Water Tube.

3. ASTM D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.

4. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.

5. ASTM D2467 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.

B. American Society of Mechanical Engineers International (ASME):

1. B36.10M - Welded and Seamless Wrought Steel Pipe.

C. Federal Specifications:

1. FS WW-P-460 - Pipe Fittings; Brass or Bronze (Threaded) Classes 125 and 250 Pound.

1.04 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with local, municipal and state laws, rules, and regulations governing or relating to this Work. Wiring shall conform to National Electrical Code.

2. Conform to California Code of Regulations, Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance.

B. Manufacturer Instructions: The manufacturer's instructions and detailed drawings shall be followed where the manufacturers of products and/or materials furnish installation details not indicated in the Drawings and Specifications.

C. Qualifications: Work shall be performed by skilled workers with a minimum of five years experience in work of similar scope and complexity.

1.05 PRODUCT HANDLING

A. Do not damage materials during handling, loading, unloading, and storage of pipe and fittings. Store materials under cover, protect from direct sunlight. Transport materials in a manner to avoid undue stress on piping and other materials.

B. Do not install damaged materials or products into the Work.

1.06 PROJECT CONDITIONS

A. Before excavation, contact DigAlert for information on buried utilities and pipelines.

1.07 TESTING AND INSPECTION

A. Notify the Project Inspector 24 hours in advance of the pressure side piping inspection.

1. Pressure Side Piping: After welded joints have cured for at least 24 hours, lines flushed and outlets are capped, the system shall be tested under normal street water pressure for a minimum of 4 hours. Joints shall remain exposed for inspection during the pressure test. Center loading of piping with small loads of sand backfill to prevent arching or slipping under pressure is permitted.

2. Correct defective Work and repeat tests until the entire system is tested watertight.

B. Submit a request for a final inspection 48 hours in advance. Perform a coverage test to determine if the coverage of water to turf and planting areas is complete and adequate meeting Title 23 Model Water Efficient Landscape Ordinance.

C. Final Inspection: The following items shall be considered part of the final inspection:

1. Specified products and materials.

2. Irrigation coverage test, providing 100% head to head coverage.

3. Soils compacted in trenches and around sprinkler heads, level with existing grades.

4. Controller and cabinet installation.

5. Sprinkler control valves and boxes.

6. Backflow devices, pressure regulators, pumps.

7. Automatic sensors.

8. Final site review shall include operating each system in its entirety in the presence of the Landscape ARCHITECT or Project Inspector.

9. Provide any required adjustments and correct defective Work as required.

1.08 MAINTENANCE

A. Extra Materials, Tools and Accessories:

1. Spare Sprinkler Heads: Furnish twelve spare sprinkler heads, with inserts for each type, size and series installed.

2. Keys and Wrenches:

a. Keys: Furnish two tagged pin tumbler type keys.

b. Wrenches: Furnish two sets for each type of sprinkler head or nozzle.

c. Coupler: Furnish a minimum of one quick coupler key (quill) and an additional key for every three quick-coupler valves installed.

B. Training:

1. Before substantial completion provide at least 4 hours of training, by an authorized representative of the controller manufacturer, for each type of irrigation controller installed.

2. Instruct designated OWNER personnel on operation and programming of the irrigation controller and hand held controller, demonstrating program features.

3. Review “As-Built” plans with OWNER’s personnel and explain the following features: master valve, flow sensor, rain sensors, pump, backflow devices and locations of critical valves.

4. Provide an attendance sheet to the OWNER listing personnel trained.

1.09 WARRANTY

A. Provide a three year manufacturer’s warranty for controller units.

B. Provide a one year warranty for materials, fabrication, and installation, including restoration of planted or paved areas due to settlement of trenches.

PART 2 - PRODUCTS

2.01 IRRIGATION SYSTEM

A. Systems shall be automatic with electrically operated control valves.

B. Provide 100 percent head to head triangulated coverage or other required 100 percent configuration.

C. Point of connection (POC) for irrigation systems:

1. Provide a single POC on a designated irrigation meter, with flow monitoring, unless otherwise indicated on the Drawings.

D. Athletic Fields: Install remote valves grouped along the perimeter of the field.

E. No PVC piping of any kind will be permitted for above grade pressure lines.

F. Drip irrigation is not permitted.

G. Full meter protection is required for irrigation systems by installing reduced pressure principle backflow prevention devices.

H. Install isolation valves in order to avoid a total system shutdown for maintenance and repairs. Include valves to isolate loop system and major branch lines.

I. Irrigation System shall incorporate the following requirements:

1. The flow velocity shall not exceed five feet per second for pressure/lateral lines based on industry standard friction pressure loss values.

2. Pressure line pipe size shall be sufficient to support a minimum of two control valves operating at the same time, one valve opening while another is closing.

3. Gallons per minute demand and sprinkler head coverage shall follow the manufacturer's requirements.

4. Remote valves shall be sized no smaller than the piping it serves unless piping is increased in size to reduce friction loss. Remote valves shall then be sized no less than one pipe size smaller than the piping it serves.

5. Minimum pipe size shall be 3/4 inch.

2.02 MATERIALS

A. Provide only new materials, of brands and types noted on Drawings and in the Specifications.

B. Plastic Pipe and Fittings:

1. Pipe shall be Schedule 40, extruded from 100 percent Virgin PVC 1120 compounds meeting the requirements of Cell Classification 12454 as defined in ASTM D1784.

a. Plastic pipe shall be continuously and permanently marked with the following information: Manufacturer's name, nominal pipe size, Schedule or Class, SDR (Standard Dimension Ratio, or pressure rating in psi) National Sanitation Foundation (NSF).

2. Plastic fittings: Schedule 40 molded from PVC Type I Compound, conforming to the requirements of specification ASTM D2466.

a. Plastic Nipples: PVC schedule 80 conforming to ASTM D2467.

b. PVC Male Threaded Nipples: Schedule 80 only.

3. PVC primer and solvent for chemical weld of pipe and fittings shall be as recommended by pipe manufacturer. Containers for solvent and primer shall be clearly marked with manufacturer's

data. Solvent and primer shall not be more than one year old. Blue or red hot glue is not permitted.

a. IPS Weld On P-70 primer.

b. IPS Weld On 711 (gray) cement.

C. Pipe and Fittings:

1. Steel Pipe and Steel Fittings: (where occurs at existing schools only): Pipe and fittings shall be ASA Schedule 40 ASTM A53 galvanized mild steel screwed pipe and beaded galvanized malleable iron screwed fittings, including couplings. Thread on pipe and fittings shall be taper type. Above grade fittings shall comply with ASME B36.10M and ASTM. A53.

a. Unions 2 inch and smaller shall be ground joint pattern.

b. Unions larger than 2 inch shall be flanged unions.

c. Steel pipe or fittings shall not be installed below grade.

d. Connection between steel pipe and copper pipe or tube shall be provided with a 6 inch brass nipple.

2. Connection between any female threaded fitting and plastic pipe shall be bridged with a Schedule 80 PVC nipple.

3. Brass Pipe: Seamless, 85 percent red brass, iron pipe sized, threaded.

4. Brass Fittings: Brass fittings shall be 250psi rated, threaded FS WW-P-460.

5. Copper pipe, fittings, ASTM B88:

a. Pipe: Type K rigid.

b. Fittings: Wrought copper, solder joint type.

D. Valves: (PVC Valves are not permitted):

1. Gate valves on pipe 2 1/2-inch and larger shall be AWWA Specification, Class "D" standard flanged, or a combination of outlets as required, iron body, brass trimmed, non-rising stem.

a. Watts 405-NRS-RW , Nibco F-619-RWS-SON, or equal.

2. Gate valves 2 inch or smaller shall be bronze, non-rising stem, threaded:

    a. Nibco T113-K, or approved equal.

3. Quick coupler valves shall be brass, 1 inch, with lock top and resilient cap.

    a. Rainbird 44LRC, or approved equal.

    b. Quills shall be the same manufacturer as quick coupler valve, cast bronze, machine shank, stainless steel, or bronze lugs.

4. Coupler keys (quills) shall be from the same manufacturer as quick coupler valve; cast bronze with stainless steel or bronze lugs.

5. Electric remote control valves shall be 24 volt normally closed solenoid actuated valve, capable of operating on 14 gage UF wire; either bronze or brass, globe or angle pattern, and diaphragm actuated:

    a. Hunter ICV, or approved equal.

6. Manual sprinkler control valves are not allowed.

7. Flow Sensor/Irrigation Sub-Meter and Master Valve:

    a. Shall be a normally open cast iron, globe configuration, hydrometer. Valve shall have a MPT inlet and outlet, and shall be capable of working pressures up to 235 psi.

        a. LHM____-MEL (NO) by Netafim, or equal.

    b. Shall meet requirements for Automatic Valves, except for those indicated on article “a” above.

    c. Shall be installed with separate power and common wires.

E. Sprinkler Heads:

1. In lawn areas, provide 6-inch plastic pop-up sprinkler heads with built in check and adjustable nozzles with diameter of coverage as indicated on drawings.

    a. Hunter PROS-06-PRS40-CV w/ MP-Rotator Nozzles, or equal.

2. Large turf-area sprinkler heads shall be gear driven rotary heads with removable strainer, and make, type and performance as indicated on Drawings. Heads shall be permanently marked with manufacturer's name and shall be equipped with soft rubber covers. Shall have a built-in check valve.

   a. Center Large Turf: Hunter I-40-06-ON-SS, or approved equal.

   b. Perimeter Large Turf: Hunter I-25-06-SS, or approved equal.

   c. On Slopes Only: Hunter PGP, or approved equal.

3. Install on triple swing assemblies: Hunter SJ-512 through SJ 712, or HSJ-1-3-2-2-12, or approved equals, or swing joints assembled with PVC schedule 80 nipples and Marlex 90 degree “L” to match inlet size of sprinklers/rotors. Do not install swing joint assembly smaller than inlet of the sprinkler head.

F. Back Flow Protection Device:

1. To operate on a reduced pressure principle furnished with a full port shut off valve up stream and down stream of the backflow device. Provide and install enclosure to house backflow device.

2. Wye strainers at back flow device shall be 125 pounds class customer brass with 40 mesh Monel screen.

3. Provide and install permanent enclosure to house backflow device

4. On Backflow Devices 2” and smaller. Enclosures shall be stainless steel “Strong Box- SMOOTH TOUCH” manufactured by V. I. T. Products. Inc or Equal.

5. On Backflow Devices larger than 2” enclosure shall be vandal and weather resistant made of marine grade aluminum alloy or stainless steel. The enclosure shall have a mounting lip on one end and a locking mechanism on the other end. The locking mechanism shall be of the full release type which allows for complete removal of the enclosure.

   a. “Strong Box manufactured by V. I. T. Products. Inc, Cross Brothers Enclosures or Equal.

G. Tracer Wires: A No. 14, Green, Type TW plastic-coated copper tracer wire shall be installed with non-metallic irrigation main lines.

H. Control Wires to Control Valves: Control wires to electrically operated solenoid valves shall be direct burial type UF#14 AWG copper, 3/64 inch thick PVC coating. UL approved for Class 2 wiring for 24 volts, 60 cycle AC, use UL recognized waterproof connectors to connect control wires to solenoids.

1. Use UL recognized waterproof connectors to connect control wires to solenoids.

    a. Spears Drysplice DS400 or Equal.

I. Valve Boxes:

1. Rectangular valve boxes shall be green plastic 12-inch wide, 18 inch long, and 12-inch deep (outside dimensions) or larger as may be required to provide specified clearances.

    a. NDS Pro Series Plus #314BCB or approved equal.

2. Round valve boxes shall be green, 7-inch diameter by 10-inch high with locking cover.

    a. NDS Pro Series Plus #312BCB or approved equal.

3. Jumbo Rectangular valve boxes shall be green plastic 13-inch wide, 20-inch long and 12-inch deep (outside dimensions) or larger as may be required to provide specified clearances.

    a. NDS Pro Series Plus #318BCB or approved equal.

4. Covers on valve boxes shall be vandal resistant, locking, and marked "Water". Tops of boxes shall be set flush with finished turf grade or 2-inch above grade in shrubbery or groundcover areas.

    a. The cover shall be identified with 2-inch high stenciled letters as either ICV + Controller/Station No. (“ICV A2”), BV for Ball Valve, GV for Gate Valve, or QCV for Quick Coupler Valve.

    b. Dura Boxes are not allowed.

PART 3 - EXECUTION

3.01 CONNECTIONS TO SUPPLY

A. Source of water supply shall be as indicated on the Drawings.

B. Connection to piping shall be provided with proper fittings:

1. When connecting to point of connection (POC) above grade pipes shall be copper with required fittings unless otherwise indicated.

2. POC from above to below grade transition shall be copper pipe to a depth of 18 inches from top of pipe.

3. No steel pipe or fitting shall be installed below grade.

4. When connecting plastic pipe to copper below grade, provide a schedule 80 PVC nipple.

5. Exposed copper or brass material above grade shall be painted green in color.

6. Connect steel and copper pipe or tube with a 6-inch brass nipple.

3.02 PIPE INSTALLATION

A. Excavate trenches deep enough to provide earth coverage of 12 inches for non-pressure lines and 24 inches for pressure lines, from finished grades to top of pipe. Bottom of trenches shall be free of rocks, clods and other sharp-edged objects. Below grade piping shall be installed on a firm sand bed for its entire length.

B. Plastic pipe and fittings shall be solvent welded. PVC pipe ends shall be cut ninety (90) degrees and cleaned of cutting burrs prior to cementing. Use approved reaming tool. Pipe ends shall be wiped clean with a rag and lightly wetted with PVC primer. Cement shall be applied with a light coat on the inside of the fitting and a heavier coat on the outside of the pipe. Pipe shall be inserted into the fitting and given a quarter turn to seat the cement. Excess cement shall be wiped from the outside of the pipe. The pipe will be tested as indicated in paragraph 1.07.

C. Cure welded joints at least 15 minutes before moving or handling, and at least 24 hours before applying pressure to system, unless otherwise recommended by joint solvent manufacturer.

D. Irrigation piping installed under a driveway or sidewalk shall be sleeved. The sleeves shall be two pipe sizes larger than the pressure piping.

E. Piping through cement and asphalt pavement shall be K type copper with ¼ inch of foam wrap or other required material around the pipe to allow for expansion.

F. Holes cored through walls shall be two pipe sizes larger to allow for foam wrap around pipe.

G. PVC pipes shall not be installed above grade unless reviewed by the ARCHITECT.

H. Lettering shall be face up on below grade PVC piping. Pipe serving tree areas shall be located not more than 30 inch from center of tree area.

3.03 IRRIGATION HEAD INSTALLATION

A. Install sprinkler heads with 100 percent triangulated head to head coverage or other required 100 percent head to head coverage method where indicated.

B. To insure proper coverage spray heads and rotary heads shall be installed on separate control valves.

C. Install heads and or change heads, nozzles, or orifices as may be required to provide coverage.

D. Branch lines, swing joints or sprinkler risers shall not be sized smaller than the sprinkler heads inlet they serve.

E. Rotary Heads:

1. Prior to installing heads, thoroughly flush main and lateral lines with full line pressure. Repeat whenever system is opened up for repairs or replacements. Start flushing operation at highest point of delivery and proceed to lowest.

2. Risers to rotary heads shall be installed plumb and secured in position with thoroughly compacted sand.

3. In new turf fields, rotary heads shall be temporarily set 3 inch minimum above grade and then lowered into permanent position as required.

4. Rotary heads in turf areas shall be provided with rubber tops.

5. Part circle rotor heads shall be adjusted to minimize spray water onto adjacent track or paving surfaces.

6. Adjust spray nozzles to minimize overspray and so entire system will be evenly balanced as required.

7. Install rotary heads on factory assembled triple-swing joints or triple-swing joints assembled with PVC Schedule 80 nipples and Marlex 90 degree elbows.

8. Unless overspray or run off flows into the landscaping then overhead irrigation is not permitted within 24 inches of non-permeable surfaces.

F. Pop-up Head Installation:

1. Pop-up head shall be installed flush with finished grade and 24 inch from edge of walks, and 9 inches from buildings to parking areas.

2. Install pop-up heads on factory assembled triple-swing joints or triple-swing joints assembled with PVC Schedule 80 nipples and Marlex 90 degree elbows.

3.04 VALVE BOX INSTALLATION

A. Automatic control valves shall be enclosed in valve boxes of HDPE or polyolefin fibrous material, with locking lids.

B. Valve boxes shall be of sufficient size to provide no less than 1-1/2 inch of clearance on all sides of equipment installed within. The bottom section shall be slotted so as to extend below the pipe. Extensions shall be added as required to meet grade requirements.

C. Valve boxes installed in concrete or asphalt shall be set one inch below pipe and extensions shall be added as required to meet grade requirements. A homogeneous finished material shall surround valve boxes 4 inches below finished grade and match existing grade conditions.

D. Valve boxes shall be installed level to finish grade except in ground cover areas which shall extend 2 inches above finish grade.

E. Bottom of valve boxes shall be set level on 4 full size corner bricks on 2 inches of gravel bed.

F. Pea gravel shall be filled up to the bottom of the manual and remote valve and at least 4 inches of gravel inside of the valve box. Wrap box in landscape fabric prior to placing gravel per details on Landscape Irrigation Plans.

3.05 QUICK COUPLER VALVES AND ASSEMBLIES

A. Quick couplers shall be one inch brass with one or two piece bodies and locking brass tops with rubber cover.

1. Install next to walkways.

2. Top of quick coupler assembly shall be installed within 2 inches from bottom of cover.

3. Quick Coupler supply piping shall originate from a Point of Connection upstream of the Master Valve.

3.06 HOSE BIBS

A. Hose bibs are prohibited except at Learning Garden where shown.

B. Where hose bib connections are needed provide a quick coupler valve outside of Learning Garden Areas.

3.07 VALVES

A. Isolation and Shut Off Valves:

1. Pressure piping system shall be furnished with valves at points indicated on Drawings or specified.

2. Valves shall be installed with neat appearance and groupings, so parts are easily accessible. Valves near walks, curbs etcetera, to be set-in 12 inches and parallel to the adjacent surface. Remote control valves shall be installed in ground cover or shrub areas wherever possible.

3. Valves shall be full size of line in which they are installed unless otherwise indicated.

B. Remote Control Valves:

1. Remote control valves shall be low wattage (24 volts,) and shall be capable of operating properly on no larger than #14 gage UF wire.

2. Remote control valves shall be adjustable to control flow of water through valve adjustments and shall be accessible through valve boxes installed above each valve. Valves shall be highest quality of manufacturer.

3. Remote control valves shall be installed and adjusted so that sprinkler heads operate at pressure recommended by head manufacturer. Remote control valves shall be adjusted so that sprinkler heads to planting areas from each individual valve system applies a uniform distribution of water.

4. Remote control valves on any line shall be installed 3-inch minimum, 8-inch maximum below finish grade to top of flow control stem.

5. Remote control valves shall be installed with schedule 80 PVC nipples on each side of the valve.

6. Valves for lawn and shrub areas shall be installed within the perimeter of the area it serves. The location shall be accessible within 12 inches from curb or sidewalk and installed in a location to avoid wetting the person operating the valve manually.

7. Remote control valves for athletic fields shall be installed in one of the following specified locations:

   a. Control valves shall be installed in groups of three or more. They shall be installed on the perimeter of the athletic field in valve boxes.

   b. Control valves above ground shall be grouped together and installed on the perimeter outside of the athletic field, on a copper manifold and enclosed in a secure fenced enclosure.

3.08 CONTROLLER, CLOCK AND ENCLOSURE

A. Refer to Section 32 8416.

3.09 BACKFLOW DEVICE ASSEMBLY

A. Backflow devices shall be located where indicated on Drawings and in accordance with Los Angeles City and County Codes. Locate in an inconspicuous location close to buildings, walls, or fences.

B. Assembly shall be furnished with valves, test cocks, and other appurtenances as required by the Los Angeles County Health Department Cross Connection and Water Pollution Control Section.

C. Install thrust blocks and pipe support as required to support backflow assembly.

D. Install backflow device in locked stainless steel or marine grade aluminum enclosure.

E. Installations of backflow prevention devices shall be tested and certified by a certified L.A. County Backflow Prevention Device Tester before Substantial Completion. Test shall be performed in the presence of the

Project Inspector. Test reports shall be turned over to the Project Inspector and sent to the jurisdictional authority.

F. Backflow devices shall be Pressure Reducing Valves (PRV) and shall be the same size of main line where installed.

3.10 CONTROL WIRE

A. Mainline control wires shall be taped together at five foot intervals with black electrical tape, then laid parallel to pressure line with 18 inches minimum cover to finish grade.

B. Control wiring located under paved areas shall be encased in Schedule 40 PVC pipe and shall extend a minimum of 12 inches beyond pavement.

C. Wires shall be color coded, white for common ground wire, red or black for valve control wires.

D. Wire splicing shall only be performed in controller cabinet and at remote control valve boxes. Splices shall be made with a mechanical connector equal to Spears Dry Splice Wire Connectors and encased in epoxy resin to provide a permanent watertight connection.

E. Stubbed out control wires shall terminate in concrete yard boxes.

F. Wire passing under future or existing paving or structures shall be encased in Schedule 40 PVC pipe extending at least 12 inches beyond edges of the paving or structure.

3.11 COVERAGE TEST

A. When sprinkler system has been completed, perform a coverage test to determine if coverage of water to turf and planting areas is complete and adequate.

B. Make adjustments, add heads, change heads, nozzles or orifices as may be required to provide complete coverage and provide layout indicated on Drawings.

3.12 PRESSURE TEST

A. After welded joints have cured at least 24 hours and before sprinkler heads are installed, flush out lines and cap outlets. Test system under normal street water pressure, in presence of the Project Inspector.

B. Joints shall remain exposed for examination during pressure test. Center load pipe with small amount of sand to prevent arching or slipping under

pressure. Use normal street water pressure for test. Maintain pressure on plastic pipe for not less than four hours.

C. Replace or repair system, including joints that fail during pressure test. Repeat pressure testing until entire system passes the test period without leaks.

3.13 PROTECTION

A. Protect the Work of this section until Substantial Completion.

3.14 CLEANUP

A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site. Hard surfaces shall be washed clean. Daily clean up shall be required on areas used for circulation, parking, or other use.

END OF SECTION

SECTION 32 8416

IRRIGATION CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Weather based irrigation controllers.
2. Flow sensors.
3. Master valves.
4. Enclosures.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Division 22 - Plumbing.
3. Division 26 - Electrical.
4. Section 32 8413 - Potable Water Irrigation.
5. Section 32 8416 - Irrigation Controls.
6. Section 32 8426 - Reclaimed Water Irrigation.
7. Section 32 9000 - Planting.

1.02 PROJECT REQUIREMENTS

A. Provide an EvapoTranspiration (ET) weather based irrigation controller with capabilities to receive data from weather stations and sensing devices or servers to automatically adjust or terminate programmed watering schedules.

B. The controller must be capable of utilizing two way communications with server for remote programming and continuous control and monitoring of the central irrigation system from OWNER’s designated location.

1.03 SUBMITTALS

A. Product Data: Provide catalog cuts, technical data, and manufacturer’s specifications for each product provided.

B. Provide proof of purchase to the OWNER. OWNER will receive rebates as part of energy savings program.

C. Operation and Maintenance Manuals:

1. Provide complete operating and maintenance instruction manuals for each weather based irrigation controller provided.

2. Provide complete programming instructions for each weather based controller.

3. Provide documentation showing compliance with the California Code of Regulations, Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with local, municipal and state laws, rules, and regulations governing or relating to this Work. Wiring shall conform to National Electrical.

B. Conform to California Code of Regulations, Title 23 Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance.

1.05 PRODUCT HANDLING

A. Do not damage materials during handling, loading, unloading, and storage. Transport materials in a manner to avoid undue stress on products.

B. Packaging of weather based controller shall be sufficient to eliminate damage to the controller upon shipping.

1.06 TRAINING

A. Provide a minimum 4 hours of on-site installation training per site from each ET irrigation controller manufacturer. Training shall explain facets necessary to set up a centrally managed irrigation system. Training is to include drawings and handouts for trainee reference. Training shall be provided by an authorized representative of the controller manufacturer.

B. Provide a minimum 2 hours of on-site operation training per site from each ET irrigation controller manufacturer. Training shall demonstrate all irrigation control and hand held remote control programming features. Training shall be provided by an authorized representative of the controller manufacturer.

C. Provide 8 hours of central management system training from each weather based irrigation control manufacturer. Training, for designated OWNER personnel shall include generating reports from the Central Management Control Area to satisfy the Model Water Efficient Landscape Ordinance,

requirements as well as operating and programming irrigation controllers using a remote personal computer. Training shall be provided by an authorized representative of the controller manufacturer.

D. Provide an attendance sheet to the OWNER listing personnel trained. The attendance sheet shall list the date and time and type of training and shall have signatures and contact information of all attendees including the instructor.

1.07 WARRANTY

A. Provide a five year manufacturer's warranty for controller units commencing from time of installation.

PART 2 – PRODUCTS

2.01 CENTRAL IRRIGATION CONTROLLERS

A. General:

1. Controllers shall be UL approved.

2. Controllers shall operate on 110 volts, single phase current, shall be completely automatic, and shall function with clock. Controllers output shall be at least 2 Amps and minimum 24 volts.

3. Controllers shall fully perform without soil moisture sensors, or mandatory telephone wires, repeaters or CAT5/Ethernet wiring.

4. Controllers shall have a Master Valve output circuit.

5. Controllers shall be capable of operating normally open or normally closed master valves.

6. After installation all ET weather based irrigation controllers shall be capable of being monitored and programmed from a single central location away from individual school sites.

7. Controllers shall have a built in flow metering circuit.

8. Controllers shall be capable of receiving EvapoTranspiration (ET) data to automatically adjust or terminate existing programmed watering schedules.

9. Weather based controllers shall be provided with appropriate antenna for wireless transceiver.

10. Weather based controllers with more than six stations shall be furnished with at least 3 extra stations for future use.

11. Weather based controllers shall be capable of fully operating without the need of excavating to conceal wiring infrastructure.

12. Controllers shall be capable of watering using (ET) Data without the need of a central monitoring station.

    a. Rain Master i-Central, Rain Bird ESP-LXME, or equal.

B. Communications Capabilities:

1. System shall be capable of wireless 2-way communications.

C. Programming Capabilities:

1. Controllers shall be capable of allowing programming changes to be performed at the controller and from a central irrigation management center away from individual school campuses.

2. Each controller shall be capable of being automatically updated with daily ET weather data.

3. System shall be capable of providing ET data from more than one source.

4. Controllers shall be able to pause or suspend irrigation automatically in real time.

5. Controllers shall be able to automatically read flow sensing equipment without adding on flow meter circuits.

6. Flow metering circuit shall provide high flow shutoff protection to individual remote control valves or circuits.

7. Controllers shall be capable of programming appropriate pipe size for accurate water consumption reports.

8. System shall be able to fully function using a hand held remote transmitter without additional set up requirements.

9. Controllers shall be password protected.

10. Controller management system shall not impose a security, infrastructure or product support impact on OWNER’s ITD department.

11. Controllers shall be capable of producing water savings efficiency data reports required by state agencies.

D. Antenna:

1. Provide appropriate antenna type to allow complete operation of system.

2. After installation, antenna must communicate with server to produce two way communications in order to manage the central irrigation system on site and from a central irrigation management center designated by OWNER.

E. Weather Based ET Data:

1. Provide with each controller a one year subscription of weather based ET data for each irrigation controller requiring a subscription.

2.02 FLOW SENSORS

A. Spinning impeller type, brass or PVC tee as required and sized to accurately read irrigation system designed flow maximum and minimum.

1. Data Industrial Model IR Series or equal.

2.03 MASTER VALVES

A. Normally open, solid brass (ASTM B584, B271, B505), self-cleaning, automatic electric globe valve with manual flow control stem. Valve shall operate with pressures to 200 psi and shall be slow closing with one-piece molded diaphragm incorporated with an integral O-ring seal reinforced with 600 pound test fabric and be guaranteed for 15 years. Equip with an internal self-flushing filter and self-cleaning metering rod for dirty water. Plunger and solenoid coil shall be electroless nickel plated for corrosion protection. 24 VAC 3-way solenoid coil shall be guaranteed for the life of the valve.

1. Superior Controls Model 3300 Series, or equal.

2.04 ENCLOSURES

A. Controllers shall be provided with a lockable weather resistant housing enclosure for protection of control panel and wireless transceiver.

B. Pedestal Enclosures:

1. Shall be constructed with 14 gage stainless steel.

2. Shall include a 110 Volt GFI power outlet inside enclosure.

C. Wall Mounted Enclosures:

1. Shall be constructed with 18 gage stainless steel.

2. Shall include a 110 Volt GFI power outlet inside enclosure.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Installations shall include at least one flow sensor and master valve.

B. Installation of irrigation controllers, flow sensors, master valves, antennas, cabinets, and enclosures will be the CONTRACTOR's responsibility unless otherwise specified.

3.02 MANUFACTURERS' FIELD SERVICES

A. Provide technical support to assure communication capabilities between controllers and sensing devices and between controllers and servers are within acceptable range for operation of the system.

3.03 MANUFACTURERS' TECHNICAL SERVICES

A. ET irrigation control manufacturers shall provide phone in technical support to OWNER's of their irrigation controllers.

END OF SECTION

SECTION 32 9000

PLANTING

PART 1 – GENERAL

1.01 SUMMARY

A. Provide labor, material, equipment, and appliances necessary to provide trees, plants, and ground cover as indicated on Drawings, specified, and as required for a complete installation.

B. Related Requirements:

1. Division 01 - General Requirements.

2. Section 01 4524 - Environmental Import/Export Material Testing.

3. Section 31 2200 - Grading.

4. Section 32 1313 - Site Concrete Work.

5. Section 32 8413 - Potable Water Irrigation.

1.02 SUBMITTALS

A. Comply with provisions of Section 01 3300.

B. Submit complete lists of landscape materials and equipment to be used, including manufacturers name and address, specific trade names, catalog numbers complete with illustrations and descriptive literature and clearly mark or underline proposed items; list sources of landscape topsoil.

C. Shop Drawings: Required for any landscape structure.

D. Material List: Plant materials list.

E. Certification: In addition to other required certification, furnish a certificate with each delivery of bulk material, including topsoil, planter mix soil, bark mulch, stating its source, quantity, type of material furnished and that such item or material conforms to requirements of this section.

F. Sample: Submit topsoil Sample and soil amendments with analysis.

G. Fertilizer analysis: Provide labels of each fertilizer used and quantities used at each applications recommended in Soil Analysis Report.

H. Soil Test: After completing soil rough grading, have soil tested for fertility and agricultural suitability. Soil shall be tested from minimum of (3-4) locations per

acre of planted area and at representative locations where new planting is being installed. Record locations where samples were taken and include in soil test report. A copy of the soil test results with recommendations shall be submitted to the District and Landscape Architect before landscape work begins. Pay cost of soil testing. If import soil is to be used, provide new soil tests for all Import soil and submit a copy of the test results to the District and Landscape Architect before bringing proposed Import soil on-site. A copy of the soil test results with recommendations shall be submitted to the District and Landscape Architect before landscape work begins. Pay cost of test(s).

I. Grass Seed/Seeded Turf Areas: Furnish certificate/guarantee by grower for type, and trueness to name of grass variety or strain. Provide manufacturer's recommendations for seeding and topper soil with rates to be applied. Provide quantity to be delivered. Include seed mix, turf starter fertilizer (5-3-1) and topper soil (organic topdressing) submittals with Planting Submittal.

1.03 QUALITY ASSURANCE

A. Workers: Furnish skilled workers thoroughly trained and experienced in required crafts and familiar with specified requirements for proper performance of Work of this section.

B. Codes and Regulations: Materials, fabrication, and installation in this section shall comply with applicable State Codes and Regulations. Deliver permits and testing certifications to Project Inspector.

C. Quality and Size: Comply with current edition of "Horticultural Standards" for number one nursery stock as adopted by "American Association of Nurserymen".

D. Plants:

1. True to name, with name of plants in accordance with standards of practice of "American Association of Nurserymen."

2. Botanical names take precedence over common names.

1.04 GENERAL REQUIREMENTS

A. Project Inspector will verify that irrigation systems are operating before starting Work of this section.

B. Inspection: Notify Architect at least 72 hours in advance to schedule following inspections:

1. Pre-construction Site Meeting to review Existing Tree locations and Existing Irrigation System. Failure by Landscape Contractor to call for this meeting prior to any construction work being done on site implies Contractors acceptance of the existing conditions and any repairs, or replacements shall be done at no additional cost to the District.

2. Finish grades prior to sodding or seeding areas.

3. Inspect Irrigation System to ensure it is capable of irrigating the planting including an Irrigation Coverage Test. Failure by Landscape Contractor to call for this meeting prior to Seeding turf areas implies Contractors acceptance of additional Seeding work if the coverage is not adequate at no additional cost to the District.

4. Landscape construction items prior to start of maintenance of plant establishment period. Maintenance Period will not begin until the Landscape Architect and District have visited the site and confirmed the work is satisfactorily completed.

5. Final inspection at end of Maintenance Period.

C. Existing Utilities and Plant Materials:

1. Protect utilities and plant materials from damage.

a. Perform modifications only as permitted by Architect, in accordance with applicable provisions noted or specified on Drawings, or in other sections of these Specifications.

2. Replace damaged plant material with like type and size material. Architect shall determine cost of irreplaceable plant material according to "square inch" method as described by Council of Tree and Landscape Appraisers' "Manual for Plant Appraisers" handbook, Current Edition, and "Guide for Establishing Values of Trees and Other Plants".

3. Any existing turf areas damaged during construction shall be repaired via Hand seeding at no additional cost to District. Any grades damaged in turf areas shall be repaired to the original condition at no additional cost to District.

D. Verification of Dimensions and Quantities:

1. Verify scaled dimensions and quantities before starting landscaping Work.

2. Promptly notify Architect of any discrepancies between Drawings, Specifications or actual Project site conditions.

E. Tree Tagging: Architect will tag 24-inch box and larger trees at nursery. Request tree tagging from Architect by providing 3 days advance notice.

F. Pest Management Method and Products:

1. Contractor shall ensure that plants provided are clean, healthy, free of physical damage, and show no symptoms of abiotic injury. Plants must also be free of diseases, arthropod pests, and any other type of plant pests.

Before applying pesticides to plants on District property, the following criteria must be met:

a Individuals who apply pesticides on behalf of contractor's company must have a Qualified Applicator License in appropriate category of pest control issued by California Department of Pesticide Regulation and registered to conduct pest control for hire as a business by Los Angeles County Agricultural Commissioner's Office.

b. Products used must be listed on District's approved product list or submitted for approval by District and Architect.

c. Length of time from date of use of a pesticide products until beneficial occupancy by Owner may not be less than five half lives of products used.

d. Contact District's Maintenance and Operations Department prior to any pesticide application to verify items above.

e. Complete written records of pesticide applications made by a contractor and or their representative on District property, must be provided to District's Pest Management Department within 10 days of applications.

f. Any pests on-site shall be identified and a certified, licensed professional shall provide abatement/removal services as needed to remove the pests from the project site including but not limited to: gophers and other rodents. Coordinate method used with District. Do not apply pesticides on-site without prior District approval or in a method or manner that may adversely affect students/staff on the school site.

1.05 DELIVERY, STORAGE AND HANDLING

A. Plants shall be protected in transit and after delivery to Project site. Plants in broken containers and plants with broken branches or injured trunks will be deemed defective Work.

B. Plant materials damaged in planting operations shall be replaced.

1.06 WARRANTY

A. Shrubs and groundcover shall be growth and health guaranteed by installer for a period of 90 days after completion of maintenance period. Trees shall be installer guaranteed to live and grow in upright position for a period of one year after completion of maintenance period. Seeded turf areas (including any areas with required repairs per section 1.04 – C above) shall be guaranteed for 30 days after completion of the maintenance period.

B. Within 15 days after notification by Owner, remove and replace failed plantings. Replacement plantings shall be guaranteed as specified for original plantings.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil: Designated as imported topsoil as specified herein. Soil test will determine suitability of topsoil before installation. Transport topsoil from source to its final position unless stockpiling is specified. Test in compliance with Section 01 4524.

1. Imported Soil:

a. Shall be from a source outside Project site and in compliance with this section.

b. Architect may make such inspections and perform such tests as deemed necessary to determine material meets all requirements.

c. At least 30 days before scheduled installation, submit proposed source of topsoil and a sample to Architect. Submit a written request for review, accompanied by a written report stating that proposed source complies with these specifications by a testing laboratory registered by State of California for agricultural soil evaluation.

d. Comply with recommendations of soils testing laboratory and provide any soil amendments necessary to achieve proper nutrient levels to support healthy plant growth.

e. Imported topsoil shall be of a uniform composition and structure, fertile and friable sandy loam soil, and be free of roots, decay, subsoil, clods and stones larger than ¼ inch in greatest dimension, pockets of coarse sand, noxious weeds, sticks, brush and other litter and not be infested with nematodes or other undesirable insects and plant disease organisms. Imported topsoil shall meet following additional requirements:

1) Gradation Limits: Sand – 50 to 80 percent, clay – 20 percent maximum, and silt – 30 percent maximum. Sand, clay and silt gradation limits shall be as defined in ASTM D422.

2) Agricultural Suitability and Fertility: Topsoil shall be fertile and friable garden soil suitable for sustaining and promoting growth of specified plants.

3) Electrical conductivity less than 2.0 milliohms/centimeter or DS/m.

4) Boron content maximum of 1.0 part per million.

B. Fertilizers and Conditioning Materials: Comply with applicable requirements of State of California Agricultural Code:

1 General:

a. Fertilizing materials shall be packaged, first grade, commercial quality products identified as to source, type of material, weight and manufacturer's guaranteed analysis.

b. Fertilizing material shall not contain toxic ingredients and fillers in quantities harmful to animal, human or plant life.

c. Submit a certificate of compliance stating material substantially meets Specifications in accordance with provisions of Article 1.03B.

2. Materials:

a. Bone Meal: Commercial raw bone mean shall be finely ground, steamed dry material with a minimum analysis of 2.5 percent nitrogen and 22 percent phosphoric acid.

b. Gypsum: Hydrated calcium sulfate produce containing 23 percent calcium and 18 percent sulfur with a guarantee analysis of 84 percent calcium sulfate.

c. Soil Sulfur: Guarantee analysis of 99 percent sulfur.

d. Superphosphates: First grade finely ground phosphate rock used for agricultural purpose, containing minimum 18 percent phosphoric acid by volume.

e. Commercial Fertilizer: Pellets or granular product having a chemical analysis of 14-14-14, with a minimum of 68 percent of nitrogen from slow release nitrogen unless otherwise specified in Soil Analysis Report: it should be a free flowing material delivered in unopened bags, do not install material which becomes caked or otherwise damaged.

f. Nitrogen Fortified Wood Product: Derived from redwood, fir or cedar sawdust or from bark of fir or pine treated with a non-toxic agent to quickly absorb water and comply with following requirements:

1). Gradation:

SIEVE SIZE	PERCENT PASSING
¼-inch	95 percent minimum
#8	80 percent minimum
#35	30 percent minimum

Nitrogen Content:

NITROGEN CONTENT	PERCENT DRY WEIGHT
Redwood	0.4 to 0.6 percent
Fir	0.56 to 0.84 percent
Cedar	0.56 to 0.84 percent
Fir Bark	0.8 to 1.2 percent
Pine Bark	0.8 to 1.2 percent

3) Salinity: Maximum saturation extract conductivity 2.5 milliohms/centimeter at 25 degrees Celsius.

4) Absorption: When one teaspoon of water is applied to 4 cubic inches of air-dried products, material shall be become completely damp in a period of less than 2 minutes. Kellogg KRA, Sequoia Redwood/Cedar Blend or White Fir, Long Beach Soil Preparation, Bandini #101 Redwood Soil Builder of nitrogenized wood amendment.

g. Organic Fertilizer: Treated, relatively dry friable organic compost derived from sewage sludge processed for agricultural use; containing at least 1 percent nitrogen by dry weight, 2 percent phosphoric acid and comply substantially with gradation noted in sub-section 2.1, B6. Milorganic, Kellogg's Nitrohumus, or equal.

C. Prepared Backfill mix:

1. To be based upon recommendations from soils test performed by a certified laboratory.

2. Mix (for bidding purposes):

a. Seventy percent by volume clean excavated topsoil/import soil.

b. Thirty percent by volume nitrogen stabilizer wood residual.

c. One pound per cubic yard gypsum.

d. Two pounds fertilizer per cubic yard (14-14-14 with a minimum 68 percent of nitrogen from slow release nitrogen. Additional secondary and micronutrients preferred).

3. Mix (acid plants)

a. Thirty percent by volume clean excavated soil/imported soil.

b. Seventy percent by volume nitrogen stabilized wood residual.

c. Two pounds .per cubic yard. soil sulfur.

d. Two pounds. fertilizer per cubic yard (14-14-14 with a minimum 68 percent of nitrogen from slow release nitrogen. Additional secondary and micronutrients preferred).

D. Plants (General): Plant names indicated or listed on Drawings shall conform with Sunset, Western Garden Book, latest edition.

1. Type and Size: Plant materials shall be listed on Drawings.

2. Plants shall be true name, and one of each bundle or lot shall be tagged with Botanical/Common name and size of each plant in accordance with standards of practice recommended by American Association of Nurseryman

3. Tag one plant of each variety for identifying purposes.

4. Plantings shall be inspected before installation.

5. Substitutions: When plants of a specified kind or size are not available, substitution may be requested in accordance with General Conditions.

6. Plants shall have a growth habit normal to species in accordance with USA Standards for Nursery Stock, latest editions; shall be sound, healthy, vigorous, and free from insect pests, plant disease, sun scalds, fresh bark abrasions, excessive abrasions or other objectionable disfigurements. Tree trunks shall have normal well developed branch systems and vigorous and fibrous root systems, not root bound and shall be free of kinked or girding roots.

7. No pruning shall be performed before inspection at nursery by Architect. (Other than normal pruning during growth period).

8. Plantings specified for adverse conditions shall be Project site acclimated before planting. Purchase from local nurseries or store on Site for a period of 10 weeks for autumn planting and six weeks for spring planting.

E. Plant Material:

1. Trees: Trees shall conform to type and size noted on Drawings. Measure height from root crown to last division of terminal leader and measure diameter 1 ft. above root crown. Measure height of palm trees from ground line to base of growing bud. Palms shall stand reasonably erect without support.

2. Shrubs: Specified type and size selected from high quality well shaped nursery stock.

3. Flatted Plants: Grown and remain in flat until transplanted at Project site. Soil and spacing of plants in flat shall insure minimum disturbance of root system at time of transplanting. Maximum plants per flat to be 64 to 100 plants, or as indicated in Drawings.

4. Grass Seed: First quality from a new crop seed.

5. Use non-hulled seed except during months of May through September. During remaining months provide hulled seed.

F. Elementary School/Primary Center

1. General Seeded Areas / Multi-Purpose / Athletic Fields are to be seeded: Use "Pro Sportsfield Elite" Bermuda and Perennial Ryegrass Seed Mix by Stover seeds, or approved equal.

G. General Materials:

1. Pipe: Galvanized steel, standard weight (schedule 40) complying with ASTM A120.

2. Nails, fasteners, etc.: Galvanized and commercial quality materials.

3. Fabricated metal items: Steel conforming to ASTM A36.

4. Concrete items: Standard 2000 psi concrete.

H. Concrete headers: 6-inch by 8-inch size, complete with pre-molded expansion joint material 10 ft. apart or as indicated on Drawings.

I. Composite Headers: Headers and stakes shall be composite material sizes as indicated on Drawings. Screws shall be plated deck screws. Stakes shall be 1 inch by 2-inch by 12-inch in length and headers shall be furnished in 2-inch by 4-inch by 20-foot in length and shall be of uniform width and thickness.

J. Tree Stakes: Lodgepole Pine Stakes – 10' long x 2" diameter.

K. Tree Ties:

1. Cinch Tie: Flexible vinyl with adjustable interlocking capability.

L. Tree-Root Control Barrier: Shall be fabricated from a high density and high impact plastic such as polyvinyl chloride, ABS or polyethylene, and have a minimum thickness of 0.06 inch. Plastic shall be furnished with ½ inch to ¾ inch high raised vertical ribs on inner surface spaced at least 6 inches but not more than 8 inches apart. Install a plastic root control barrier with each new tree planted within a tree well. Deep Root Corp., or equal.

M. Pest Management Methods and Products: Refer to paragraph 1.04.F for details pertaining to Contractor applying pesticides.

PART 3 – EXECUTION

3.01 SURFACE CONDITIONS

A. Examine areas and conditions under which Work of this Section will be performed. Correct detrimental conditions before commencing Work of this section.

3.02 GRADING AND SOIL PREPARATION

A. Initial Rough Grading: Specified in Division 32.

B. Earthwork and Topsoil Placement: Shall include excavation and backfilling for irrigation system and preparation for spreading, densification, cultivation, and raking of topsoil, including fertilization and conditioning.

C. Preliminary Grading: Scarify existing soil to a depth of 6 inches before backfilling with topsoil. During preliminary grading operation, remove stones over ¾ inch.

D. In Previously Paved Areas: Remove top 6 inches of existing soil and legally dispose of off Project site. Replace with approved imported topsoil to indicated finish grade.

E. Topsoil Preparation and Conditioning:

1. Type and Thickness: Topsoil shall have a minimum depth of 6 inches above subgrade or as indicated on Drawings, whichever is greater.

2. Before installing topsoil, subgrade shall be cleared of weeds, rock ¾ inch and larger and other extraneous materials from designated planting areas to a depth of 6 inches. The tools acceptable for this cleaning process are a Rock Picker by Harley Enterprise, Track Screener by Cherrington, Screen USA Inc. or other tools or machines designed for the purpose. The finished planting bed preparation is subject to the approval of the Owner's representative. OAR shall coordinate with the Owner's Landscape Office for a site visit and approval prior to plant/lawn installation.

3. Do not process topsoil when it is so wet or dry as to cause excessive compaction or forming of hard clods or dust.

4. Existing soil can be used as topsoil only if it meets the requirements of Article 2.01.A of this section.

F. Fertilizing and Conditioning: Provide planting areas to finish grades, including mounds, before installation of specified fertilizer or soil conditioning materials.

1. Mechanically install following amount of fertilizer or soil conditioning materials at a uniform rate per 1,000 square feet of planting area:

    a. Four cubic yards of nitrogen fortified wood compost.

    b. Two cubic yards of organic fertilizer.

    c. One hundred pounds. of gypsum.

    d. Thirty pounds of commercial fertilizer.

2. Quantities of required materials for planting areas shall be at Project site. Furnish Project Inspector with delivery tickets before installation to verify source, kind, and quantities delivered.

3. After installation of fertilizer and soil conditioning materials, uniformly cultivate materials into upper 6 inches of soil with suitable equipment operated in at least two directions at approximate at right angles. Process soil until friable.

G. Finish Grading:

1. Provide a finish grade, smooth, uniform, and free of abrupt grade changes and depressions to insure proper surface drainage.

2. Finish grades adjacent to paving curbs or headers shall be 1 inch lower in sod areas and 2 inches lower in shrub or ground cover areas.

3. Irrigate soil after installation of fertilizer and soil conditioning materials. Allow soil to settle. Provide a stable surface. After soil has dried out to a workable condition, re-grade, rake, and smooth to required grades and contours. Finished surfaces to be left clean and suitable for planting.

4. Areas to be planted shall be graded and floated to provide complete surface drainage; water holding depressions and pockets shall be eliminated. Undulations and unsightly variations in grade which will not permit the use of normal mowing equipment without scalping or missing shall be removed so that proper use of mowing equipment can be performed.

5. Areas to be planted shall also be finished graded to meet any walks, paths or other adjoining surfaces so that, after compaction, no water pockets or ridges remain.

6. Areas where seeding will interface with other modes of planting at catch basins and paved areas shall be finish shaped so as to counter sink the seed one inch such that once seed is germinated, it shall be at grade with adjacent planting beds.

H. Contour mounds: Construct with imported topsoil and specified soil amendments. Install and shape mounds to minimize settlement or erosion and to provide adequate footing for placement of boulders. Referenced dimensions of mound contours refer to height above finish grade.

I. Trenching: After completion of soil conditioning or finish grading operations, backfill upper portion of trench so specified topsoil thickness in trench is restored.

J. Weeding: Once site has been cleared, grubbed and rough graded, landscape areas shall be maintained free of weed vegetation growth until start of irrigation and planting phase of work. Protect existing turf to remain from damage during weed removals. Contractor to provide weed abatement and weed removal throughout the entire projects irrigation and planting work and during maintenance period.

3.03 HEADER INSTALLATION

A. Install at locations and grades shown on Drawings, before planting.

3.04 PLANTING

A. General: Planting materials shall be inspected before planting, including those tagged at nursery.

1. Perform planting with material, equipment and according to procedures favorable to optimum growth of plant. Do not plant during windy conditions.

2. Except as noted for specimen planting in sub-section 3.04D, commence planting operations immediately following completion of irrigation system.

B. Protection and Storage:

1. Maintain plantings delivered to Project site in a healthy condition.

2. Do not allow plantings to dry out.

3. Separate bare root stock and “heal in” in moist earth or other suitable material.

4. Cover root ball of bailed or burlap wrapped plantings with moist sawdust, wood chips, or other permitted materials.

C. Layout and Plant Locations:

1. Plant locations indicated on Drawings are approximate.

2. Plants may be re-spotted before planting as required by Architect.

3. Provide a detailed layout of plants and landscape elements in planting areas and obtain review of Architect before actual planting operations.

4. Locate first row of plantings in areas designated for on center spacing at one-half the designated spacing from edge of area.

D. Specimen Planting: Plantings in boxes 24 inches or larger shall be installed before installation of lateral irrigation lines. Re-route irrigation lines in conflict with specimen locations to clear root ball. Provide daily hand watering until irrigation system is completed with new tree bubblers installed and operational.

E. Tree and Shrub Installation:

1. Excavate planting holes approximately square with vertical sides shall be twice the width of plant container or root ball; larger if necessary to permit handling and installation without damage to root ball system. Bottom of plant container or root ball shall be placed on existing undisturbed soil.

2. Do not install plantings having a broken or cracked root ball.

3. Containers should be opened and removed in such a manner not to damage root system.

4. Remove balled plant wrappings after plant is positioned in hole.

5. Scarify native soil at bottom half of holes to a depth of 6 inches.

6. Backfill bottom half of hole with specified backfill mix minus fertilizers. Settle with water.

7. After water settling bottom half of hole, set planting approximately in center of hole and adjust root flush to finish grade.

8. Backfill balance of hole with specified backfill mix and fertilizer and water settle.

9. Prune or remove any broken or damaged limbs.

10. Form a circular watering basin slightly larger than hole; 4-inch high for trees and 2-inch high for shrubs. Shape bottom of basin to be slightly lower than finish grade.

11. Restore area around plantings to finish grade.

12. After installation, plantings shall be plumb with root crown at its natural depth with respect to finish grade.

13. New trees in turf areas are to be installed with tree trunk protector.

F. Backfill Planting Mix: Consists of 70 percent specified topsoil, and 30 percent nitrogen fortified sawdust mulch plus the amendments indicated in soil analysis report.

G. Raised Planter Mix: Backfill mix for raised planters and tree pits in raised planters shall be of following materials.

1. Planter Mix by B.D. White Topsoil Co., Culver City, LAUSD Mix by AE Schmidt Co, Planter Mix by Gale Materials or equal.

2. Weights shall be 45 pounds per cubic foot.

3. Raised planters shall be backfilled with finish grade at 2 inches below the planter top.

4. Required system for draining planters shall be in place prior to placing backfill.

H. Ground Cover Planting:

1. Complete soil preparation and fine grading before installation of ground cover plantings.

2. Install ground cover in moist soil, spaced as indicated on Drawings.

3. Install each plant with its proportionate amount of flat soil to minimize root disturbance.

4. The degree of soil moisture in flat shall be such that soil does not crumble when removing planting.

5. Following installation of ground cover, restore finish grade to insure proper surface draining.

I. Repair of existing or newly installed turf areas - Seeding:

1. Rake, drag, float and roll seed bed as often as necessary to produce a true, uniform, and smooth seed bed. Remove debris, stones, etcetera.

2. Prior to any lawn installation, obtain approval on fine grading of bed for sod areas.

3. Water seed bed thoroughly until a moisture penetration of 8 inches is achieved.

4. Seed mixture shall be sown at following rates:

a. Provide Pro Sportsfield Elite: 10-12 pounds per 1000 square feet or as recommended by manufacturer.

b. Provide Topper Soil (Organic Top-dressing) over the new seeded areas to a 1/4" deep, or as recommended by manufacturer.

c. Provide starter fertilizer (organic 5-3-1) at 15 pounds per 1000 square feet or as recommended by manufacturer.

5. Seeding by hand, “Cyclone” type seeder, or pushed seeder shall be done in two passes at right angles to each other using 50 percent of specified rate for each pass. After seeding, apply a top dressing of wood residuals at rate of ¾ cubic yards per 1,000 square feet.

6. Large sod areas shall be seeded by using “Brillion” type seeder. Areas inaccessible to seeder shall be hand seeded and seed raked lightly into top ¼ inch of seed bed.

7. Irrigate immediately after completion and irrigation as frequently as necessary to assure complete germination of seed without creating run-off.

8. Areas that do not germinate satisfactorily shall be reseeded at proper intervals until an overall acceptable stand of grass is produced. Good turf coverage will be required before final acceptance of work.

9. Protect new seed from damage by erosion, trespass or any source. Safeguards and temporary fencing shall be erected where necessary, and precautions taken to prevent excessive runoff.

J. Hydro-Seeding (Supplement of Seeded Area):

1. Mix slurry of seeds and fertilizer to produce a homogeneous slurry mixture in designated proportions. Discharge system shall apply slurry at a continuous and uniform rate.

2. Immediately after application, irrigate seeded areas thoroughly. Application pattern shall conform to irrigation system so that watering can be accomplished in a timely sequence.

3. Program watering so that repeated watering at short application times can be made to prevent excessive runoff and to prevent erosion.

4. Prior to planting, hydro-seeding shall be done. Abutting ground cover beds shall be neatly trimmed to forms and lines shown on drawing.

5. Areas that do not germinate satisfactorily shall be reseeded at 14-day intervals until an overall acceptable stand of vegetation is achieved. Only after the seeded/re-seeded turf has germinated satisfactorily in all areas shall the Landscape Architect perform a final punch list walk to confirm the maintenance period can begin.

L. Hydroseed slurry: Proportions to be as follows:

	Manufacturers
Seed mix (see paragraph 2.01)	Recommendation
Wood Cellulose fiber (dyed green)	2000 pounds per acre
M-Binder Soil Stabilizer	100 pounds per acre
Triple Super Phosphate	250 pounds per acre
Water and Dye	As needed

M. Transplanting of Existing Plant Material: In accordance with current horticulture practices.

1. Box or root system as necessary to maintain plant materials in a healthy, growing condition.

2. Equivalent size and kind of plantings may be provided instead of transplanting an existing planting.

N. Fertilizing: At 30 day intervals after sod or ground cover installation, install an all purpose 15-15-15 commercial fertilizer at rate of 10 pounds per 1,000 square feet of installed area. Thoroughly water area after applying fertilizer. Fertilizer applications shall be performed under observation of Project Inspector.

3.05 MAINTENANCE AND PLANT ESTABLISHMENT

A. Required: Maintain areas on a continuous basis as they are completed during progress of Work and during establishment period. Maintenance shall include continuous operations of watering, weeding, trimming, rodent control, reseeding, planting replacement irrespective of cause or any other operations necessary to assure normal plant growth.

B. Keep planting areas free of debris and weeds. Cultivate at intervals not to exceed 10 days.

C. Seeded Turf Maintenance:

1. Perform first mowing of seeded turf areas when grass is 2 1/2 inches high and repeat as often as is necessary to maintain turf at a height of 2 inches. In no case shall turf be cut lower then 1 1/2 inches in height unless otherwise indicated.

2. After each cutting, edge of grass shall be trimmed to a neat and uniform line.

3. Grass clippings shall be removed and legally disposed of off Project site.

4. Equipment used for mowing and edging operations shall be cleaned before and after performing maintenance to prevent possible contamination or spread of diseases.

5. Any clippings on adjacent hardscapes, buildings or fencing shall be cleaned up after mowing and edging to maintain a clean site.

D. Pruning: Required pruning of plants at start of plant establishment period shall be as required by Architect.

E. Plant Establishment Inspection:

1. Request an inspection by the Landscape Architect to begin the maintenance period after plantings and all other related Work has been completed in accordance with Contract Documents. Hydro-seeded areas and all other Planting items are to be satisfactorily completed/germinated and have received at least one mowing/edging prior to requesting the start of maintenance inspection.

2. Upon successful completion of inspection by Landscape Architect, effective commencement date of maintenance period shall begin.

3. Maintenance period for the project shall be 90 calendar days or as otherwise indicated in the Contract Documents.

4. Architect may recommend extension of the maintenance period and plant establishment/warranty period in 15 day intervals if planting areas are improperly maintained, appreciable plant replacement or new hydro-seeding is required, weeding operations have not been performed, or other defective Work is noted in the field. This shall be done at no additional cost to the District.

F. Damage:

1. Immediately replace failed or damaged plantings.

2. Provide replacement plantings of same type and size to match adjacent plantings. Furnish plantings and fertilizer as specified. New plantings shall be subject to a 30 day plant establishment period before warranty period begins.

3. Damage to planting areas shall be repaired immediately. Depressions caused by vehicles or foot traffic shall be regarded and filled with topsoil and leveled as needed at no additional cost to District.

4. Damaged turf areas, whether existing or new, shall be re-seeded and maintained until satisfactorily germinated at no additional cost to District.

G. Final Inspection:

1. Upon completion of maintenance period, Architect will perform a final inspection.

2. If maintenance period is completed before overall projects Substantial Completion, planting areas shall continue to be maintained until overall project receives Final Completion approval. If this occurs the final inspection will be repeated to confirm maintenance is completed and adequate when Final Completion of the overall project is achieved.

3.07 PESTICIDE APPLICATION

A. Contractor must comply with specifications outlined in paragraph 1.04.F.

3.08 PROTECTION

A. Unless noted otherwise, protect Work of this section until Substantial Completion.

3.09 CLEANUP

A. Remove rubbish, debris and waste materials and legally dispose of off Project site.

END OF SECTION

TECHNICAL SPECIFICATIONS FOR INSTALLATION OF PLAYGROUND & SHADE STRUCTURES AT WILL ROGERS ELEMENTARY

BID NO. 10MOT26

MARCH 2026

MIRACLE EQUIPMENT

(PLAYSTRUCTURE)


7'-6"
7'-0"
6'-6"
6'-0"
5'-6"
5'-0"



Miracle

Miracle Playground Sales

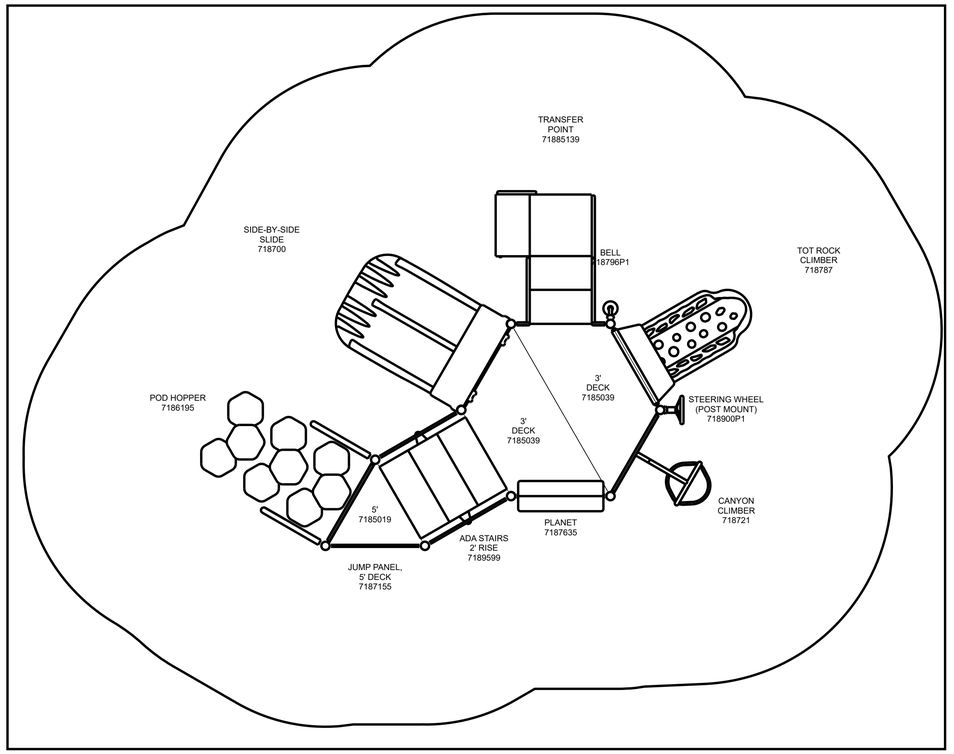
DSA Submittals

Will Rogers Elementary

Will Rogers ES
Lynwood, CA

FOR KIDS AGES **2-12** YEARS

AGE GROUP:	2-12		
ELEVATED PLAY ACTIVITIES - TOTAL:	5		
ELEVATED PLAY ACTIVITIES ACCESIBLE BY TRANSFER:	5	REQ'D	3
ELEVATED PLAY ACTIVITIES ACCESIBLE BY RAMP:	0	REQ'D	0
GROUND LEVEL ACTIVITY TYPE:	3	REQ'D	2
GROUND LEVEL QUANTITY:	3	REQ'D	2



1' 4'
6" 2'

IPEMA CERTIFIED TO ASTM F1487
To verify product certification, visit www.ipema.org

Miracle

MIRACLE PLAYGROUND SALES, INC.
1101 California Ave
Corona,CA
PHONE NO: 951-254-2409
FAX NO: (877) 215-3869

GROUND SPACE: 20'-6" x 13'-0"
PROTECTIVE AREA: 32'-6" x 25'-6"
DRAWN BY: Bryce Lawrence
DATE: 5/31/2024

R0036_45573415926

- ✓ COMPLIES TO ASTM/CPSC
- ✓ COMPLIES TO ADA

To promote safe and proper equipment use by children. Miracle recommends the installation of either a Miracle safety sign or other appropriate safety signage near each playsystem's main entry point(s) to inform parents and supervisors of the age appropriateness of the playsystem and general rules for safe play.

THE PLAY COMPONENTS IDENTIFIED IN THIS PLAN ARE IPEMA CERTIFIED. THE USE AND LAYOUT OF THESE COMPONENTS CONFORM TO THE REQUIREMENTS OF ASTM F1487.

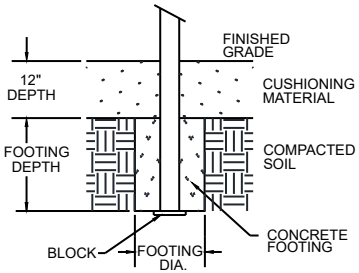
AN ENERGY ABSORBING PROTECTIVE SURFACE IS REQUIRED UNDER & AROUND ALL PLAY SYSTEMS

Will Rogers ES
Lynwood, CA

POST LOCATION:

FOOTING	MODEL	POST LENGTH
A.	718-575	190" POST
B.	718-554	166" POST.
C.	718-576	198" POST.
D.	718-551	100" POST.
E.	718-552	130" POST.
F.	718-553	148" POST.
G.	718-572	138" POST.
H.	718-573	162" POST.
J.	718-574	180" POST.
K.	718-583	151" ARCH.
L.	718-585	175" ARCH.
M.	718-586	193" ARCH.
N.	718-555	70" POST.

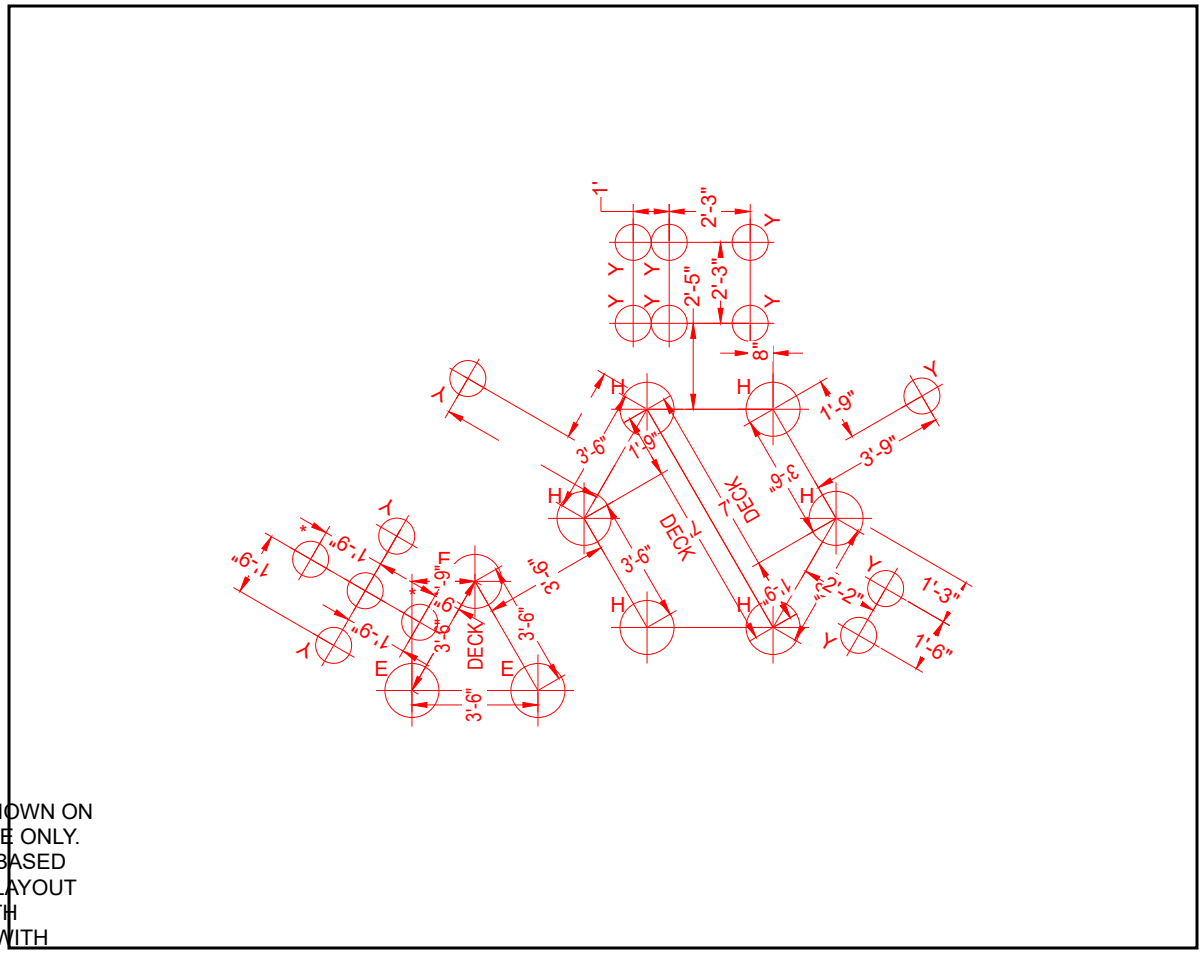
DECK & COMPONENT
FOOTING DETAIL
SCALE: NONE



FOOTING SCHEDULE:

A-N. 18" DIA. X 18" DEEP.
X. 18" DIA. X 18" DEEP.
Y. 12" DIA. X 18" DEEP.
Z. 20" DIA. X 42" DEEP.

* LOCATIONS DETERMINED ON SITE.



IMPORTANT NOTE:

FOOTING LOCATION DIMENSIONS SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY. DO NOT LOCATE OR DIG FOOTINGS BASED ON THIS DRAWING. FINAL FOOTING LAYOUT DIMENSIONS WILL BE PROVIDED WITH INSTALLATION MANUAL DELIVERED WITH ACTUAL PLAY EQUIPMENT.

FOOTING NOTES:

1. SOME EQUIPMENT LEGS MAY NOT REACH TO BOTTOM OF FOOTINGS.
2. ALLOW FOR BLOCK THICKNESS BY INCREASING FOOTING DEPTH WHEN APPLICABLE.

Miracle

MIRACLE PLAYGROUND SALES, INC.
1101 California Ave
Corona,CA
PHONE NO: 951-254-2409
FAX NO: (877) 215-3869

GROUND SPACE: 20'-6" x 13'-0"
PROTECTIVE AREA: 0 x 0
DRAWN BY: Bryce Lawrence
DATE: 6/24/2025

R0036_45573415926

This list is provided as a design aid only.
Actual compliance to accessibility standards is dependent on design and final installation and is the sole responsibility of the Sales Representative.

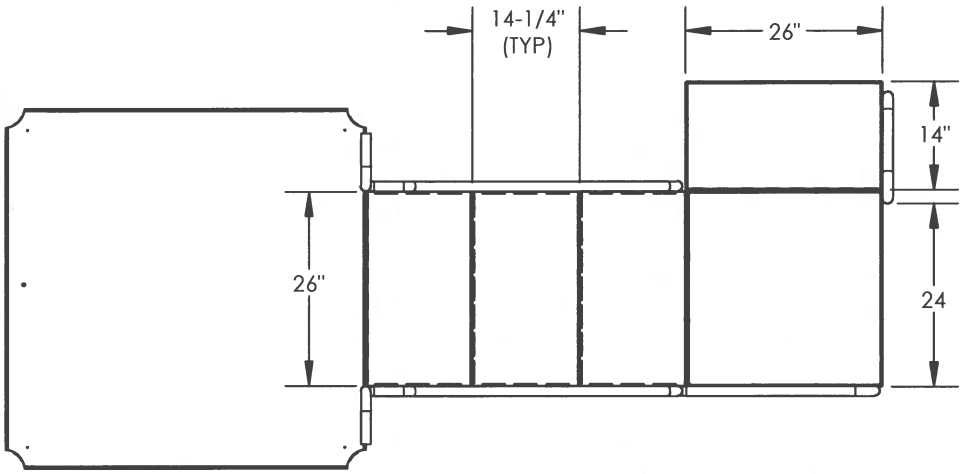
Accessibility Chart

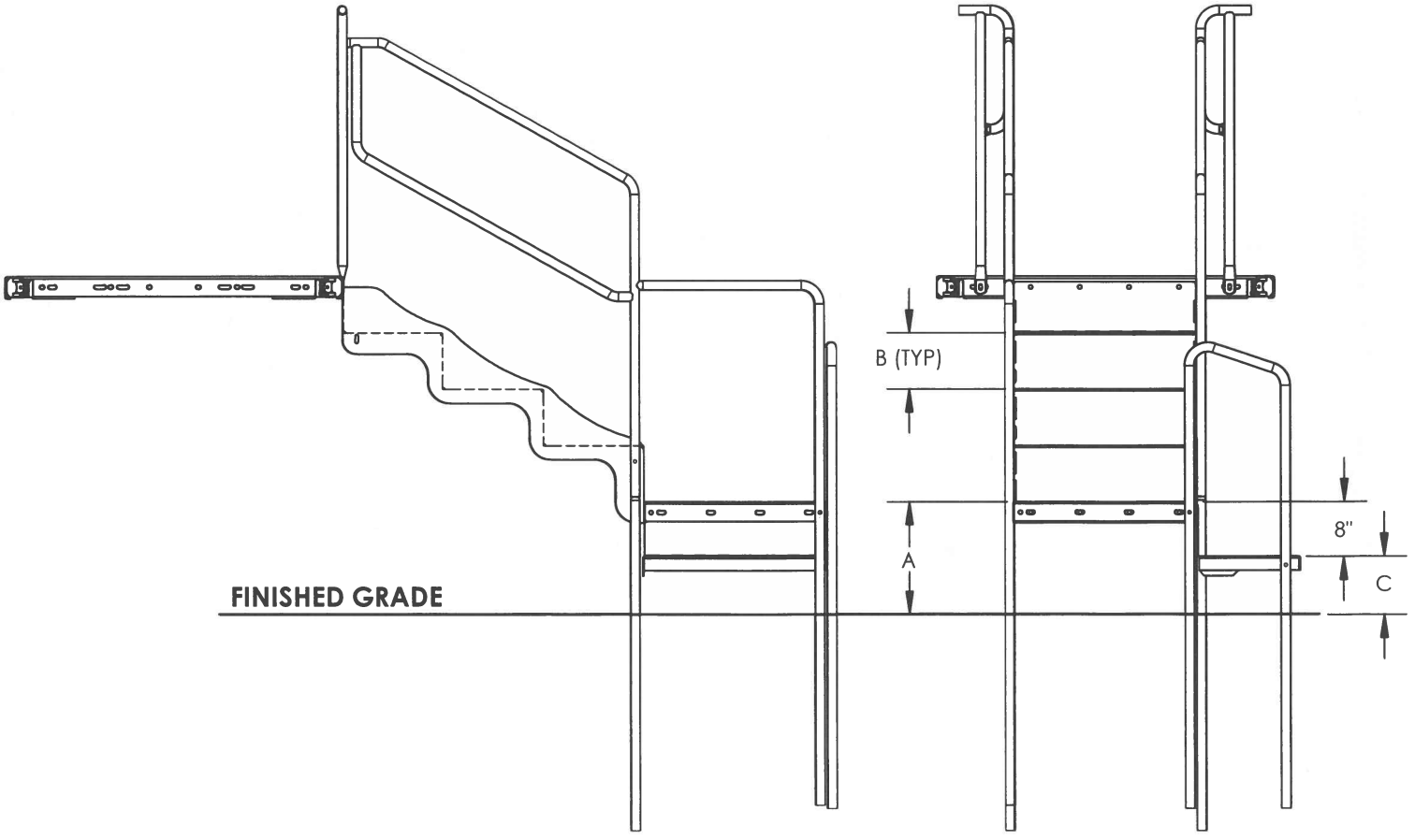
Drawing Name:	Will Rogers Playground 2.play
Project Number:	R0036_45573415926

Age Group: 2-12			
Elevated Play Activities Total:	5		
Elevated Play Activities Accessible By Transfer:	5	Req'd:	3
Elevated Play Activities Accessible By Ramp:	0	Req'd:	0
Ground Level Activity Type:	3	Req'd:	2
Ground Level Quantity:	3	Req'd:	2

Description	Elevation	Access	Type of Play	Qty
5' SIDE-BY-SIDE SLIDE W/CANOPY (3' DECK)	Elevated	Transfer	SLIDE	1
CANYON CLIMBER (3' & 5' DECK)	Elevated	Transfer	CLIMBER	1
PLANET PANEL	Elevated	Transfer	MANIPULATIVE_EQUIP	1
POD HOPPER (5' DECK)	Elevated	Transfer	CLIMBER	1
TOT ROCK CLIMBER (3' DECK)	Elevated	Transfer	CLIMBER	1
BELL, POST MOUNT	Ground	Ground	SOUND_EQUIP	1
JUMP PANEL (5' DECK)	Ground	Ground	IMAGINATION_PANEL	1
STEERING WHEEL (POST MOUNT)	Ground	Ground	MANIPULATIVE_EQUIP	1

MIRACLE RECREATION TRANSFER POINTS





MIRACLE RECREATION TRANSFER POINTS

MODEL#	A	B	C
714-851-39	14-1/4"	7-1/4"	6-1/4"
714-851-359	14-1/4"	7-1/4"	6-1/4"
714-851-49	16"	8"	8"
714-851-459	16"	8"	8"
714-851-59	13-1/2"	7-3/4"	5-1/2"
714-851-69	13-1/2"	7-11/16"	5-1/2"
718-851-39	14-1/4"	7-1/4"	6-1/4"
718-851-359	14-1/4"	7-1/4"	6-1/4"
718-851-49	16"	8"	8"
718-851-459	16"	8"	8"
718-851-59	13-1/2"	7-3/4"	5-1/2"
718-851-69	13-1/2"	7-11/16"	5-1/2"

Tots' Choice®

Versalok® Fastening System

IMPORTANT! Prior to installation of any components, refer to Playsystem Installation Guidelines and Tips in the *Install 101* section of your manual. This section will provide important tips pertaining to site preparation, footings, system stabilization, and other necessary information vital to the success of your installation.

Models included in this installation guide:

MODEL	DESCRIPTION	PAGE
718-500	Versalok® Fastening System	1

Posts and additional components not included in this assembly.



718-500

Versalok® Fastening System

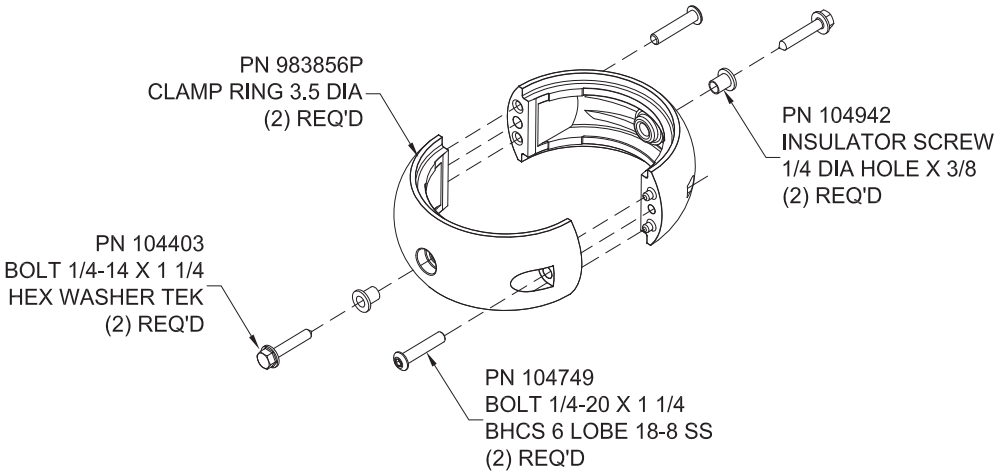
Note:

- Deck, deck post, handrails and panel are not included.
- Illustration demonstrates completed assembly with common components.
- Versalok clamps mount to posts allowing connection of decks, enclosures and other components.
- Support casting designs and hardware vary by component.

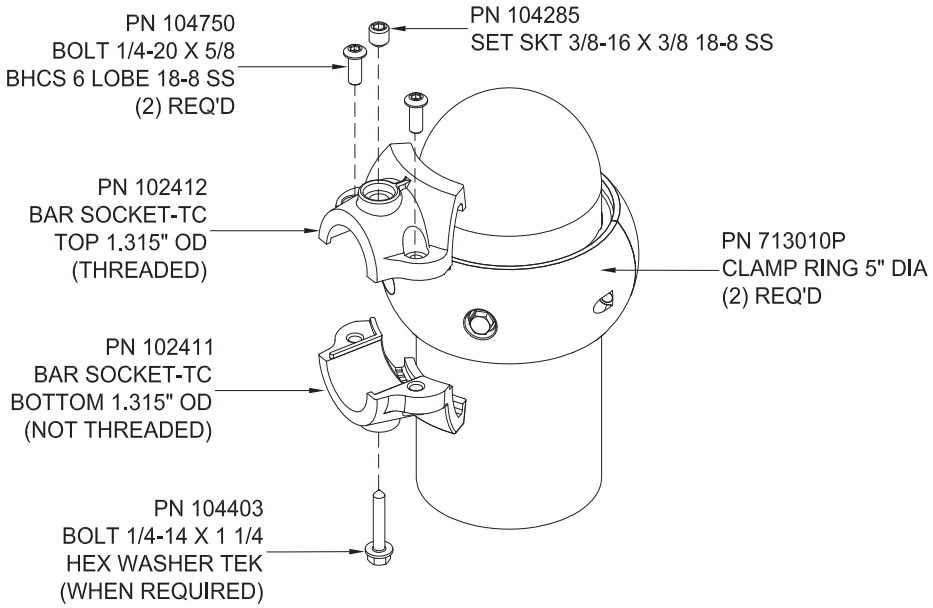
Tots' Choice®

Versalok® Fastening System

A. 3.5" dia Clamp Ring Assembly



B. 2-PC Bar Socket w/1-5/16" dia Hole (for climber rails, etc.)

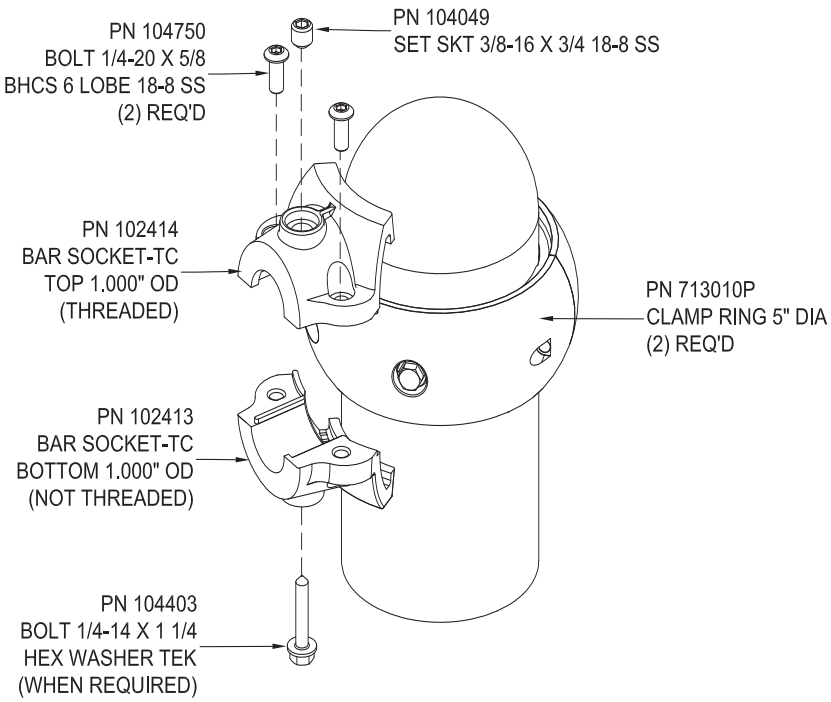


Note:

- Top and bottom halves of 2-pc. bar sockets can be reversed to ease installation.
- For bar socket only: Use self-drilling screw (PN 104403) only as required on models specified in installation instructions. This should not be used on any other model.

Tots' Choice®
Versalok® Fastening System

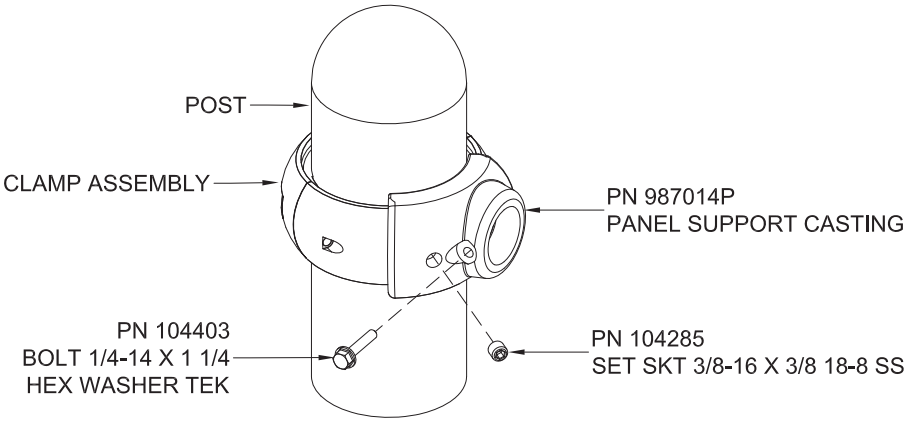
C. 2-PC Bar Socket w/1" dia Hole



Note:

- Top and bottom halves of 2-pc. bar sockets can be reversed to ease installation.
- For bar socket only: Use self-drilling screw (PN 104403) only as required on models specified in installation instructions. This should not be used on any other model.

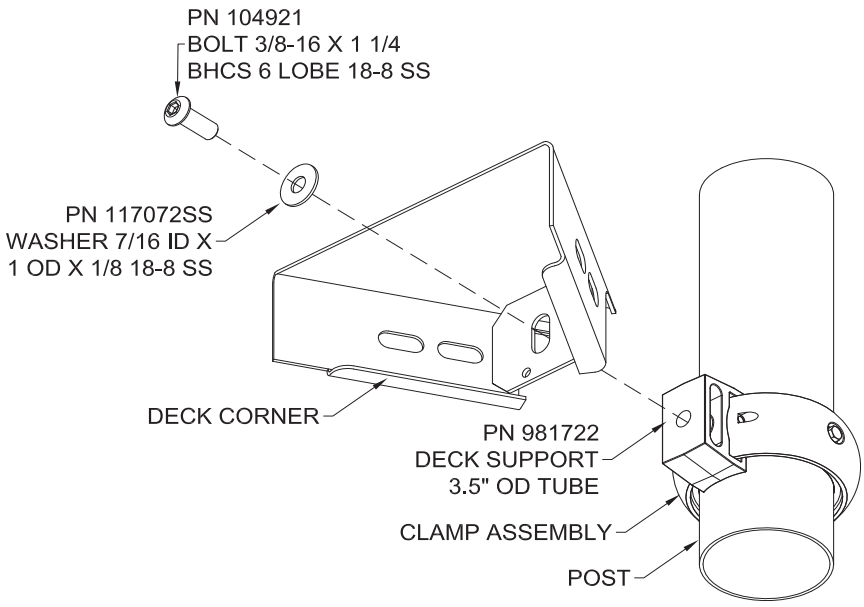
D. PANEL SUPPORT CASTING



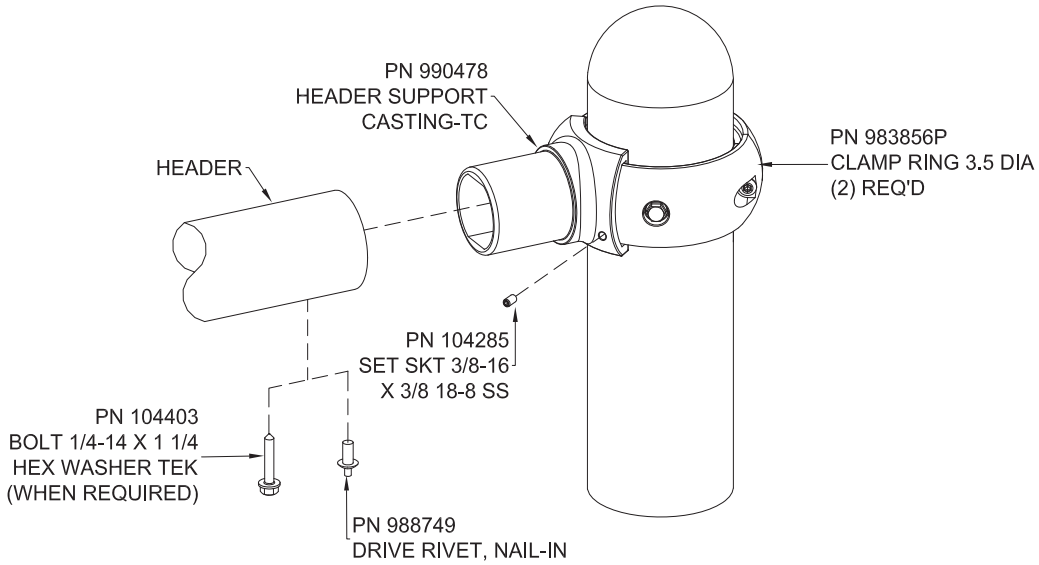
Tots' Choice®

Versalok® Fastening System

E. Deck Support Casting



F. TCX Header Support Casting



Note:

- Refer to specific component installation instruction.

Tots' Choice®
Versalok® Fastening System

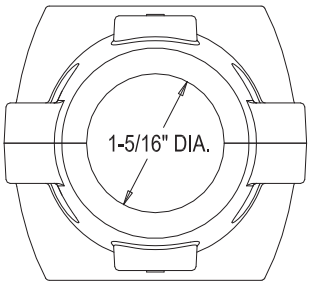
STEP 1 MATCH CLAMPS WITH POSTS & COMPONENTS

1a. Determine use(s) and location of each clamp ring based on Construction Drawings and/or installation instructions of playsystem's components. It is the installer's choice whether to assemble clamps to posts *before* or *after* setting posts into footings.

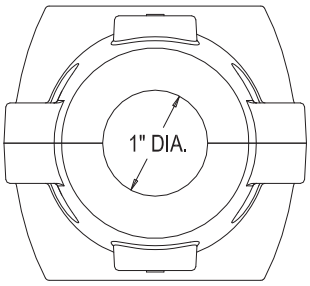
Note:

- Most measurements are made from finished grade, which accounts for post length below subgrade (in concrete, beneath compacted soil level) and 12" of loose-fill surfacing.
- Do not permanently affix clamps to posts with self-drilling screws, or pour concrete for footings, until all components in playsystem are installed per instructions and braced in position level and plumb.
- The Versalok Fastening System contains two sizes of bar sockets to accommodate components of two sizes: 1-5/16" O.D. tube and 1" O.D. tube. Take care to match correct size of bar socket with intended connecting component before affixing clamp rings to posts.

PN 102411, PN 102412:
2-PC. BAR SOCKET FOR
1.315" TUBE



PN 102413, PN 102414:
2-PC. BAR SOCKET FOR
1" TUBE



STEP 2 MARK CLAMP POSITIONS ON POSTS

2a. Determine clamp heights on posts per component instructions. Mark positions on posts with pencil or washable pen or marker.

2b. If assembly contains deck support castings, panel support castings or TCX header supports, slide each onto a clamp ring half *before* mating with opposite half around post. Otherwise, clamp ring will require disassembly during installation to add support castings.

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Versalok® Fastening System

STEP 3 FASTEN CLAMP RING HALVES AROUND POSTS

3a. Refer to first illustration on *page 2*. Connect clamp ring halves to each other around posts at marked heights with 1/4" x 1-1/4" BHCS bolts (PN 104749) at each end. Orient clamp ring assembly so that recessed center holes (for securing clamp ring halves to post) will not be blocked when components are attached to support castings.

Note:

- For aesthetic purpose, it is advisable to assemble clamps around posts with text on surface oriented upright and legible, though clamp will function properly regardless.

STEP 4 COMPONENTS TO OR IN SUPPORT CASTINGS

4a. Seat component rail, rungs, edges, etc. in bar sockets or panel supports or against deck supports. Adjust clamp rings on posts as needed (maintaining heights specified in component instructions) to achieve plumb and level posts and components.

4b. Refer to illustrations on *pages 3 and 4* for support casting hardware requirements.

4c. Tighten hardware affixing components to support castings, castings to clamps and clamp rings around posts.

FINAL STEP SECURE CLAMPS TO POSTS

Permanently affix clamp rings to deck posts using self-drilling screws and screw insulators when all components in system have been installed, plumbed, leveled and braced in position for pouring of concrete. Proceed with ***Final Assembly*** *installation* located behind *Installations 101* in Installation Manual.

Installation Guide

Mar. 15, 1999 Rev. C

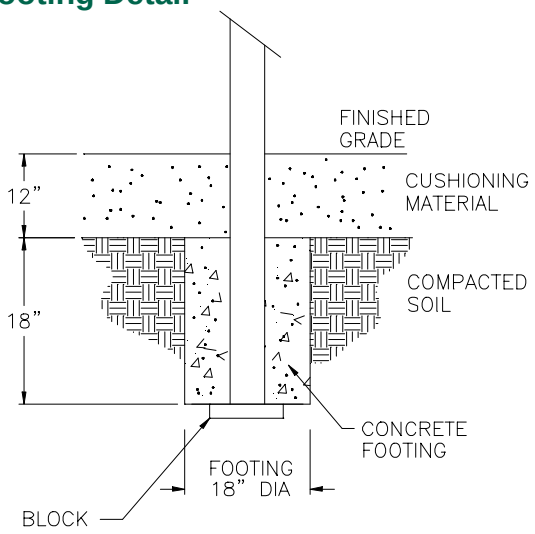
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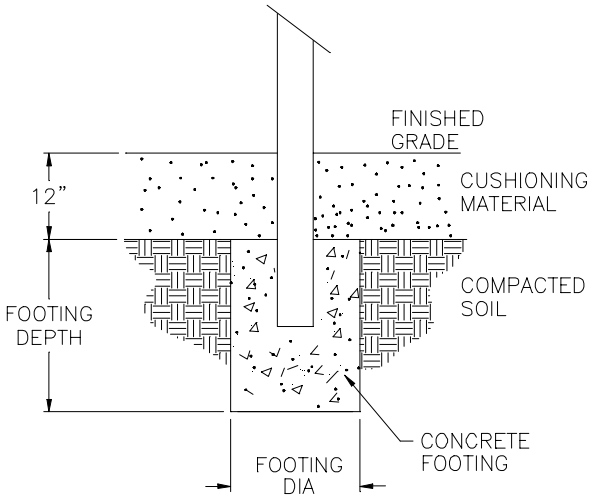
Footing Details - Deck Posts & Components, Chain/Rope & Tire, Cargo

Deck Posts and Components | Chain / Rope & Tire | Cargo

Tots' Choice Deck Post Footing Detail



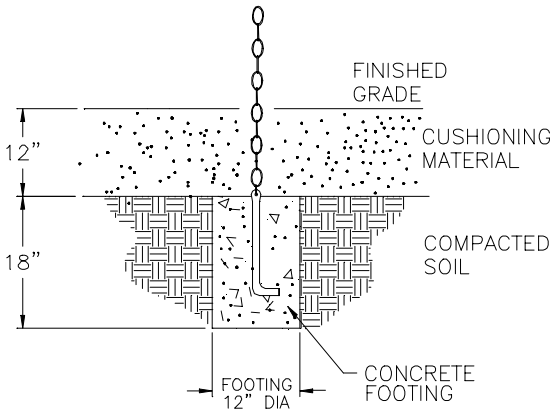
Component Footing Detail



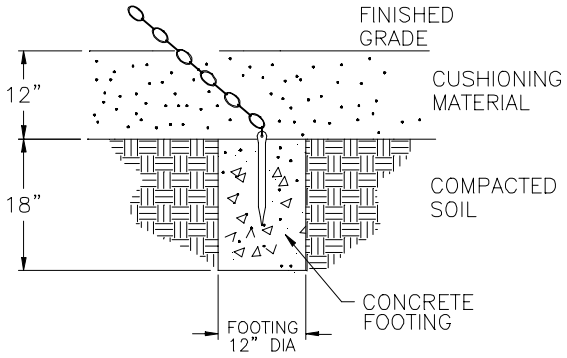
Note: Block at bottom of Footing hole is optional, and recommended for installation of deck posts. If used, compensate by digging deeper Footing(s).

Deck Posts & Components | **Chain / Rope and Tire** | Cargo

Chain Ladder & Climbing Rope Footing Detail



Tire Climber Footing Detail



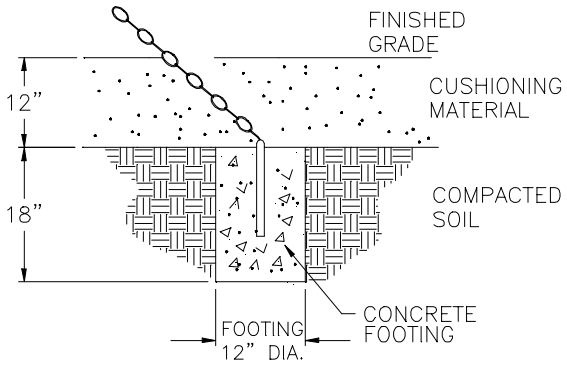
718500F

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Footing Details - Deck Posts & Components, Chain/Rope & Tire, Cargo

Cargo Net & Cargo Climber Footing Detail



Installation Guide

MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice® - Mira-Therm II
Decks

IMPORTANT! Prior to installation of any components, refer to Playsystem Installation Guidelines and Tips in the *Install 101* section of your manual. This section will provide important tips pertaining to site preparation, footings, system stabilization, and other necessary information vital to the success of your installation.

Models included in this installation guide:

MODEL #	DESCRIPTION	PAGE #
718-501-9	Triangle Deck	2
718-502-9	Square Deck	2
718-503-9	Half Hexagon Deck	3
718-504-9	Half Hexagon Deck - Open	3

Deck Posts NOT included in these assemblies

Please refer to Construction Drawings for the model particular to your system.

TOOLS AND EQUIPMENT REQUIRED

Also see 'Suggested Tools & Equipment' (Doc. # D70052) in "Installations 101"

1. Concrete for footings, wheelbarrow or mixer, 5 gallon bucket, water supply
2. Digging equipment for footings (spade shovel, post hole digger, auger)
3. Bracing materials (2x4s, wood pieces, sawhorses, etc.)
4. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
5. Drill, bits, extension cords, power supply
6. Tape measure and level
7. Step ladder
8. Adult installers - 2 minimum

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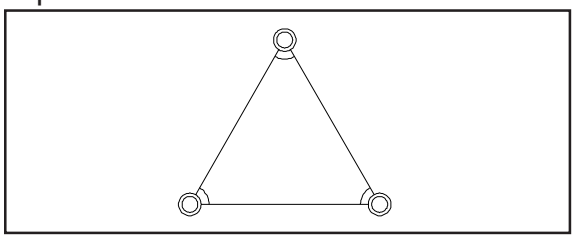
Tots' Choice® - Mira-Therm II Decks

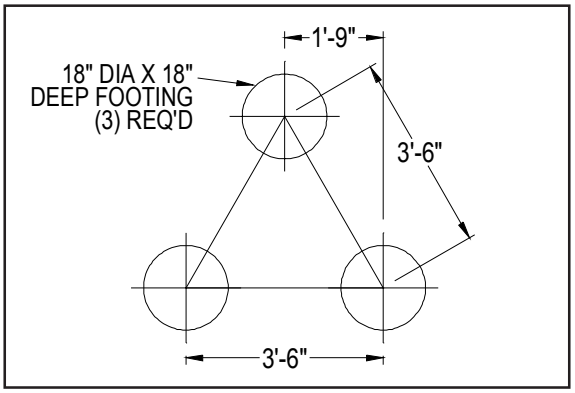
718-501-9

Triangle Deck (Tri-Deck)

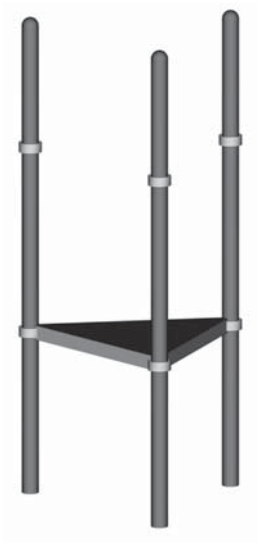
Model # 718-501-9 requires three (3) Posts.

Top View





Footing Layout

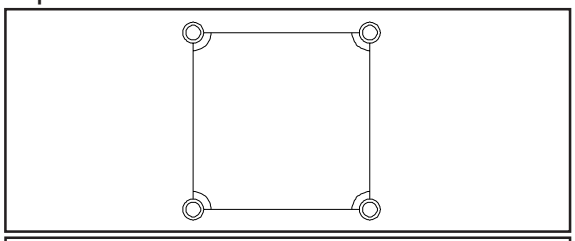


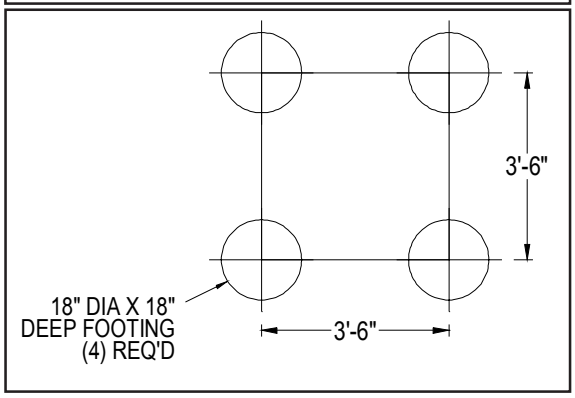
718-502-9

Square Deck

Model # 718-502-9 requires four (4) Posts.

Top View





Footing Layout



718-501-9, 718-502-9, 718-503-9, 718-504-9

MIRACLE RECREATION EQUIPMENT COMPANY

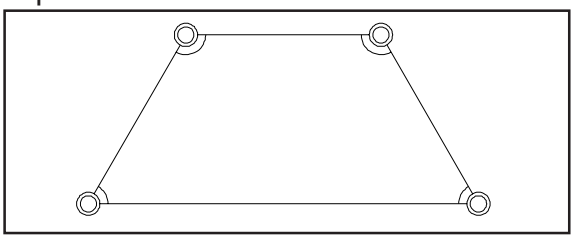
Tots' Choice® - Mira-Therm II Decks

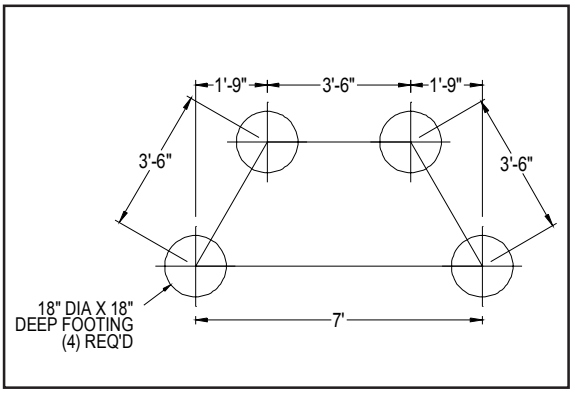
718-503-9

Half Hexagon Deck (1/2 Hex)

Model # 718-503-9 requires four (4) Posts if used with Flippo components, or six (6) Posts and two (2) Decks to form a complete Hex Deck.

Top View





Footing Layout

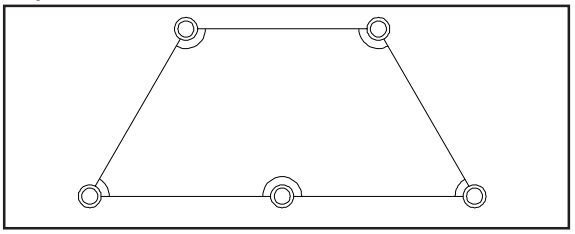


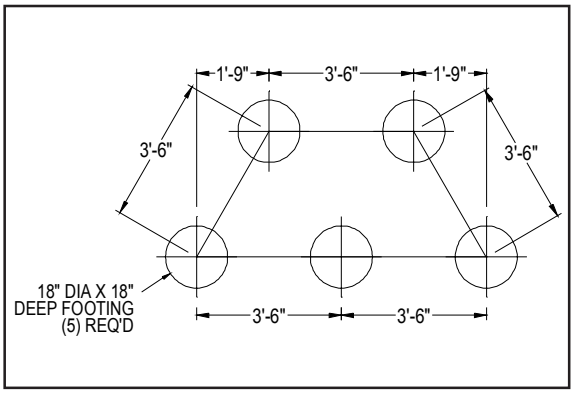
718-504-9

Half Hexagon Deck - Open (1/2 Hex Open)

Model # 718-504-9 requires five (5) Posts.

Top View





Footing Layout



718-501-9, 718-502-9, 718-503-9, 718-504-9

Tots' Choice® - Mira-Therm II

Decks

Each Deck system requires a number of Posts or Arches, available in various heights and configurations, to facilitate different Deck and component heights. Refer to *Top Views, Footing Layouts,* and *Construction Drawings* specifically for this installation to determine type and location of each Deck Post or Arch.

STEEL OR ALUMINUM DECK POSTS

Steel Model #	Aluminum Model #	Description	For use with
718-551	718-551-2	100" Deck Post	Decks - 2'-6" or lower
718-552	718-552-2	130" Deck Post	Decks - 3' to 5'
718-553	718-553-2	148" Deck Post	Decks - 5'-6" to 6'
718-555	718-555-2	70" Deck Post	Freestanding Panels
718-572	718-572-2	138" Deck Post	Decks - 3' or lower (with Roof)
718-573	718-573-2	162" Deck Post	Decks - 3'-6" to 5' (with Roof)
718-574	718-574-2	180" Deck Post	Decks - 5'-6" to 6' (with Roof)
718-583	718-583-2	151" Arch	Decks - 3' or lower
718-585	718-585-2	175" Arch	Decks - 3'-6" to 5'
718-586	718-586-2	193" Arch	Decks - 5'-6" to 6'

STEP 1 DIG FOOTINGS

Dig Footings per *Top Views* and *Footing Layouts* or Construction Drawings. Refer to ***Footing Details*** *installation* located behind *Installations 101* in Installation Manual.

Install Tip: Determine thickness of blocking material (such as patio blocks.) Dig Footings that amount deeper and place blocks beneath Deck Posts in Footings. This gives playsystem additional stability and helps ensure it remains level and plumb until concrete is fully cured.

Note: Do not pour concrete for footings until components illustrated in this installation guide have been installed per instructions and braced in position level and plumb.

STEP 2 SET POSTS INTO FOOTINGS

Set Posts into Footings and verify that tops of plumb Posts are level on same (or correct) plane.

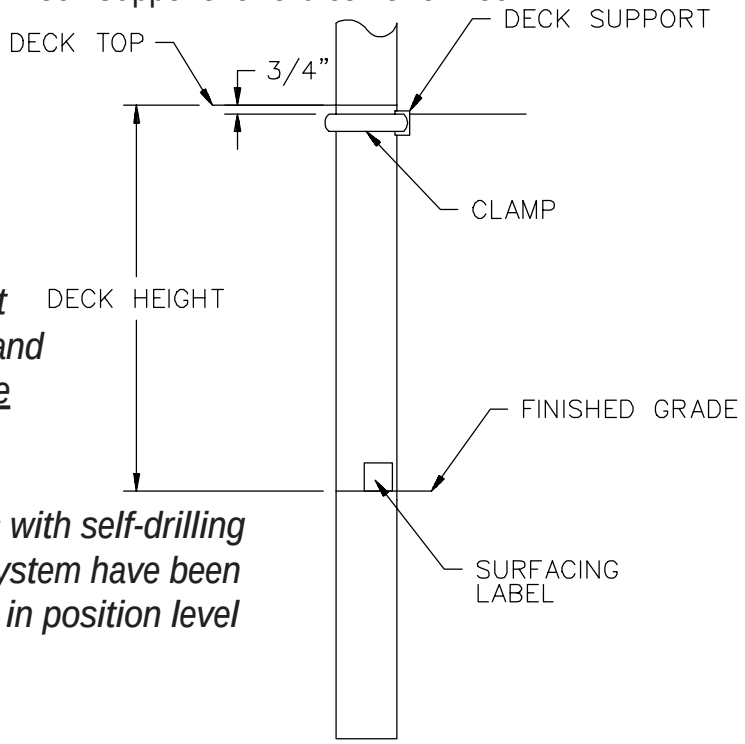
Note: One Arch functions as two Deck Posts. Legs of Arch may vary slightly in length. Plumb each Arch leg so that Arch Assembly stands plumb at desired height, and adjust Footing depth or block up short leg as needed.

STEP 3 ASSEMBLE DECK SUPPORTS AND BAR SOCKETS (IF APPLICABLE) TO CLAMP RINGS

Refer to *Versalok Fastening System installation* located behind *Installations 101* in Installation Manual.

Place Deck Supports (and Bar Sockets, if applicable) on each Clamp Ring and loosely assemble Clamp Ring halves around Posts so that tops of Clamps are approximately 3/4" below intended Deck height. Orient Deck Supports toward center of Deck.

Apply a "Top of Surfacing" label to each Deck Post 12" above compacted soil.



Note: If a Post must "share duty" by supporting an adjacent Deck system at equal height or an adjacent component, slide all Deck Supports and Bar Sockets onto Clamp Rings before assembling to Posts.

Note: Do not secure Clamps to Posts with self-drilling screws until all components in playsystem have been installed per instructions and braced in position level and plumb.

STEP 4 DRILL EXCESS PVC

Use drill to ream excess PVC from Deck Support mounting holes in Deck corners.

Tots' Choice® - Mira-Therm II

Decks

STEP 5 ATTACH DECK TO POSTS

Rest Deck on Clamps, and plumb and brace Deck Posts in position. Readjust position of Clamps on Posts as needed to ensure that Deck is level at desired height.

Align Deck corner mounting holes with Deck Supports and attach each with 3/8" x 1-1/4" button head bolt (P/N 104921) and 7/16" I.D. x 1" O.D. flat washer (P/N 117072SS). Do not embed washer in deck coating by overtightening bolt.

Install Tip: Employ a jack stand or other blocking material to support Deck system at proper height until other components are attached, to prevent leaning or twisting of Deck assemblies and to temporarily lend stability.

STEP 6 AFFIX DECK SECTIONS TOGETHER; IF APPLICABLE

If installing Deck systems with sections sharing a long side at same height (without a middle Post,) use drill to ream excess deck coating from four (4) mating holes in long side edge angle on both Deck sections. Secure Deck sections together with 3/8" x 1-1/8" button head bolts (P/N 104930), 3/8" flat washers (P/N 117005) on each side, and 3/8" Nylok nut
(P/N 110030).

Deck sections which share a 3'-6" side at same or varying heights attach to common Posts per previous instructions. Deck-to-Deck fastening on a common 3'-6" side is not necessary.

FINAL STEP

Square, plumb and level Deck Assembly. Tighten Clamps on Posts, and assemble remaining components to Deck system. When complete, proceed with ***Final Assembly*** *installation* located behind *Installations 101* in Installation Manual.

Installation Guide

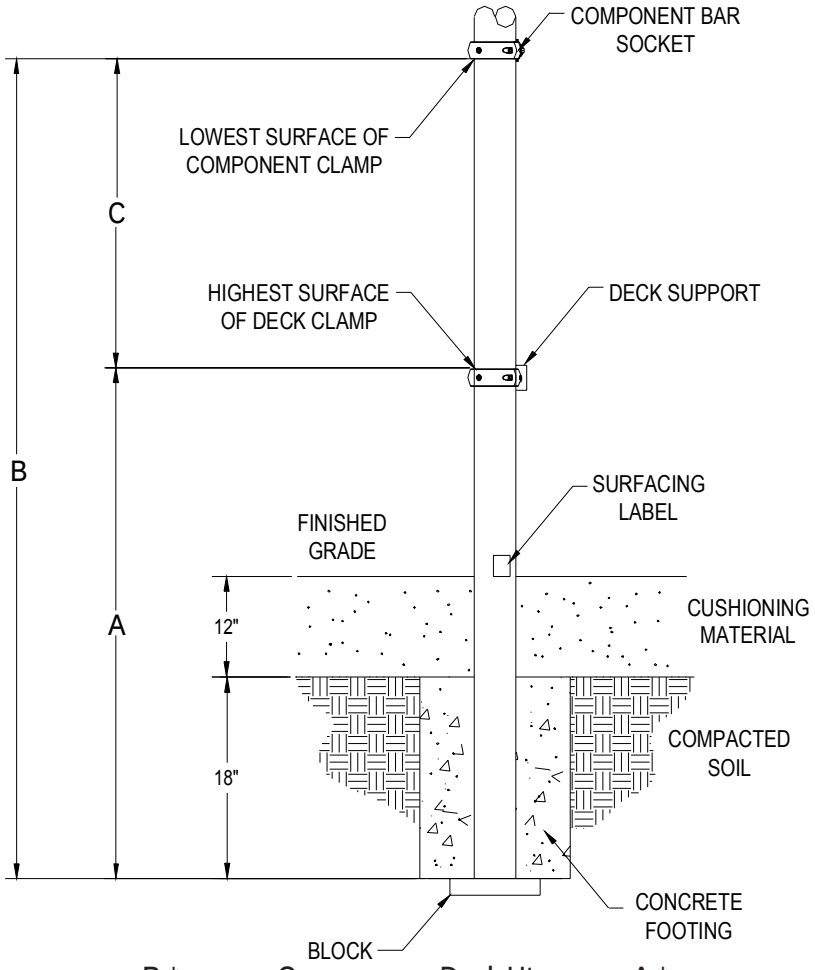
MIRACLE RECREATION EQUIPMENT COMPANY

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Pre-Installation Preparation of Clamps to Deck Posts

This procedure is an optional step for playsystem installations.

Clamp Locations on Posts by Deck Height



Deck Ht.	A *	B *	C	Deck Ht.	A *	B *	C
0'-6"	35-1/4"	72-3/4"	37-1/2"	4'-6"	83-1/4"	120-3/4"	37-1/2"
1'-0"	41-1/4"	78-3/4"	37-1/2"	5'-0"	89-1/4"	126-3/4"	37-1/2"
1'-6"	47-1/4"	84-3/4"	37-1/2"	5'-6"	95-1/4"	132-3/4"	37-1/2"
2'-0"	53-1/4"	90-3/4"	37-1/2"	6'-0"	101-1/4"	138-3/4"	37-1/2"
2'-6"	59-1/4"	96-3/4"	37-1/2"	6'-6"	107-1/4"	144-3/4"	37-1/2"
3'-0"	65-1/4"	102-3/4"	37-1/2"	7'-0"	113-1/4"	150-3/4"	37-1/2"
3'-6"	71-1/4"	108-3/4"	37-1/2"	7'-6"	119-1/4"	156-3/4"	37-1/2"
4'-0"	77-1/4"	114-3/4"	37-1/2"	8'-0"	125-1/4"	162-3/4"	37-1/2"

* Dimensions measured from bottom end of Deck Post

Note: The values in this chart assume 18" deep footing plus 12" protective surfacing. If planned drainage system or other factors affect height of finished grade, adjust chart values accordingly.

Special thanks to the crew of Ozark Mountain Installations, Inc. in Monett, Missouri, for recommending this procedure.

Tots' Choice®

Pre-Installation Preparation of Clamps to Deck Posts

Many installers prefer to assemble Deck-supporting Clamps and corresponding Component-supporting Clamps around Deck Posts at correct heights all at once as part of their "prep work," in order to save time and effort during installation of other playsystem components.

Miracle's *Installation Guides* provide dimensions and instructions for mounting each model and its parts individually and consecutively, regardless of whether this prep work is completed. It is at the installers' discretion whether to reference this procedure.

The instructions, diagram and chart herein refer to locations for marking and connecting Clamps around Deck Posts only (i.e. Posts without Decks do not apply.) Refer to *Versalok Fastening System* installation instructions in this *Manual* for assembly details.

Note: Do not use self-drilling screws to secure Clamps to Posts until all components in system have been installed per instructions, and are plumb, level and braced in position. This will allow Clamps to be shifted as needed during installation of remaining components.

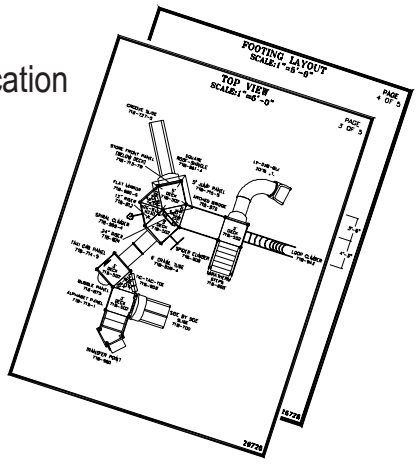
It is important to note that until Clamps are permanently secured, Deck systems and other components are UNSAFE TO STAND ON!

Note: This procedure is valid only if footing depths are precise and consistent. Continue only if a transit or other device will be used to verify accuracy.

If Blocks will be placed beneath Deck Posts at bottom of footing holes as recommended, compensate for extra height by digging holes deeper. Refer to *Footing Details.*

STEP 1

Remove wrapping from Deck Posts, verifying that Part Identification Labels match Parts Lists in this *Installation Manual.*



STEP 2

Study enclosed *Top View* and *Footing Layout,* located behind "Construction Drawings" tab.

Locate all Deck Posts in playsystem, and determine which size Bar Socket(s) should be attached to each Deck Post.

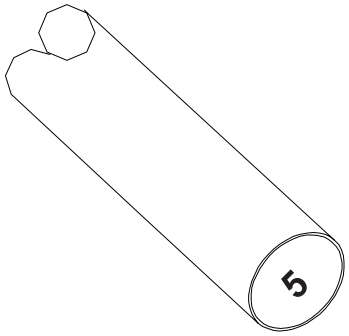
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Pre-Installation Preparation of Clamps to Deck Posts

STEP 3

Plan installation sequence of Decks and other system components. Assign each Deck Post a number. Write numbers by Posts on *Footing Layout* or *Top View* for later reference, then use a permanent marker to write identical numbers inside bottom of corresponding Deck Posts.



STEP 4

Place Deck Posts on sawhorses or other sturdy, non-abrasive surface.

Note intended usage and location of each Deck Post (for which Deck heights), and refer to chart on *Page 1.* Measure from bottom of each Deck Post and mark location of highest surface of Deck-supporting Clamp (A), *not Deck Support.*

STEP 5

Refer to *Versalok Fastening System Installation Guide.* Slide Deck Support(s) onto Deck-supporting Clamp halves, and assemble both halves of Clamp Rings around Deck Posts tightly, aligning top surface of Clamp Ring *(not Deck Support)* with mark.

STEP 6

Measure and mark Deck Post at lowest surface of Component-supporting Clamp (B).

STEP 7

Slide correct size(s) of Bar Socket(s) onto Component-supporting Clamp Ring halves, and assemble Rings around Deck Posts at marks. Verify that distance between A and B is (C) value in third column of chart.

FINAL STEP

Repeat procedure starting at *Step 4* until all Deck Posts are position-planned, numbered, and assembled with Clamp Rings and Deck Supports, when applicable.

Tots' Choice®

Steel Posts & Aluminum Posts - 3-1/2" O.D.

Steel Posts - 3-1/2" O.D.

MODEL	DESCRIPTION	USES	PART NUMBER
718-549-1	82" Maze Post	Sensory Panel	925343*
718-549-3	106" Deck Post.	3' Decks	995232*
718-549-4	118" Deck Post	4' Decks	995233*
718-550-3	200" Deck Post (PlayCover)	3' Deck & Less	997245*
718-550-5	216" Deck Post (PlayCover)	3'-6" to 5' Decks	997251*
718-550-6	232" Deck Post (PlayCover)	5'-6" to 6'-6" Decks	997257*
718-550-8	248" Deck Post (PlayCover)	7' to 8' Decks	997227*
718-551	100" Deck Post	2'-6" Decks & less	981925*
718-552	130" Deck Post	3' to 5' Decks	981926*
718-552L	130" Deck Post w/CPSIA Label	3' to 5' Decks	996062*
718-553	148" Deck Post	5'-6" to 6'-6" Decks	981927*
718-554	166" Deck Post	7'-0" to 8'-0" Decks	990656*
718-555	70" Post for Play Panels	Play Panels	982294*
718-571	100" Deck Post (for Roof)	Ground Level	114145*
718-572	138" Deck Post (for Roof)	3' Decks & less	981928*
718-573	162" Deck Post (for Roof)	3'-6" to 5' Decks	981930*
718-574	180" Deck Post (for Roof)	5'-6" to 6'-6" Decks	981929*
718-575	190" Deck Post (for Roof)	6'6" Deck	114965*
718-576	198" Deck Post (for Roof)	7'-0" to 8'-0" Decks	114957*

Note:

- *An (*) by a part number indicates: Color Code Required.*
- *Top views and footings are not shown, refer to Installation Guides and/or Construction Drawing for Footing Layouts.*
- *Miracle Recreation attaches a CPSIA label to transfer points and 2' stairs. If your composite structure does not have one of these components, there will be ONE (1) post with the label attached. This label will be attached so that when installed it will be approximately 6" above finished grade. Ensure this label is readable and not covered by clamps, hardware or other equipment. If you do NOT have a component with label, contact your Miracle sales representative.*

718-549-1, 718-549-3, 718-549-4, 718-549-32, 718-549-42, 718-550-3, 718-550-5, 718-550-6, 718-550-8, 718-551, 718-551-2, 718-552, 718-552L, 718-552-2, 718-552-2L, 718-553, 718-553-2, 718-554, 718-555, 718-555-2, 718-571, 718-572, 718-572-2, 718-573, 718-573-2, 718-574, 718-574-2, 718-575, 718-576

Tots' Choice®

Steel Posts & Aluminum Posts - 3-1/2" O.D.

Aluminum Posts - 3-1/2" O.D.

MODEL	DESCRIPTION	USES	PART NUMBER
718-549-32	106" Deck Post	3' Decks	995234*
71-549-42	118" Deck Post	4' Decks	995235*
718-551-2	100" Deck Post	2'-6" Decks & less	989070*
718-552-2	130" Deck Post	3' to 5' Decks	989071*
718-552-2L	130" Deck Post w/CPSIA Label	3' to 5' Decks	996066*
718-553-2	148" Deck Post	5'-6" to 6'-6" Decks	989073*
718-555-2	70" Post for Play Panels	Play Panels	989069*
718-572-2	138" Deck Post (for Roof)	3' Decks & less	989072*
718-573-2	162" Deck Post (for Roof)	3'-6" to 5' Decks	989074*
718-574-2	180" Deck Post (for Roof)	5'-6" to 6'-6" Decks	989075*

STEP 1 DIG FOOTINGS

1a. Refer to ***Construction Drawings*** and component *Installation Guides* to determine footing locations and dimensions.

1b. Measure, stake and dig footing holes, at once, or as needed. Refer to ***Footing Details*** *installation* located behind *Installations 101* in Installation Manual.

STEP 2 PLACE POSTS IN FOOTINGS

2a. Place posts in footings; ensure posts stand level, plumb and at correct dimensions.

2b. Attach additional components (decks, bridges, barriers, climbers, etc.) per separate instructions. Plumb the posts, level surfaces and brace all in position.

Note: Do not pour concrete for footings until <u>all</u> components in system or freestanding assembly have been fully installed per instructions and braced in position, leveled and plumbed.

FINAL STEP

Proceed with ***Final Assembly*** *installation* located behind *Installations 101* in Installation Manual.

718-549-1, 718-549-3, 718-549-4, 718-549-32, 718-549-42, 718-550-3, 718-550-5, 718-550-6, 718-550-8, 718-551, 718-551-2, 718-552, 718-552L, 718-552-2, 718-552-2L, 718-553, 718-553-2, 718-554, 718-555, 718-555-2, 718-571, 718-572, 718-572-2, 718-573, 718-573-2, 718-574, 718-574-2, 718-575, 718-576

Installation Guide

Tots' Choice®

Pod Hopper

IMPORTANT! Prior to installation of any components, refer to Playsystem Installation Guidelines and Tips in the *Install 101* section of your manual. This section will provide important tips pertaining to site preparation, footings, system stabilization, and other necessary information vital to the success of your installation.

Models included in this installation guide:

MODEL #	DESCRIPTION	PAGE #
718-619-3	Pod Hopper to 3' Deck	2
718-619-4	Pod Hopper to 4' Deck	2
718-619-5	Pod Hopper to 5' Deck	3
718-619-6	Pod Hopper to 6'-6" Decks	3

NOTE: Deck System NOT included in these assemblies.

TOOLS AND EQUIPMENT REQUIRED

Also see 'Suggested Tools & Equipment' (Doc. # D70052) in "Installations 101"

1. Concrete for footings, wheelbarrow or mixer, 5 gallon bucket, water supply
2. Digging equipment for footings (spade shovel, post hole digger, auger)
3. Bracing materials (2x4s, concrete blocks, jack stands, sawhorses, etc.)
4. Tape measure and level
5. Drill motor, various bits, extension cords, power supply
6. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
7. Adult installers - 2 minimum

Pod Hopper

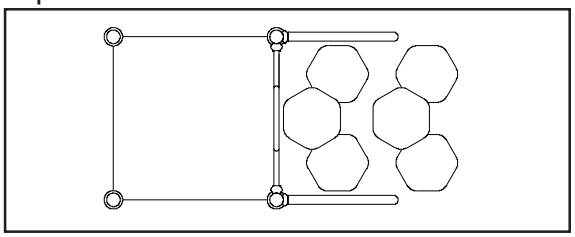
Tots' Choice®

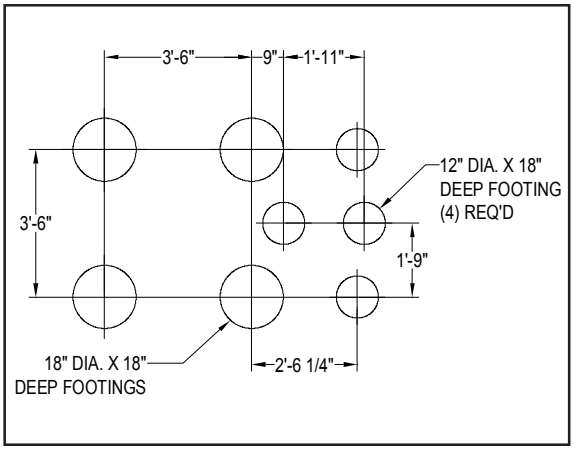
Pod Hopper

718-619-3

Pod Hopper to 3' Deck

Top View





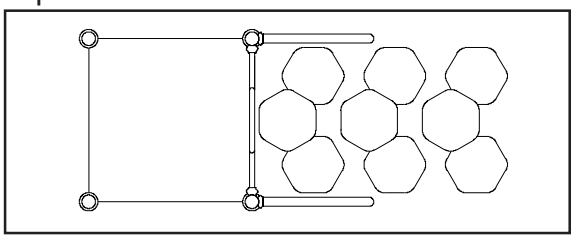
Footing Layout

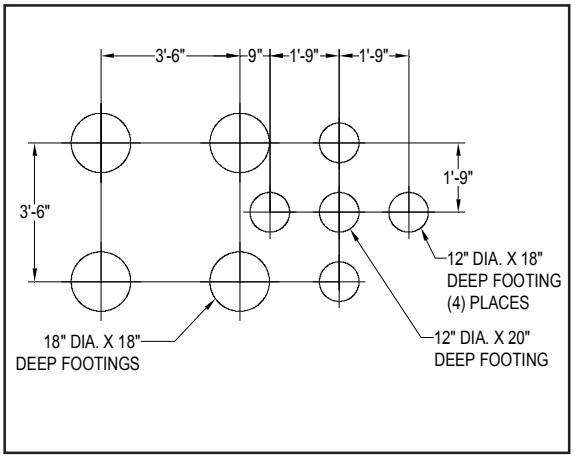


718-619-4

Pod Hopper to 4' Deck

Top View





Footing Layout



718-619-3, 718-619-4, 718-619-5, 718-619-6

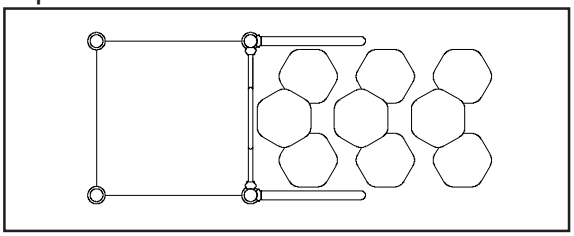
MIRACLE RECREATION EQUIPMENT COMPANY

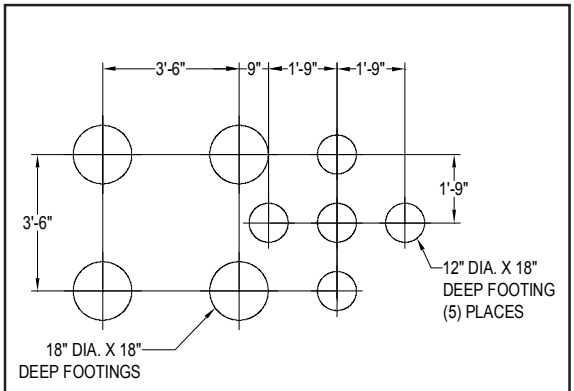
Tots' Choice® Pod Hopper

718-619-5

Pod Hopper to 5' Deck

Top View





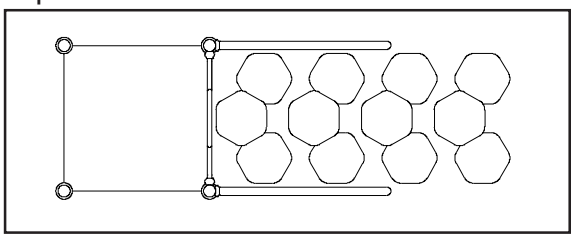
Footing Layout

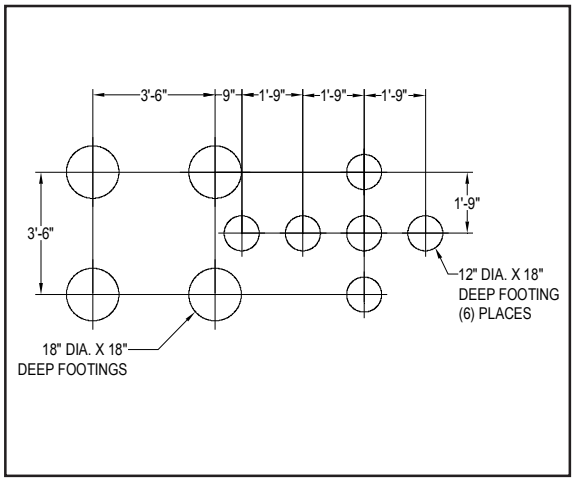


718-619-6

Pod Hopper to 6'-6" Deck

Top View





Footing Layout



718-619-3, 718-619-4, 718-619-5, 718-619-6

Pod Hopper

Tots' Choice®

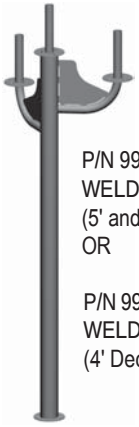
Pod Hopper

PARTS IDENTIFICATION

Individual parts not to scale

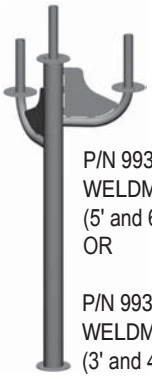


P/N 993902P
WELDMENT, 3 POD
(6'-6" Decks)



P/N 993901P
WELDMENT, 3 POD
(5' and 6'-6" Decks)
OR

P/N 994311P
WELDMENT, 3 POD
(4' Deck)



P/N 993896P
WELDMENT, 3 POD
(5' and 6'-6" Decks)
OR

P/N 993904P
WELDMENT, 3 POD
(3' and 4' Decks)



P/N 993895P
WELDMENT, 3 POD
(5' and 6'-6" Decks)
OR

P/N 993903P
WELDMENT, 3 POD
(3' and 4' Decks)



P/N 993908BK
TEMPLATE
(6'-6" Decks)



P/N 996041P
STEPPING POD



P/N 993907BK
TEMPLATE
(4' and 5' Decks)



P/N 993905BK
TEMPLATE
(3' Deck)



P/N 994418P
HAND SUPPORT
(6'-6" Decks)



P/N 994417P
HAND SUPPORT
(3', 4, and 5' Decks)



P/N 982092P
ENCLOSURE ASSY,
LOOP, TC

718-619-3, 718-619-4, 718-619-5, 718-619-6

MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice®

Pod Hopper

STEP 1 INSTALL DECK SYSTEM

Install Deck system per separate instructions. Plumb, level and brace in position.

Note: Do not pour concrete or permanently secure Clamps to Posts with self-drilling screws until components illustrated in this installation guide have been installed per instructions and braced in position level and plumb.

STEP 2 DIG FOOTINGS

Dig footings per *Footing Layouts* or Construction Drawings. Refer to ***Footing Details*** *installation* located directly behind *Versalok Fastening System installation* in the Installation Manual.

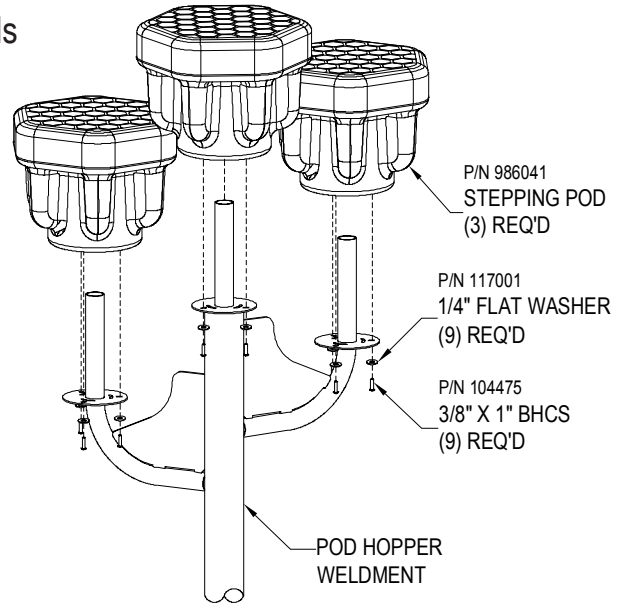
STEP 3 ATTACH BAR SOCKETS AND HEADER SUPPORTS TO CLAMPS; CLAMPS TO POSTS

Refer to *Versalok Fastening System installation* located behind *Installations 101* in Installation Manual. Loosely assemble one set of Bar Sockets and one Header Support to each set of Clamp Rings. Header Supports will be used for Hand Support attachment (Step 6) and Bar Sockets will be used for Enclosure attachment (Step 7).

Loosely assemble Clamp Rings around Posts so that bottom edge of each Clamp is 37-3/8" from top edge of Deck-supporting Clamp. Do not yet tighten hardware.

STEP 4 SECURE STEPPING PODS TO POST ASSEMBLIES

Using hardware shown, attach Stepping Pods to Post Assemblies. Tighten hardware.



Tots' Choice®

Pod Hopper

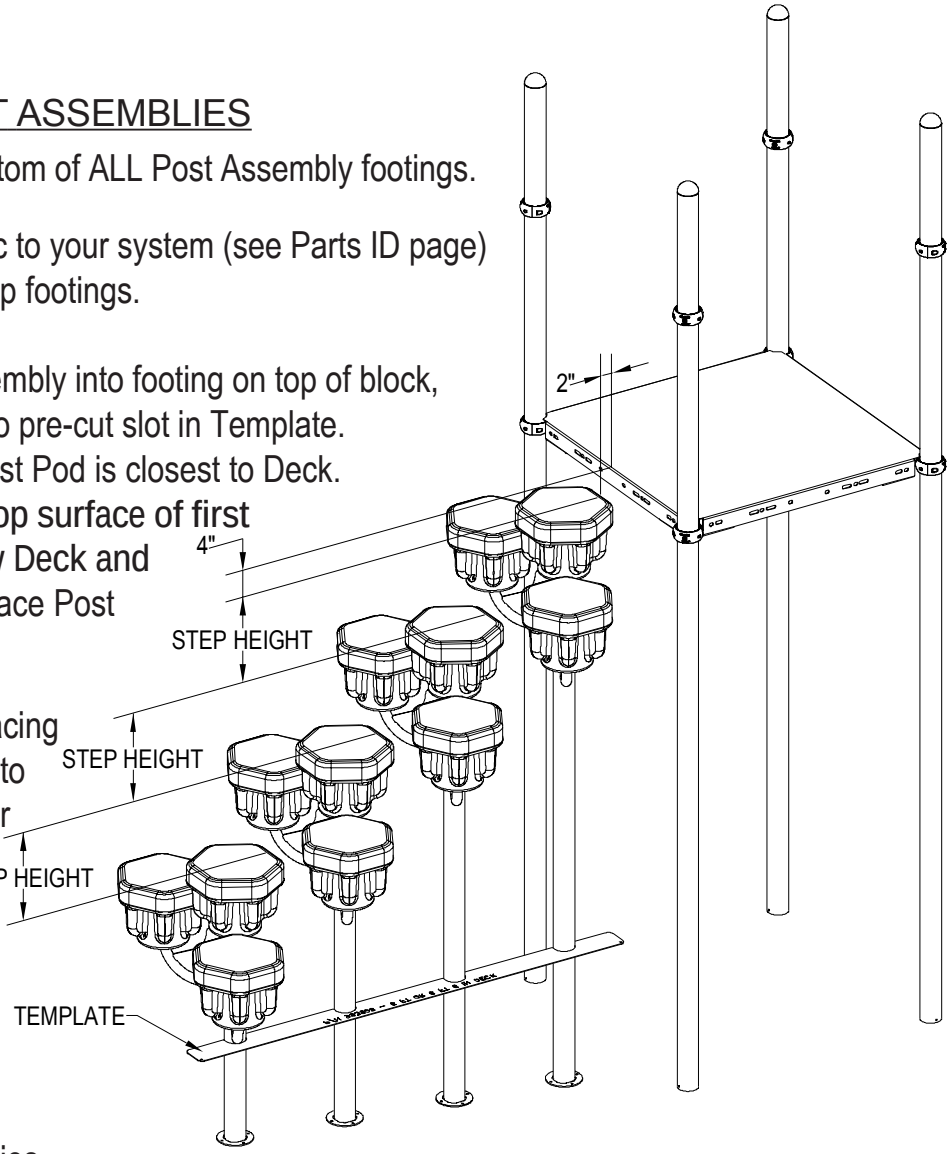
STEP 5 SET POST ASSEMBLIES

Place 2" block in the bottom of ALL Post Assembly footings.

Locate Template specific to your system (see Parts ID page) and place on ground atop footings.

Set TALLEST Post Assembly into footing on top of block, ensuring it matches up to pre-cut slot in Template. Orient Assembly so tallest Pod is closest to Deck. IMPORTANT NOTE: Top surface of first Pod MUST sit 4" below Deck and 2" from Deck Face. Brace Post Assembly.

Continue setting and bracing Post Assemblies, tallest to shortest, ensuring proper fit in Template slots. Adjust footing holes if necessary. Set Step Heights between top Pods according to chart below.



MODEL # 718-619-6 SHOWN

Ensure all Post Assemblies are braced plumb and level within footings and at proper heights prior to pouring concrete.

STEP HEIGHT BETWEEN TOP PODS:
Model # 718-619-3 (3' Deck) - 16"
Model # 718-619-4 (4' Deck) - 14"
Model # 718-619-5 (5' Deck) - 18"
Model # 718-619-6 (6'-6" Deck) - 18"

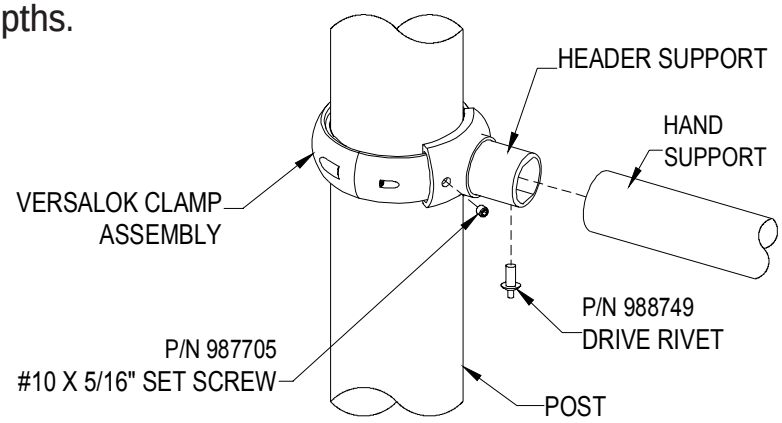
MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice®

Pod Hopper

STEP 6 ATTACH HAND SUPPORTS

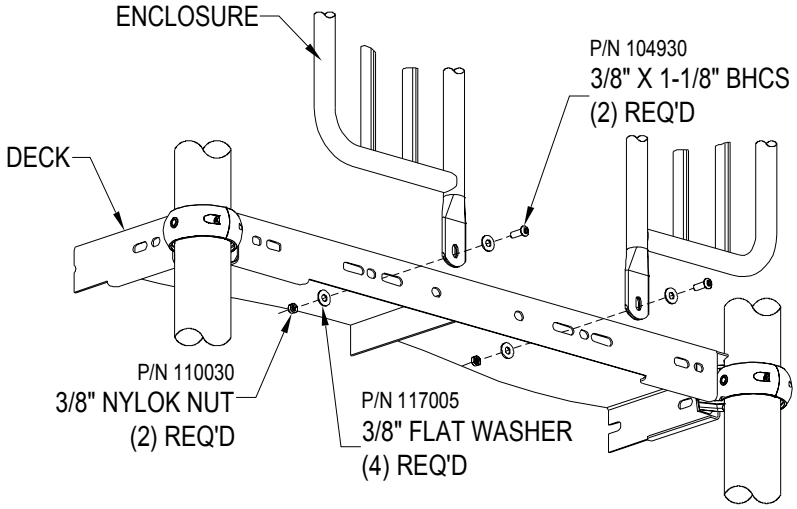
Refer to *Versalok Fastening System installation* located behind *Installations 101* in Installation Manual. Set bottom of Hand Supports in footings; slide tops into Header Support Castings on Clamps and attach as shown. Brace hand supports in position plumb and level. NOTE: It will be necessary to cut Hand Support bottoms for 3' and 4' Deck heights to fit footing depths.



STEP 7 AFFIX ENCLOSURE

Refer to *Versalok Fastening System installation* located behind *Installations 101* in Installation Manual. Position Enclosure with top rails seated in Bar Sockets. Align holes at bottom of plumb uprights with bolt holes in Deck. Use drill to ream excess PVC from only those holes in Deck edge.

Plumb and level Enclosure. Attach Enclosure to Deck as shown. Tighten Enclosure in Bar Sockets, Bar Sockets to Clamps, and Clamp Rings around Posts.



FINAL STEP

Pour concrete and allow to cure for 72 hours prior to allowing play. Tighten ALL hardware.

Proceed with *Final Assembly installation* located behind *Installations 101* in Installation Manual.

718-619-3, 718-619-4, 718-619-5, 718-619-6

Tots' Choice®

Side-by-Side Slide, Bump & Glide Slides and Ski Slide

IMPORTANT! Prior to installation of any components, refer to the "Owner/Operator Manual". This manual will provide important information pertaining to site preparation, footings, system stabilization and other necessary information vital to the success of your installation.

Models included in this installation guide:

MODEL	DESCRIPTION	PAGE
718-700	Slide Side-by-Side w/Canopy 3' Deck	2
718-728-4	Slide Bump & Glide One Piece 4' Deck	2
718-728-5	Slide Bump & Glide One PC 4'-6", 5', 5'-6" DK	3
718-874	Slide Ski 6' w/Canopy 3' Deck	3

Note:

- *An (*) by a part number (CODE) indicates: Color Code Required.*
- *Deck Systems are NOT included in these assemblies. Please refer to Construction Drawings for the model particular to your system.*

TOOLS AND EQUIPMENT (REQUIRED)

Also see 'Suggested Tools & Equipment' (Doc. # D70052) in "Installations 101"

1. Concrete for footings, wheelbarrow or mixer, 5 gallon bucket, water supply
2. Digging equipment for footings (spade shovel, post hole digger, auger)
3. Bracing materials (2x4's, wood pieces, concrete blocks, bricks, jack stands, sawhorses, etc.)
4. Tape measure and level
5. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
6. Rubber mallet
7. Step ladder
8. Drill, drill bits, extension cords, power supply
9. Adult installers - 2 minimum

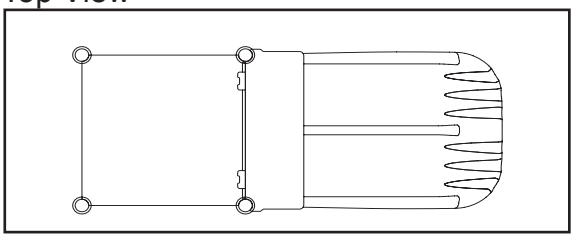
Tots' Choice®

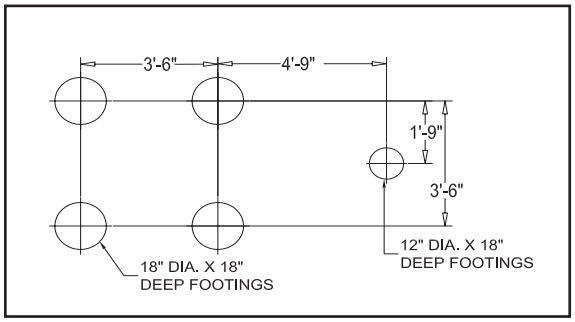
Side-by-Side Slide, Bump & Glide Slides and Ski Slide

718-700

Slide Side-by-Side w/Canopy 3' Deck

Top View





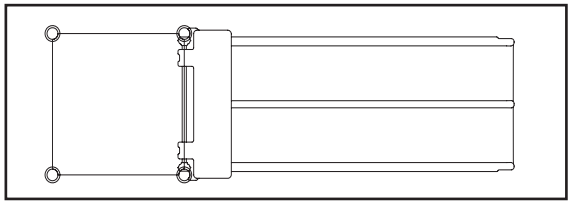
Footing Layout

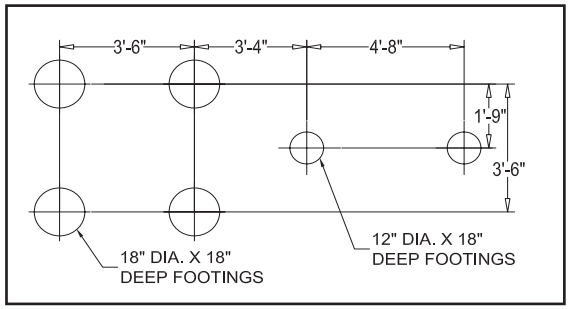


718-728-4

Slide Bump & Glide One Piece 4' Deck

Top View





Footing Layout



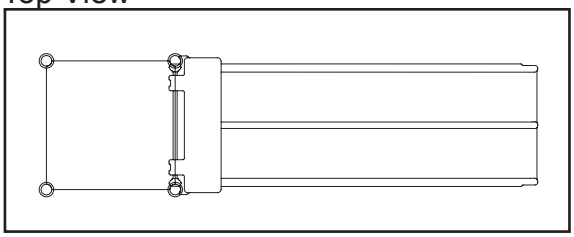
Tots' Choice®

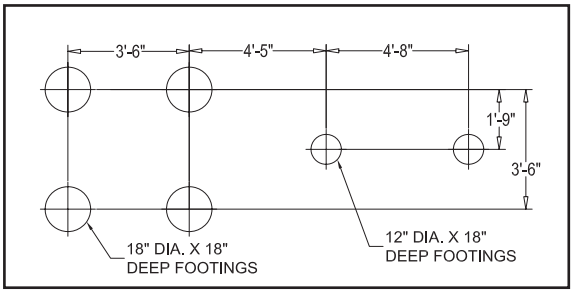
Side-by-Side Slide, Bump & Glide Slides and Ski Slide

718-728-5

Slide Bump & Glide One PC
4'-6", 5', 5'-6" DK

Top View





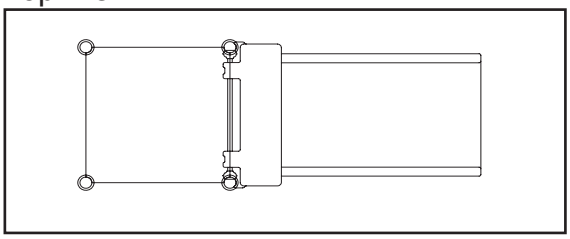
Footing Layout

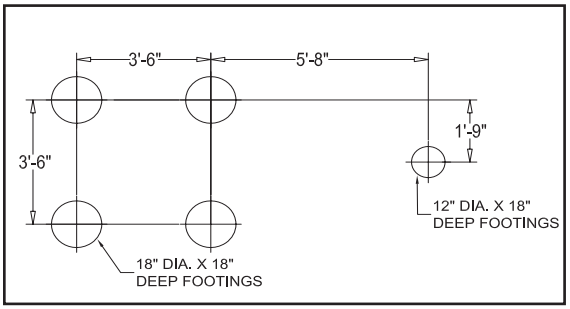


718-874

Slide Ski 6' w/Canopy 3' Deck

Top View





Footing Layout



Tots' Choice®

Side-by-Side Slide, Bump & Glide Slides and Ski Slide

STEP 1 INSTALL DECK SYSTEM

1a. Install deck system per separate instructions. Plumb, level and brace in position.

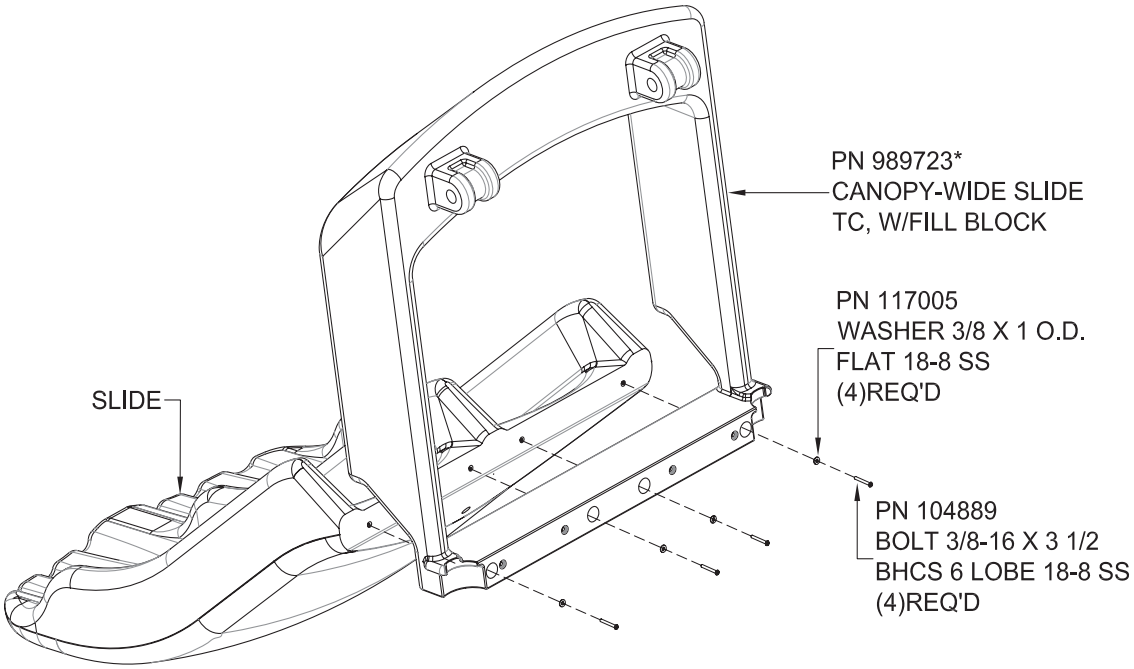
STEP 2 DIG FOOTINGS

2a. Dig footings per *Footing Layout*, Construction Drawings and ***Footing Details*** *installation*.

Note: Do not pour concrete for footings, or permanently secure clamps to posts with self-drilling screws, until components illustrated in this installation guide have been installed per instructions and braced in position, leveled and plumbed.

STEP 3 SECURE CANOPY TO SLIDE

3a. Secure canopy to slide as shown.



STEP 4 TAP RUNG INTO CANOPY TOP

4a. Use rubber mallet to gently tap 37" rung (PN 988358*) through canopy top until equal lengths are exposed on each end.

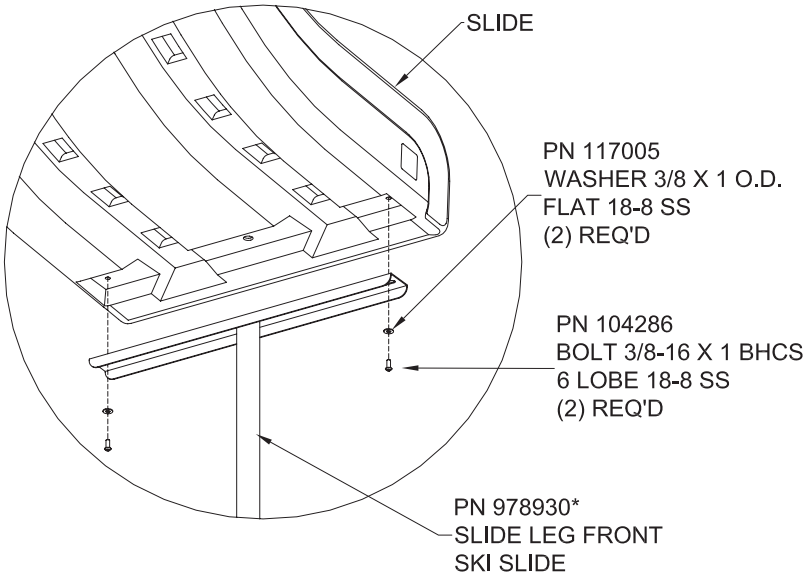
Tots' Choice®

Side-by-Side Slide, Bump & Glide Slides and Ski Slide

STEP 5 ATTACH FRONT LEG

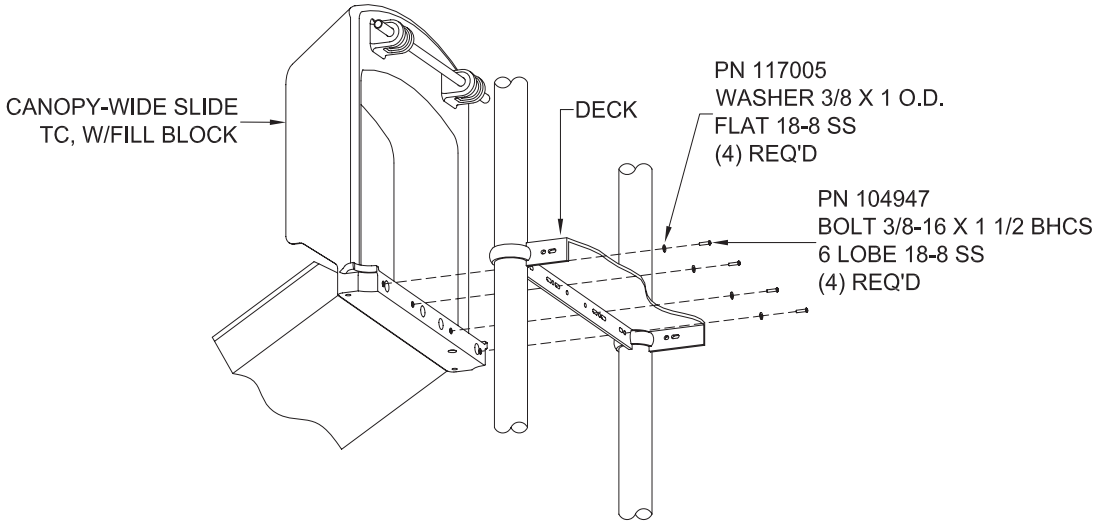
5a. Attach front leg to slide as shown.

Note: If applicable, attach middle leg to slide.



STEP 6 AFFIX CANOPY TO DECK

6a. Set slide leg(s) into footing(s) and position canopy against deck. Use drill to remove excess material from mating bolt holes in deck edge. Fasten canopy to deck as shown.



Tots' Choice®

Side-by-Side Slide, Bump & Glide Slides and Ski Slide

STEP 7 AFFIX CLAMP RINGS TO POSTS; BAR SOCKETS TO CLAMPS

7a. Refer to ***Versalok Fastening System*** *installation* located behind *Installations 101* in Installation Manual.

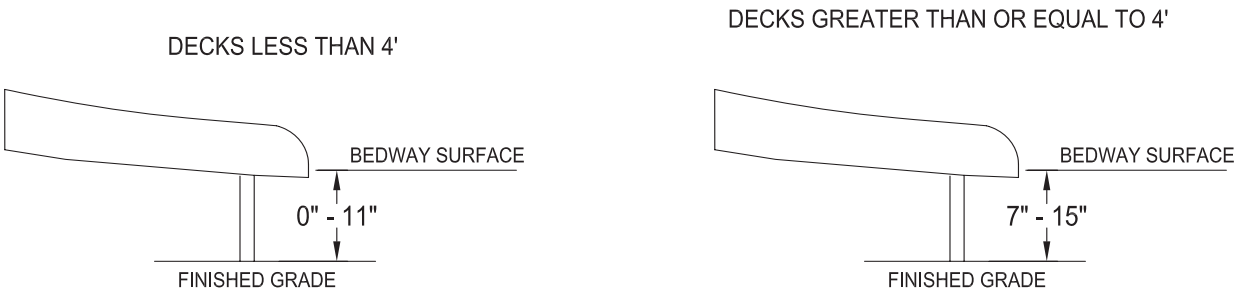
7b. Loosely assemble clamp ring halves around each post so that bottom edge of each clamp is **37-3/8"** from top edge of deck-supporting clamps. Loosely assemble a bar socket on each clamp ring.

7c. Seat rung ends in bar sockets; plumb and level canopy; tighten rung in bar sockets; bar sockets on clamps; clamp rings on posts.

STEP 8 SET BEDWAY HEIGHT

8a. Set height of slide bedway exit's top surface from finished grade as shown.

8b. Plumb leg(s) and block in position ensuring the bedway will drain water.



FINAL STEP

Proceed with ***Final Assembly*** *installation.*

Tots' Choice®

Side-by-Side Slide, Bump & Glide Slides and Ski Slide

SLIDE SIDE-BY-SIDE W/CANOPY 3' DECK Model 718700		
CODE	DESCRIPTION	QTY
112590*	SLIDE DOUBLE WIDE 3' DECK	1
978930*	SLIDE LEG FRONT SKI SLIDE	1
988358*	TOP RAIL-TC CANOPY	1
989873*	PARTS CARTON 718-700 AND 718-874	1
989723*	CANOPY-WIDE SLIDE TC, W/FILL BLOCK	1
PARTS CARTON 718-700 AND 718-874 989873*		
CODE	DESCRIPTION	QTY
HW989873-1	HRDW PKG 718874 M1/1	1
102411*	BAR SOCKET-BOTTOM 1.315" O.D.	2
102412*	BAR SOCKET-TOP 1.315" O.D.	2
HRDW PKG 718874 M1/1 HW989873-1		
CODE	DESCRIPTION	QTY
104889	BOLT 3/8-16 x 3 1/2 BHCS 6 LOBE 18-8 SS	4
104947	BOLT 3/8-16 X 1 1/2 BHCS 6 LOBE 18-8 SS	4
104286	BOLT 3/8-16 X 1 BHCS 6 LOBE 18-8 SS	2
104285	SET SKT 3/8-16 X 3/8 18-8 SS	2
117005	WASHER 3/8 X 1 O.D. FLAT 18-8 SS	10
104750	BOLT 1/4-20 X 5/8 BHCS 6 LOBE 18-8 SS	5

Tots' Choice®

Side-by-Side Slide, Bump & Glide Slides and Ski Slide

SLIDE BUMP & GLIDE ONE PIECE 4' DECK Model 7187284		
CODE	DESCRIPTION	QTY
978930*	SLIDE LEG FRONT SKI SLIDE	1
986114*	SLIDE,BUMP & GLIDE,1 PIECE(4FT DK)	1
985586*	MID LEG, BUMP & GLIDE SLIDE, PTD	1
988358*	TOP RAIL-TC CANOPY	1
989874*	PARTS CARTON 718-728-4 AND 718-728-5	1
989723*	CANOPY-WIDE SLIDE TC, W/FILL BLOCK	1
PARTS CARTON 718-728-4 AND 718-728-5 989874*		
CODE	DESCRIPTION	QTY
HW989874-1	HRDW PKG 7187284 M1/1	1
102411*	BAR SOCKET-BOTTOM 1.315" O.D.	2
102412*	BAR SOCKET-TOP 1.315" O.D.	2
HRDW PKG 7187284 M1/1 HW989874-1		
CODE	DESCRIPTION	QTY
104889	BOLT 3/8-16 x 3 1/2 BHCS 6 LOBE 18-8 SS	4
104947	BOLT 3/8-16 X 1 1/2 BHCS 6 LOBE 18-8 SS	4
104286	BOLT 3/8-16 X 1 BHCS 6 LOBE 18-8 SS	4
104285	SET SKT 3/8-16 X 3/8 18-8 SS	2
117005	WASHER 3/8 X 1 O.D. FLAT 18-8 SS	12
104750	BOLT 1/4-20 X 5/8 BHCS 6 LOBE 18-8 SS	5

Tots' Choice®

Side-by-Side Slide, Bump & Glide Slides and Ski Slide

SLIDE BUMP & GLIDE ONE PC 4'6,5',5'6"DK Model 7187285		
CODE	DESCRIPTION	QTY
978930*	SLIDE LEG FRONT SKI SLIDE	1
986130*	SLIDE,BUMP & GLIDE,1 PIECE(5FT DK)	1
985586*	MID LEG, BUMP & GLIDE SLIDE, PTD	1
988358*	TOP RAIL-TC CANOPY	1
989874*	PARTS CARTON 718-728-4 AND 718-728-5	1
989723*	CANOPY-WIDE SLIDE TC, W/FILL BLOCK	1
PARTS CARTON 718-728-4 AND 718-728-5 989874*		
CODE	DESCRIPTION	QTY
HW989874-1	HRDW PKG 7187284 M1/1	1
102411*	BAR SOCKET-BOTTOM 1.315" O.D.	2
102412*	BAR SOCKET-TOP 1.315" O.D.	2
HRDW PKG 7187284 M1/1 HW989874-1		
CODE	DESCRIPTION	QTY
104889	BOLT 3/8-16 x 3 1/2 BHCS 6 LOBE 18-8 SS	4
104947	BOLT 3/8-16 X 1 1/2 BHCS 6 LOBE 18-8 SS	4
104286	BOLT 3/8-16 X 1 BHCS 6 LOBE 18-8 SS	4
104285	SET SKT 3/8-16 X 3/8 18-8 SS	2
117005	WASHER 3/8 X 1 O.D. FLAT 18-8 SS	12
104750	BOLT 1/4-20 X 5/8 BHCS 6 LOBE 18-8 SS	5

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Side-by-Side Slide, Bump & Glide Slides and Ski Slide

SLIDE SKI 6' W/CANOPY 3' DECK Model 718874		
CODE	DESCRIPTION	QTY
112533*	SKI SLIDE ROTOMOLDED	1
978930*	SLIDE LEG FRONT SKI SLIDE	1
988358*	TOP RAIL-TC CANOPY	1
989873*	PARTS CARTON 718-700 AND 718-874	1
989723*	CANOPY-WIDE SLIDE TC, W/FILL BLOCK	1
PARTS CARTON 718-700 AND 718-874 989873*		
CODE	DESCRIPTION	QTY
HW989873-1	HRDW PKG 718874 M1/1	1
102411*	BAR SOCKET-BOTTOM 1.315" O.D.	2
102412*	BAR SOCKET-TOP 1.315" O.D.	2
HRDW PKG 718874 M1/1 HW989873-1		
CODE	DESCRIPTION	QTY
104889	BOLT 3/8-16 x 3 1/2 BHCS 6 LOBE 18-8 SS	4
104947	BOLT 3/8-16 X 1 1/2 BHCS 6 LOBE 18-8 SS	4
104286	BOLT 3/8-16 X 1 BHCS 6 LOBE 18-8 SS	2
104285	SET SKT 3/8-16 X 3/8 18-8 SS	2
117005	WASHER 3/8 X 1 O.D. FLAT 18-8 SS	10
104750	BOLT 1/4-20 X 5/8 BHCS 6 LOBE 18-8 SS	5

Miracle **Installation Guide**

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Imagination Panels & Activity Panels

IMPORTANT! Prior to installation of any components, refer to the "Owner/Operator Manual". This manual will provide important information pertaining to site preparation, footings, system stabilization and other necessary information vital to the success of your installation.

Models included in this installation guide:

MODEL	DESCRIPTION	PAGE
718-617	Space Ship Panel	2
718-713-21	Space Maze Panel TC	2
718-713-22	Alphabet Panel TC	2
718-713-23	Braille Panel TC	2
718-713-24	Sign Language Phrases Panel TC	2
718-713-25	Sign Language Alphabet Panel TC	2
718-714-2	Fire Truck Panel	2
718-714-4	Train Panel	2
718-714-11	4 X 4 Panel TC	2
718-714-12	Big Rig Panel TC	2
718-714-13	Plane Panel TC	2
718-715-3	Jump Panel (3' Deck)	2
718-715-5	Jump Panel (5' Deck)	2
718-715-13	Calypso 3-Drum Panel	2
718-715-20	Activity Panel Frame	3
718-715-25	Museum Mosaic Disk Panel TC	3
718-715-26	Museum Opt Illusion Panel TC	3
718-715-27	Museum Pin Panel TC	3
718-715-28	Museum Washer Panel TC	3
718-715-29	Museum Zoetrope TC	3
718-732	Welcome Panel (5-12)	3
718-732-1	Welcome Panel (2-5)	3
718-732-2	Welcome Panel (2-12)	3
718-761-2	Piston Panel	3
718-761-3	Gear Panel	3
718-761-4	Sliding Tile Panel	3

Notes:

- *Deck systems are NOT included in these assemblies. Please refer to Construction Drawings for the model particular to your system.*
- *An (*) by a part number indicates: Color Code Required.*

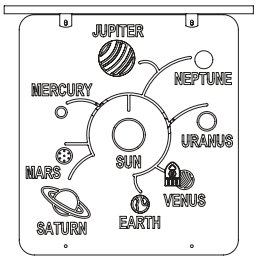
718-617, 718-714-2, 718-714-4, 718-715-3, 718-715-5, 718-715-13, 718-715-20, 718-732, 718-732-1, 718-732-2, 718-761-2, 718-761-3, 718-761-4, 718-714-11, 718-714-12, 718-714-13, 718-715-25, 718-715-26, 718-715-27, 718-715-28, 718-715-29, 718-713-21, 718-713-22, 718-713-23, 718-713-24, 718-713-25

Imagination Panels & Activity Panels

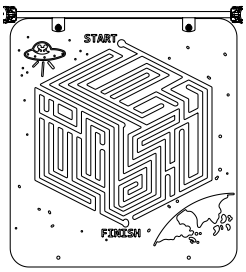
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Imagination Panels & Activity Panels

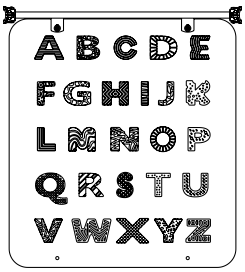
718-617: Space Ship Panel



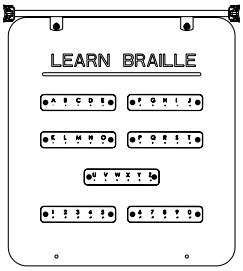
718-713-21: Space Maze Panel TC



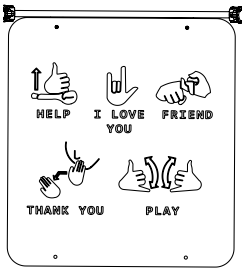
718-713-22: Alphabet Panel TC



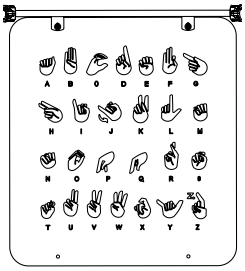
718-713-23: Braille Panel TC



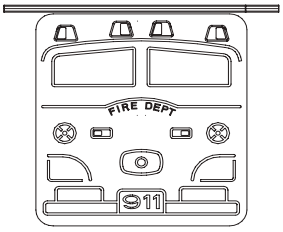
718-713-24: Sign Language Phrases Panel TC



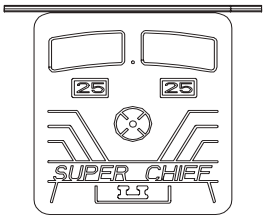
718-713-25: Sign Language Alphabet Panel TC



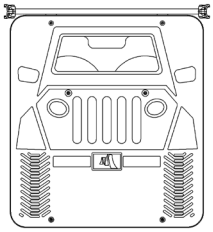
718-714-2: Fire Truck Panel



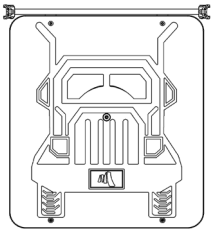
718-714-4: Train Panel



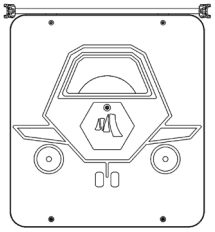
718-714-11: 4 X 4 Panel TC



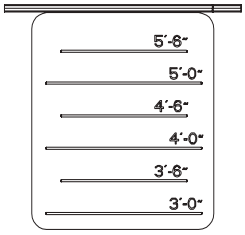
718-714-12: Big Rig Panel TC



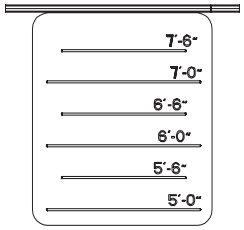
718-714-13: Plane Panel TC



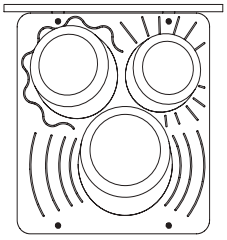
718-715-3: Jump Panel (3' Deck)



718-715-5: Jump Panel (5' Deck)



718-715-13: Calypso 3-Drum Panel



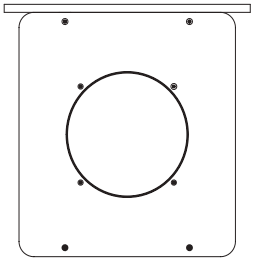
Top Views and Footing Layouts not shown. These models mount vertically on deck systems.

718-617, 718-714-2, 718-714-4, 718-715-3, 718-715-5, 718-715-13, 718-715-20, 718-732, 718-732-1, 718-732-2, 718-761-2, 718-761-3, 718-761-4, 718-714-11, 718-714-12, 718-714-13, 718-715-25, 718-715-26, 718-715-27, 718-715-28, 718-715-29, 718-713-21, 718-713-22, 718-713-23, 718-713-24, 718-713-25

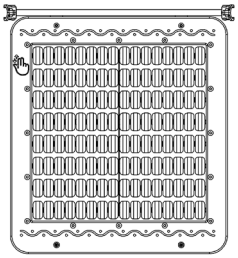
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Imagination Panels & Activity Panels

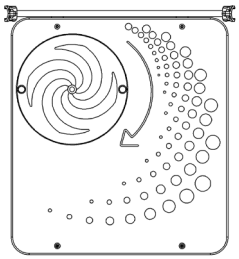
718-715-20:
Activity Panel Frame



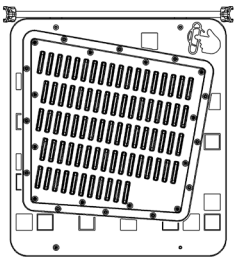
718-715-25:
Museum Mosaic Disk Panel TC



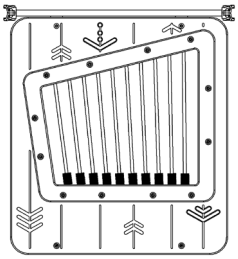
718-715-26:
Museum Opt Illusion Panel TC



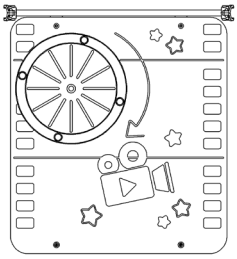
718-715-27:
Museum Pin Panel TC



718-715-28:
Museum Washer Panel TC



718-715-29:
Museum Zoetrope TC



718-732:
Welcome Panel (5-12)



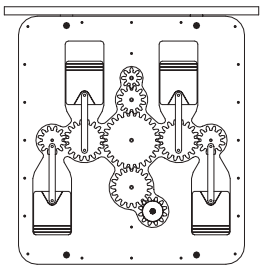
718-732-1:
Welcome Panel (2-5)



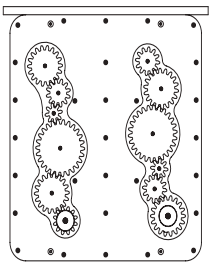
718-732-2:
Welcome Panel (2-12)



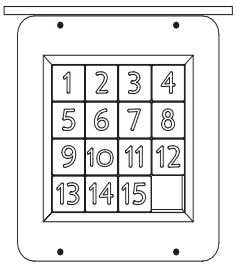
718-761-2:
Piston Panel



718-761-3:
Gear Panel



718-761-4:
Sliding Tile Panel



Top Views and Footing Layouts not shown. These models mount vertically on deck systems.

718-617, 718-714-2, 718-714-4, 718-715-3, 718-715-5, 718-715-13, 718-715-20, 718-732, 718-732-1, 718-732-2, 718-761-2, 718-761-3, 718-761-4, 718-714-11, 718-714-12, 718-714-13, 718-715-25, 718-715-26, 718-715-27, 718-715-28, 718-715-29, 718-713-21, 718-713-22, 718-713-23, 718-713-24, 718-713-25

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Imagination Panels & Activity Panels

TOOLS AND EQUIPMENT REQUIRED

Also see "Suggested Tools & Equipment" in "Installations 101"

1. Tape measure and level
2. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
3. Step ladder
4. Drill, drill bits, extension cords, power supply
5. Adult installers - 2 minimum

STEP 1 INSTALL DECK SYSTEM

1a. Install deck system per separate instructions. Plumb, level and brace in position.

Note: Do not pour concrete for footings or permanently affix clamps to posts with self-drilling screws until components illustrated in this installation guide have been installed per instructions and braced in position, leveled and plumbed.

STEP 2 DRILL EXCESS PVC FROM DECK MATING BOLT HOLES

2a. Center panel between posts against deck face to locate and mark mating bolt holes. Use drill to remove excess PVC from only those holes in the deck.

STEP 3 LOOSELY ATTACH CLAMP RINGS TO POSTS

3a. Refer to ***Versalok Fastening System*** *installation* located behind *Installations 101* in Installation Manual.

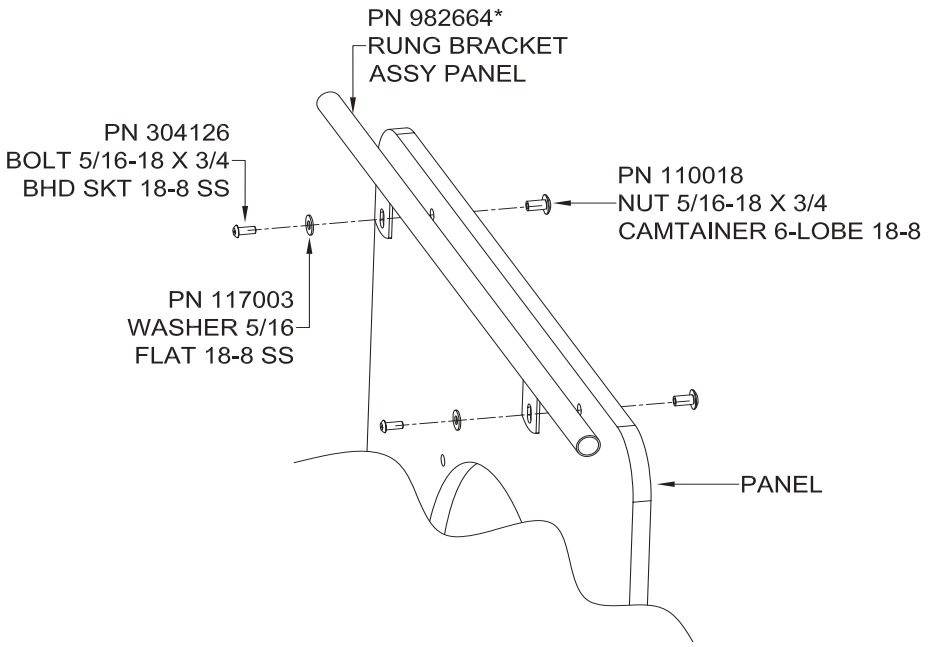
3b. Loosely assemble clamp rings around deck posts so that bottom edge of each is **37-3/8"** from top edge of deck-supporting clamp. It is acceptable to approximate position of clamps until panel is completely installed. Loosely affix bar sockets to clamps.

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STEP 4 ATTACH RUNG BRACKET TO PANEL

4a. Attach rung bracket to ***top*** of panel as shown.



4b. ***Model 718-761-2 Piston Panel and Model 718-761-3 Gear Panel:*** Determine panel assembly's "top" for rung bracket attachment. Knobs should be located to ensure comfortable operation by users either *on* or *off* deck. In general, knobs should be at panel top if gear mechanism faces inward (for users standing on deck), or at bottom if gear mechanism faces outward (for users standing on ground or lower deck).

4c. ***Model 718-715-13 Calypso 3-Drum Panel:*** Determine panel assembly's "top" for rung bracket attachment. Calypso 3-drum panel must be attached so drums are angled *UPWARD.*

4d. ***Model 718-715-25 Museum Mosaic Disk Panel TC; Model 718-715-26 Museum Opt Illusion Panel TC ; Model 718-715-27 Museum Pin Panel TC ; Model 718-715-28 Museum Washer Panel TC ; Model 718-715-29 Museum Zoetrope TC :*** Determine panel assembly's *"top" and "bottom" - see illustrations on sheet 3.* Mosaic Disk Panel will have small hand outline on upper left side when installed in correct orientation.

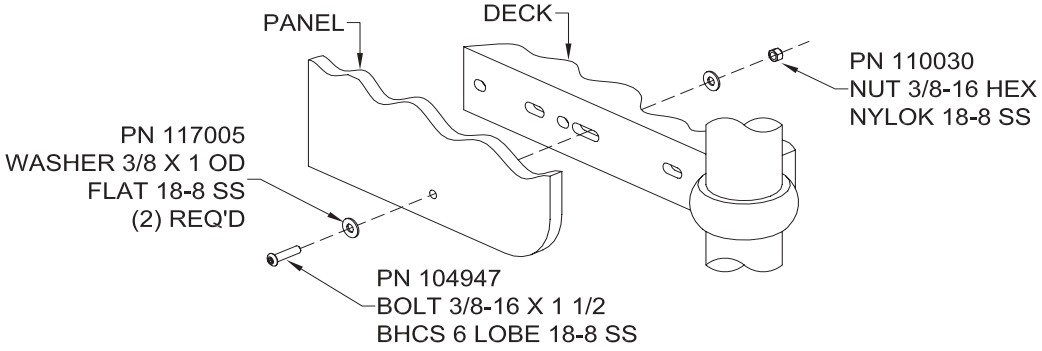
718-617, 718-714-2, 718-714-4, 718-715-3, 718-715-5, 718-715-13, 718-715-20, 718-732, 718-732-1, 718-732-2, 718-761-2, 718-761-3, 718-761-4, 718-714-11, 718-714-12, 718-714-13, 718-715-25, 718-715-26, 718-715-27, 718-715-28, 718-715-29, 718-713-21, 718-713-22, 718-713-23, 718-713-24, 718-713-25

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Imagination Panels & Activity Panels

STEP 5 AFFIX PANEL TO DECK

5a. Replace panel against deck. Attach bottom of panel to deck face with bolts through outermost holes.



Note: Model's 718-761-2 Piston Panel and 718-761-3 Gear Panel will use PN 304007 (3/8" X 1-5/8" BHCS Bolt).

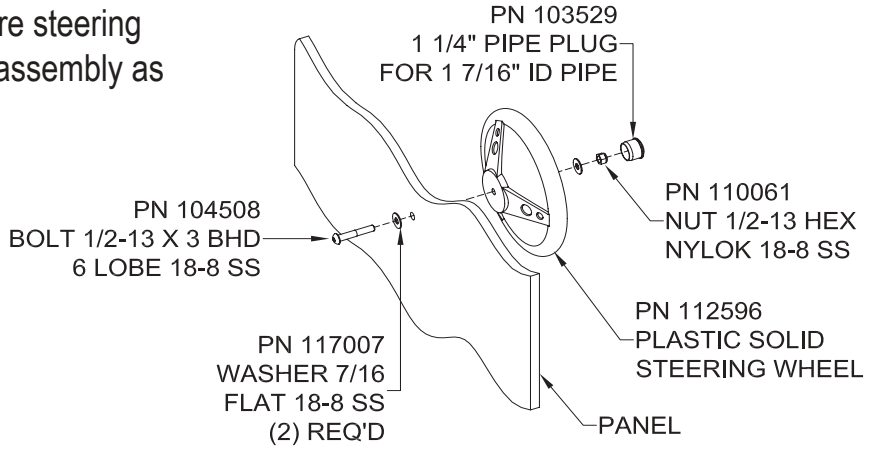
STEP 6 INSERT RUNG BRACKETS IN BAR SOCKETS

6a. Refer to ***Versalok Fastening System*** *installation* located behind *Installations 101* in Installation Manual.

6b. Insert rung bracket ends in bar sockets and tighten in place. Plumb and level panel assembly. Tighten bar sockets on clamps and clamp rings around posts.

STEP 7 SECURE STEERING WHEEL(S), IF APPLICABLE

7a. If applicable, secure steering wheel(s) to panel assembly as shown.



FINAL STEP

Proceed with ***Final Assembly*** *installation* located behind *Installations 101* in Installation Manual. Tighten all hardware.

Installation Guide

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Vertical Climbers

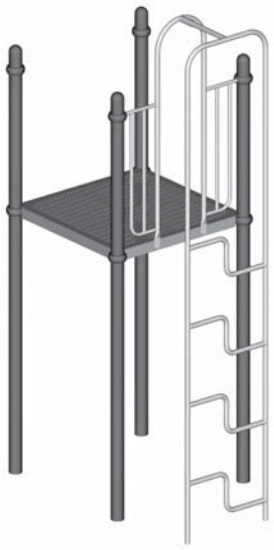
Cliff Climber, Canyon Climber, Trap Door Climber, Climbing Pole & Spider Climber

Deck system not included in these assemblies.

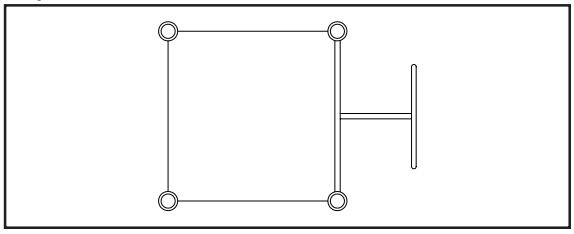
718-719* & 718-719-6 | 718-721 & 718-721-6 | 5 Additional Models

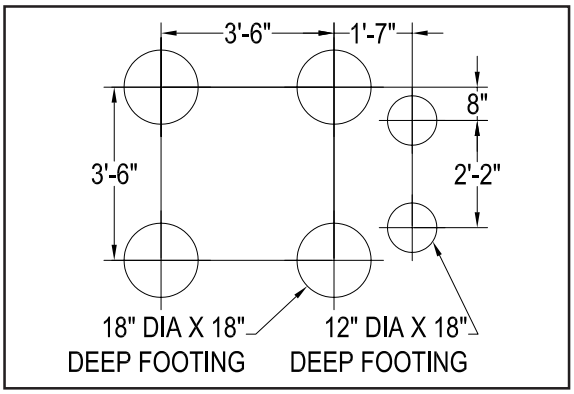
Cliff Climber for 6' or 6'-6" Deck

* Model # 718-719 Cliff Climber for 3' or 5' Deck not shown. Top View, Footing Layout and Installation are identical.



Top View





Footing Layout

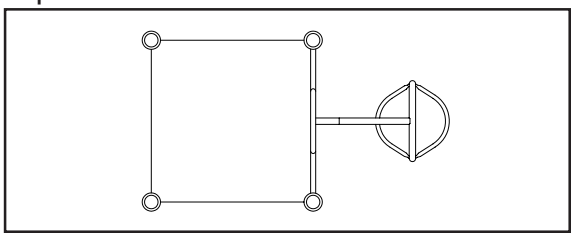
718-719 & 718-719-6 | 718-721* & 718-721-6 | 5 Additional Models

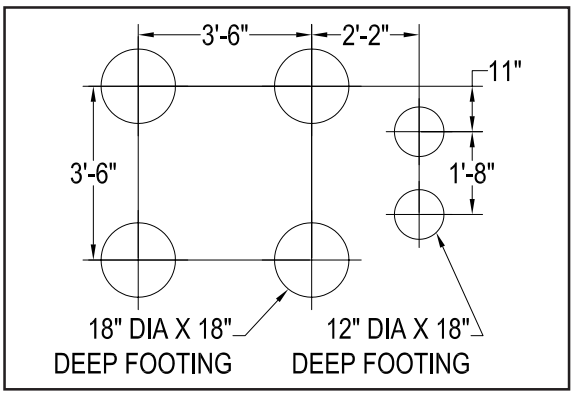
Canyon Climber for 6' or 6'-6" Deck

* Model # 718-721 Canyon Climber for 3' or 5' Deck not shown. Top View, Footing Layout and Installation are identical.



Top View





Footing Layout

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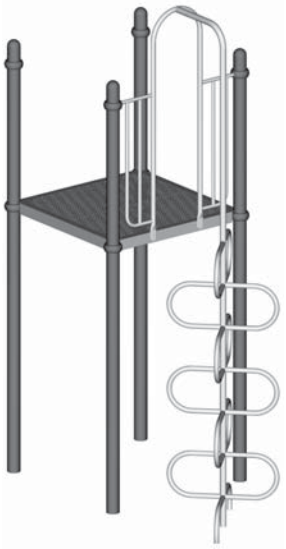
Vertical Climbers

718-731* & 718-731-6

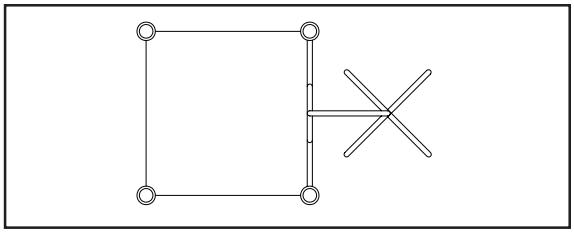
718-808 & 718-808-8 | 1 Additional Model

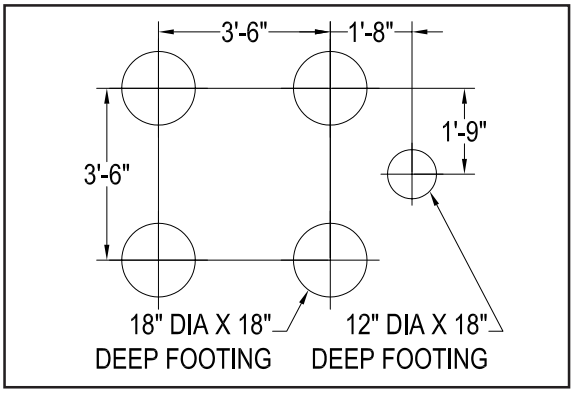
Trap Door Climber for 6' or 6'-6" Deck

* Model # 718-731 Trap Door Climber for 3' or 5' Deck not shown. Top View, Footing Layout and Installation are identical.



Top View





Footing Layout

718-808* & 718-808-8

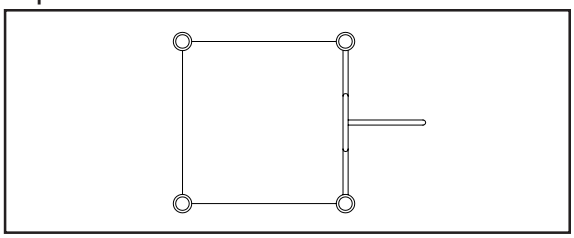
718-731 & 718-731-6 | 1 Additional Model

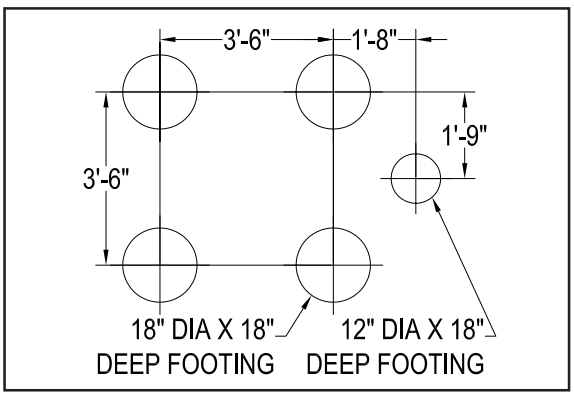
Climbing Pole for 8' Deck

* Model # 718-808 Climbing Pole for 3', 5', 6' or 6'-6" Deck not shown. Top View, Footing Layout and Installation are identical.



Top View





Footing Layout

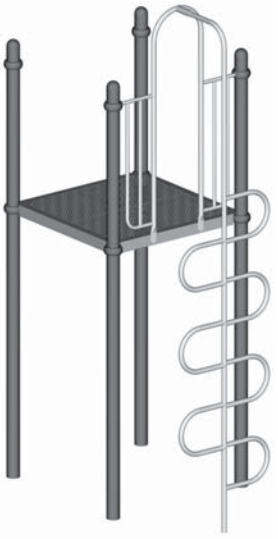
MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice®

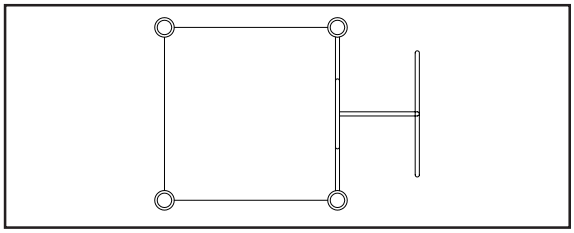
Vertical Climbers

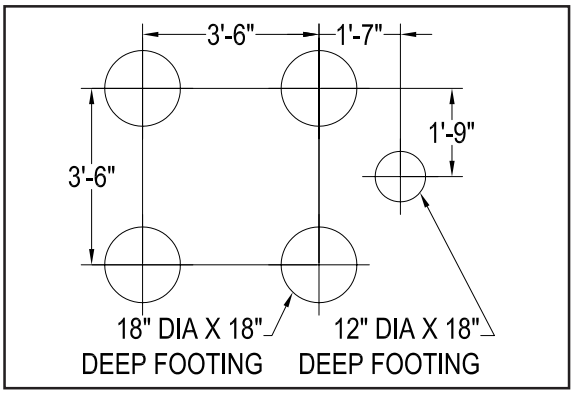
718-908

Spider Climber for 3', 5', 6' or 6'-6" Deck



Top View



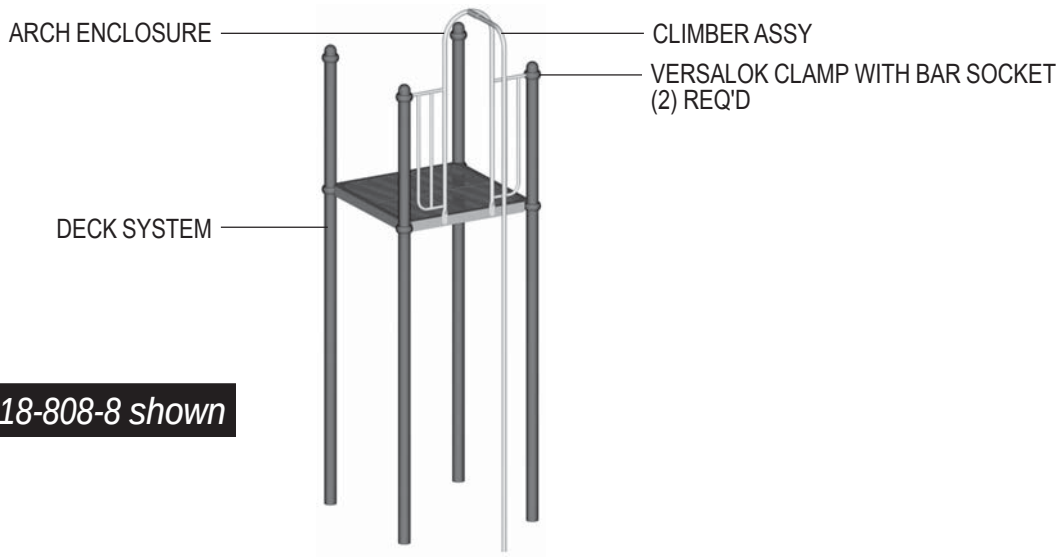


Footing Layout

Tots' Choice®

Vertical Climbers

PARTS IDENTIFICATION



Model # 718-808-8 shown

RECOMMENDED ASSEMBLY SEQUENCE

1. Deck system (per separate instructions)
2. Footing(s)
3. Clamps with Bar Sockets loosely to Deck Posts
4. Arch Enclosure to Deck and to Posts (via Clamps)
5. Climber Assembly into footing(s), to Arch Enclosure
6. Final Assembly

TOOLS AND EQUIPMENT REQUIRED

Also see 'Suggested Tools & Equipment' (Doc. # D70052) in "Installations 101"

1. Concrete for footings, wheelbarrow or mixer, 5 gallon bucket, water supply
2. Digging equipment for footings (spade shovel, post hole digger, auger)
3. Bracing materials (2x4s, wood pieces, jack stands, sawhorses, concrete blocks, bricks, etc.)
4. Tape measure and level
5. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
6. Drill, bits, extension cords, power supply
7. Step ladder
8. Adult installers - 2 minimum

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Vertical Climbers

STEP 1

Read *Safety Brochure 100, Important Notes,* these instructions, and other enclosed materials. Unpack, count, and become familiar with system components and hardware.

STEP 2

Install Deck system per separate instructions. Plumb, level and brace in position.

Note: Do not pour concrete for footings, or permanently secure Clamps to Posts with self-drilling screws, until all components in system have been installed per instructions and braced in position level and plumb.

STEP 3

Dig footings per *Footing Layouts,* Construction Drawings, and to *Footing Details installation*.

STEP 4

Refer to *Versalok Fastening System installation.*

Loosely affix a Bar Socket (with 1-1/16" diameter hole) to each set of Clamp Ring halves. Loosely assemble Clamps on Posts so that bottom edge of each is 37-1/2" from top edge of Deck-supporting Clamp.

STEP 5

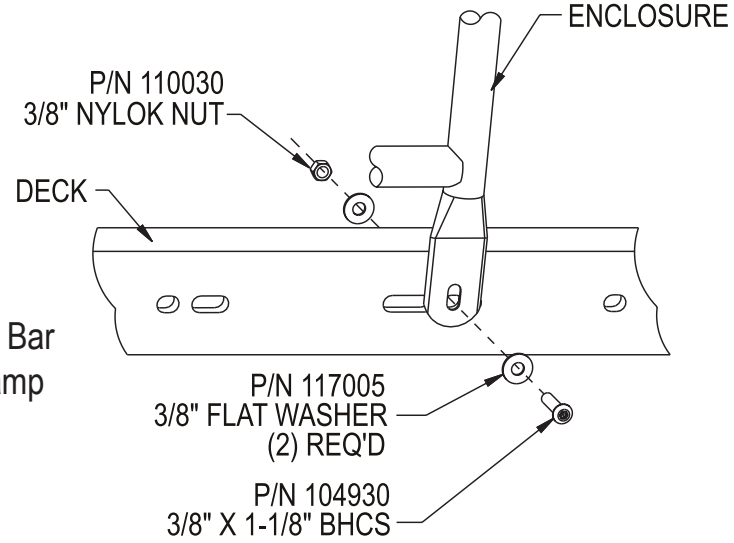
Position Arch Enclosure against Deck, aligning holes in mashed ends of plumb Enclosure uprights with bolt holes in Deck face. Use drill to ream excess PVC from only those holes in Deck.

Tots' Choice®

Vertical Climbers

STEP 6

Refer to *Versalok Fastening System installation.* Place Enclosure's top rails into Bar Sockets, aligning bottom holes in Enclosure uprights with holes in Deck. Plumb and level Arch Enclosure and secure to Deck as shown. Tighten rails in Bar Sockets, Bar Sockets to Clamps, and Clamp Rings around Posts.



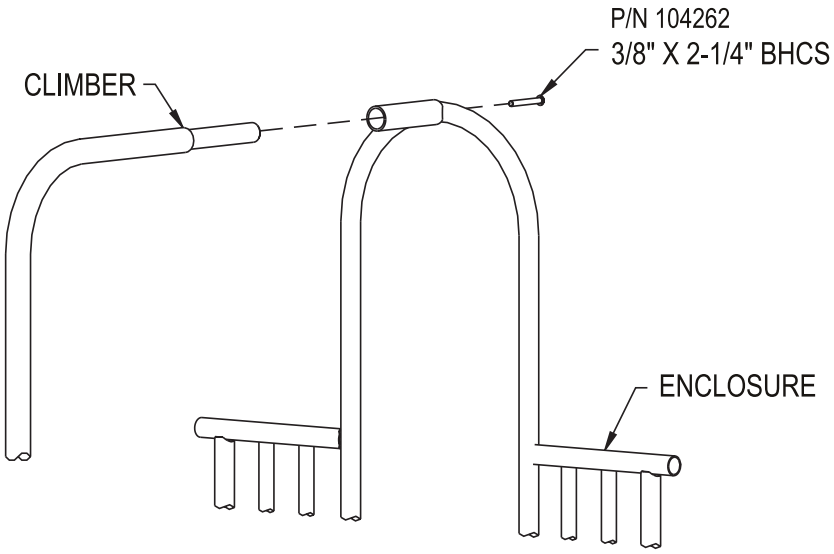
STEP 7

Set Climber into footing(s).

Note: Some Climber Assemblies require cutting at bottom end to properly fit certain Deck heights. If necessary, measure 90" from top surface of Climber and add distance of Deck height from finished grade to locate cut mark. (This formula allows for 12" of protective surfacing and allows adjusted Climber to reach bottom of footing hole).
Cut Climber at mark.

STEP 8

Firmly seat stub at top of Climber Assembly in Arch Enclosure's sleeve. Attach Climber to Arch Enclosure as shown.



FINAL STEP

Proceed with *Final Assembly installation.*

Installation Guide

Tots' Choice ®

Cylinder Panels

IMPORTANT! Prior to installation of any components, refer to the "Owner/Operator Manual". This manual will provide important information pertaining to site preparation, footings, system stabilization and other necessary information vital to the success of your installation.

Model #	*Product*
7187631	PANEL CRITTER PUZZLE
7187633	PANEL 3 LETTER WORD SPELLER
7187635	PANEL CYLINDER PLANET
7187636	HEXS AND XS PANEL TC
7187637	DINOSAUR PANEL TC

NOTES:
Deck system not included in these assemblies.
Top views and Footing Layouts not shown.
These units mount vertically on deck systems using 3.5" [89mm] diameter posts.

Tots' Choice ®

Cylinder Panels



7187631
PANEL CRITTER PUZZLE



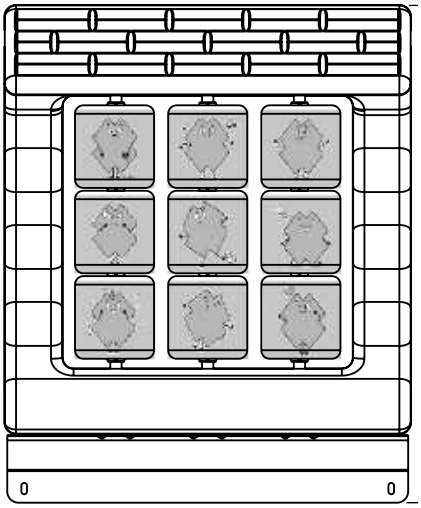
7187633
PANEL 3 LETTER
WORD SPELLER



7187635
PANEL CYLINDER
PLANET

Tots' Choice ®

Cylinder Panels





7187636
HEXS AND XS PANEL TC

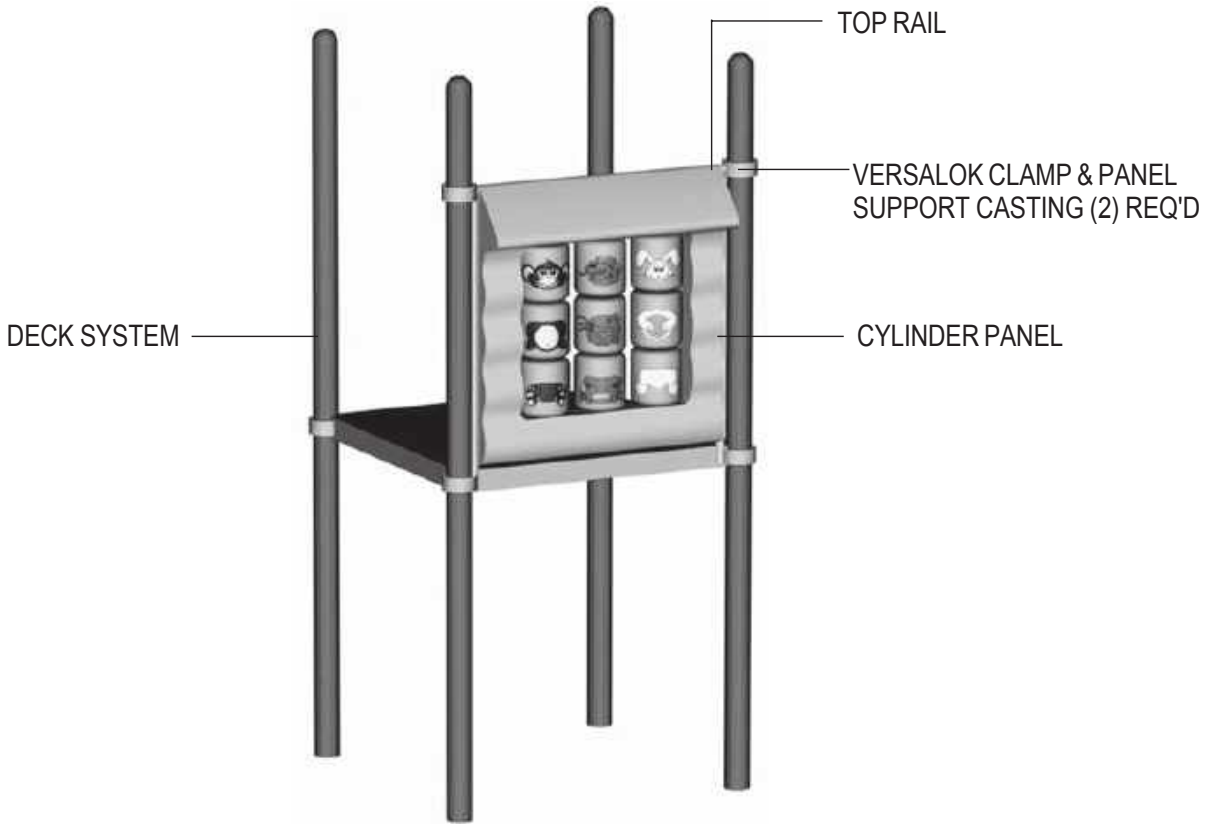


7187637
DINOSAUR
PANEL TC

Tots' Choice ®

Cylinder Panels

PARTS IDENTIFICATION



RECOMMENDED ASSEMBLY SEQUENCE

1. Deck system (per separate instructions)
2. Panel to Deck
3. Top Rail into Panel and Panel Support Castings
4. Clamps through Castings and around Posts
5. Panel Support Castings to Top Rail and Clamps
6. Final Assembly

TOOLS AND EQUIPMENT REQUIRED

Also see "Installations 101"

1. Tape measure and level
2. Step ladder
3. Open end wrench set; Allen and 6-lobe wrenches or bits; socket set; screwdrivers
4. Drill motor; drill bits; extension cords; power supply
5. Adult installers - 2 minimum

Tots' Choice ®

Cylinder Panels

STEP 1 READ INFORMATION AND IDENTIFY SYSTEM COMPONENTS

1a. Read **Safety Brochure 100, Important Notes**, these instructions, and other enclosed materials. Unpack, count and become familiar with system components and hardware.

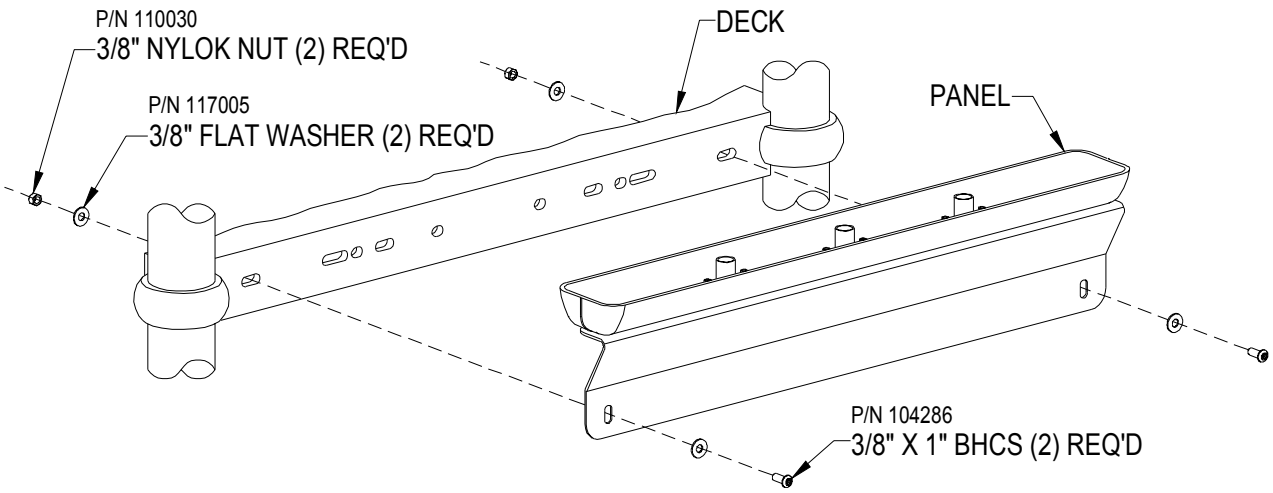
STEP 2 INSTALL DECK SYSTEM

2a. Install Deck system per separate instructions. Plumb, level and brace in position.

Note: Do not permanently affix Clamps to Posts with self-drilling screws, or pour concrete for footings, until playsystem is completely assembled per instructions, and all components are plumb, level, and braced in position.

STEP 3 FASTEN PANEL TO DECK

3a. Lift panel and position against deck face to locate mating bolt holes. Use drill to ream excess PVC from only two (2) of those holes in deck. Orient panel's mounting plate to deck as shown, and loosely fasten panel to deck (do not yet fully tighten hardware).



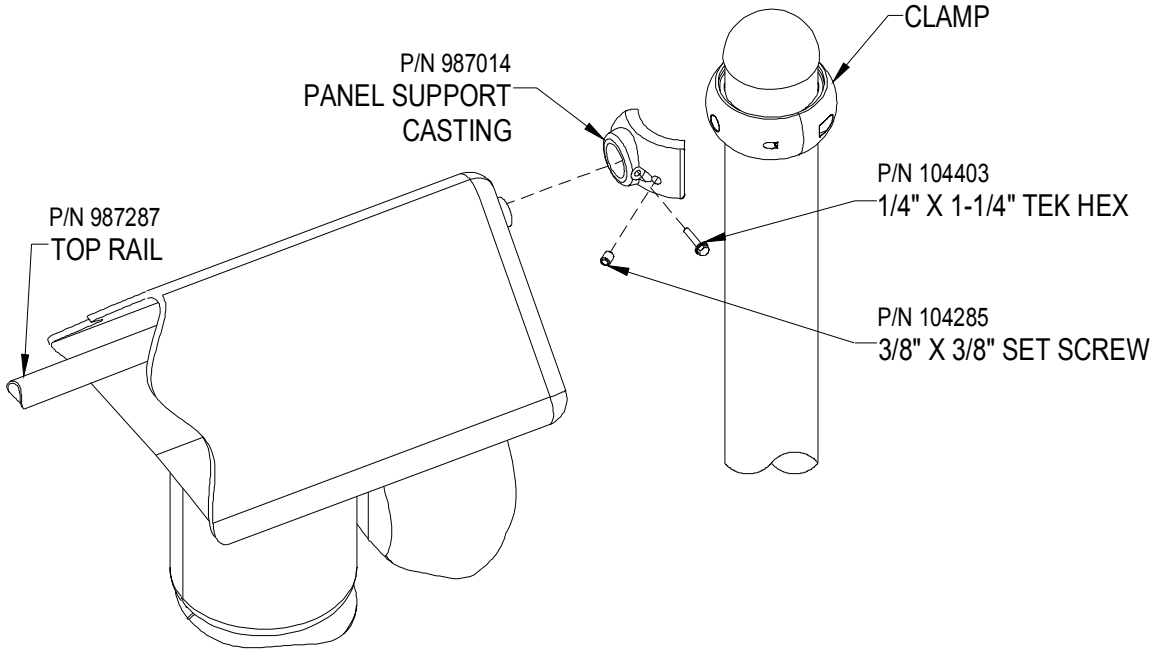
Tots' Choice ®

Cylinder Panels

STEP 4 ATTACH TOP OF PANEL TO POSTS

4a. Refer to ***Versalok Fastening System*** *installation*.

Tap top rail through panel top until equal lengths are exposed on each end. Place panel support castings on ends of top rail. Slide clamp ring halves through panel support castings and assemble rings loosely around deck posts on both ends of top rail.



STEP 5 SECURE PANEL TO POSTS AND DECK

5a. Refer to ***step 4*** illustration***, step 3*** illustration***, and Versalok Fastening System*** installation***.***

Plumb and level panel assembly. Secure panel support castings to top rail with self-drilling screws. Tighten castings against clamps with set screws and tighten clamp rings around posts. Tighten hardware securing panel's mounting plate against deck.

FINAL STEP

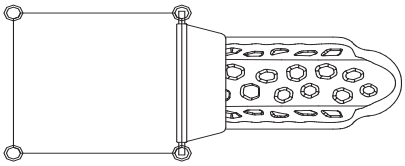
Proceed with Final Assembly installation.

Tots' Choice®

Climber Tot Rock 3' Deck

IMPORTANT! Prior to installation of any components, refer to the "Owner/Operator Manual". This manual will provide important information pertaining to site preparation, footings, system stabilization and other necessary information vital to the success of your installation.

Top View

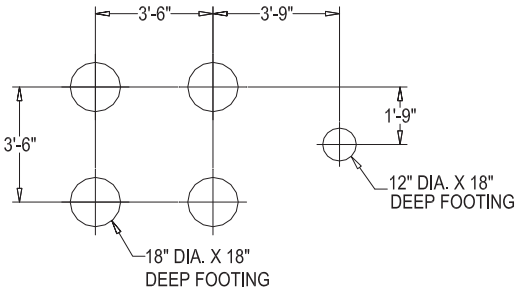


718-787

Climber Tot Rock 3' Deck



Footing Layout



Protective Area: 17'-0" x 16'-0"

Note:

- *Deck systems/posts are not included in these assemblies.*
- *An (*) by a part number (CODE) indicate: Color Code Required.*

TOOLS AND EQUIPMENT REQUIRED

Refer to "Installations 101"

1. Concrete for Footings, wheelbarrow or mixer, 5 gallon bucket, water supply
2. Digging equipment for Footings (spade shovel, post hole digger, auger)
3. Bracing materials (2x4s, jack stands, sawhorses, etc.)
4. Tape measure and level
5. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
6. Drill, bits, extension cords, power supply
7. Step ladder
8. Adult installers - 2 minimum

Climber Tot Rock 3' Deck

Tots' Choice®

Climber Tot Rock 3' Deck

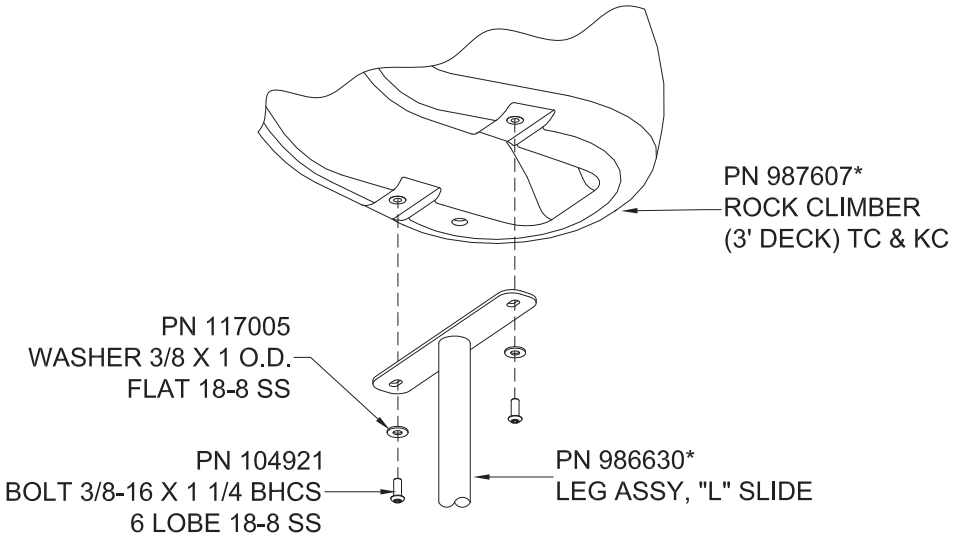
STEP 1 INSTALL DECK SYSTEM

1a. Install deck system per separate instructions. Plumb, level and brace in position.

Note: Do not pour concrete for footings or permanently secure clamps to posts with self-drilling screws until components illustrated in this installation guide have been installed per instructions and braced in position, leveled and plumbed.

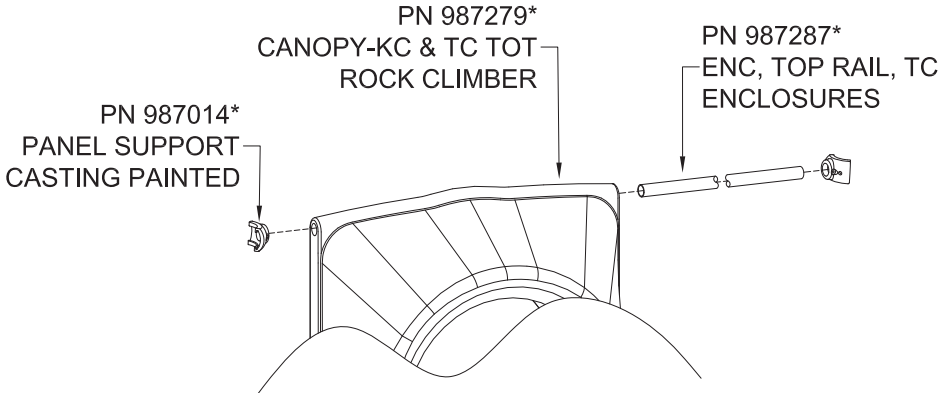
STEP 2 DIG FOOTING FOR CLIMBER LEG; ATTACH LEG TO CLIMBER

2a. Per footing layout, dig footing for the climber leg and attach leg assembly to climber.



STEP 3 INSERT TOP RAIL INTO CANOPY; ASSEMBLE CLAMP RINGS

3a. Gently tap the top rail into the canopy until equal lengths are exposed on each end. Place panel support castings on each end of the top rail.



718-787

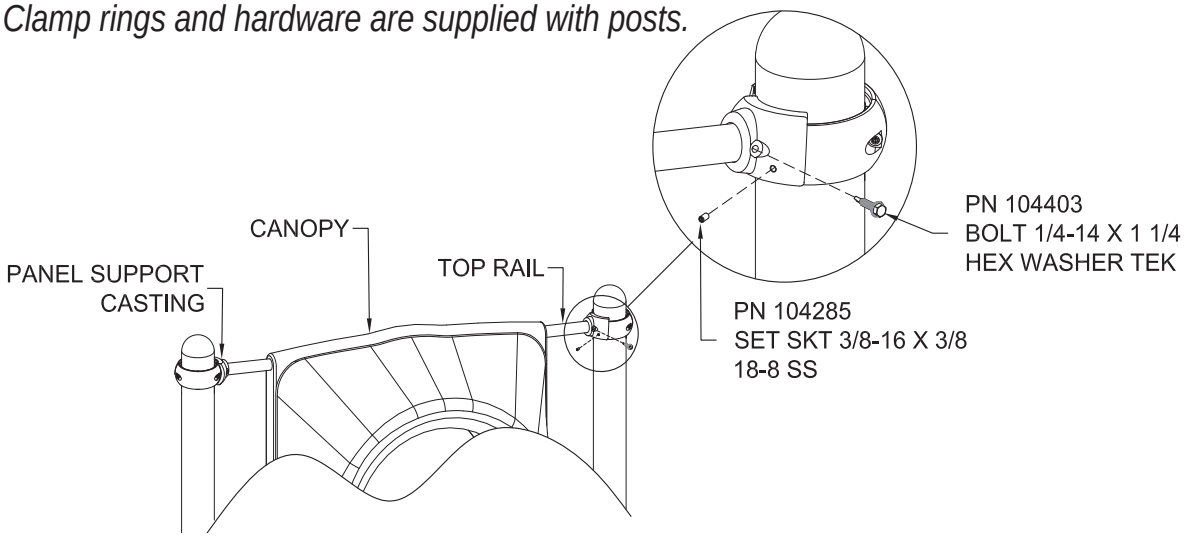
Tots' Choice®
Climber Tot Rock 3' Deck

STEP 3 INSERT TOP RAIL INTO CANOPY; ASSEMBLE CLAMP RINGS cont.

3b. Refer to *Versalok Fastening System installation.*

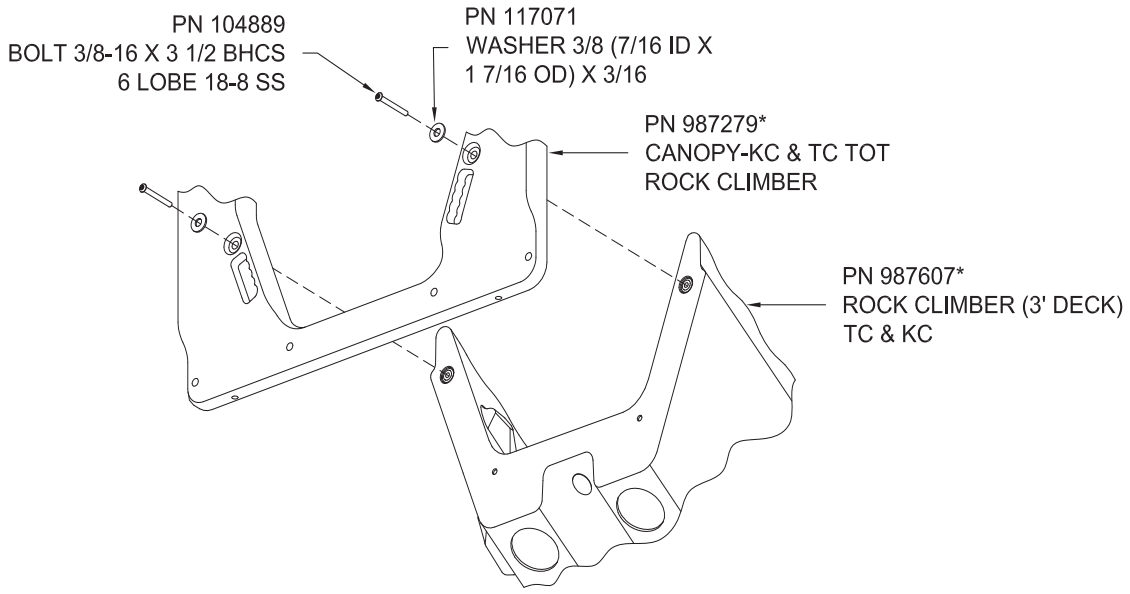
3c. Position canopy panel between posts. Slide clamp ring halves through panel support castings and assemble clamp rings loosely around posts. Bottom edge of each clamp should be 37-1/2" from deck-supporting clamps.

Note: Clamp rings and hardware are supplied with posts.



STEP 4 ATTACH CANOPY TO CLIMBER

4a. Align top bolt holes of canopy with top bolt holes of the climber and secure.



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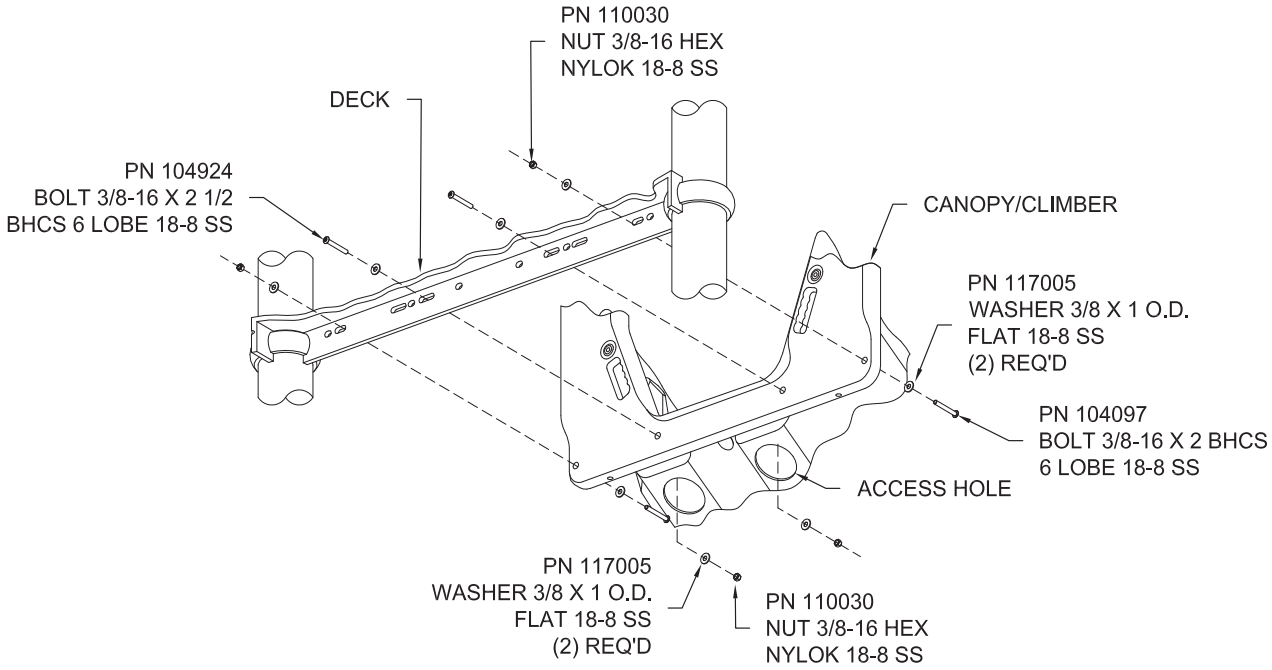
Climber Tot Rock 3' Deck

STEP 5 ATTACH CANOPY/CLIMBER TO DECK

5a. Align bottom bolt holes in canopy/climber with mating bolt holes in deck. Use a drill to remove excess deck coating from only those holes in the deck. Secure the canopy/climber bottom to the deck with the two (2) outer holes.

5b. Set the climber leg into the footing. Secure the deck and canopy/climber by bolting through the two (2) inner bolt holes and the two (2) access holes of the climber. Once secure, plug the 4" access holes in underside of climber.

Note: The climber has factory-installed threaded inserts to receive bolts.



STEP 6 LEVEL AND PLUMB LEG

6a. Level and plumb leg in footing; block up end of climber so that bottom surface is level with finished grade.

FINAL STEP

Proceed with ***Final Assembly*** *installation* located behind *Installations 101* in Installation Manual.

Installation Guide

July 18, 2006

Rev. A

MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice®

Bell, Post Mount

718-796-P1

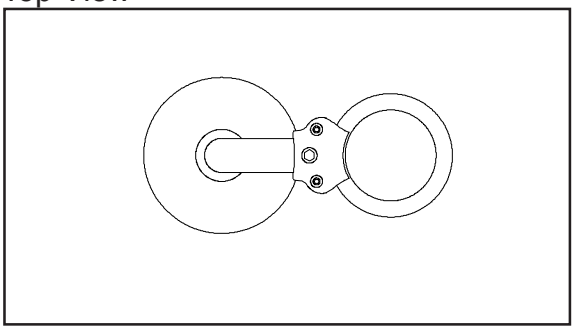
Post not included in assembly

Bell, Post Mount

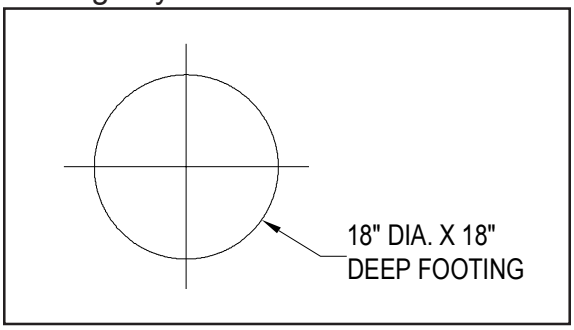


Post not included in this assembly

Top View



Footing Layout



Installation Guide

July 18, 2006

Rev. A

MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice®

Bell, Post Mount

STEP 1 PREPARE FOR INSTALLATION

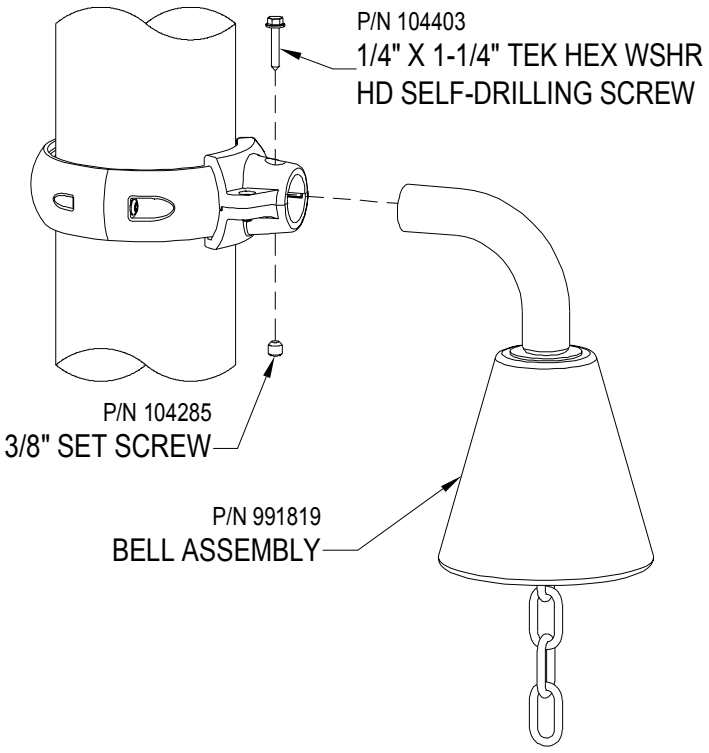
Read *Safety Brochure 100, Important Notes,* these instructions, and other materials. Unpack, count and become familiar with system components and hardware.

STEP 2 ATTACH CLAMP RING AND BAR SOCKET TO POST

Refer to *Versalok Fastening System installation guide* located behind *Installations 101* in your Installation Manual.

STEP 3 AFFIX BELL TO BAR SOCKET

Attach Bell Assembly to Bar Socket as shown.



FINAL STEP

Proceed with *Final Assembly* instructions.

Installation Guide

MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice® - Mira-Therm II
Standard Steps and ADA Stairs Between Decks - 1', 1'-6" & 2' Rise

IMPORTANT! Prior to installation of any components, refer to Playsystem Installation Guidelines and Tips in the *Install 101* section of your manual. This section will provide important tips pertaining to site preparation, footings, system stabilization, and other necessary information vital to the success of your installation.

Models included in this installation guide:

MODEL #	DESCRIPTION	PAGE #
718-810-9	ADA Stair Between Decks, 1' Rise	2
718-959-9	ADA Stair Between Decks, 2' Rise	2
718-990-9	Steps Between Decks, 2' Rise (Standard)	3
718-993-9	ADA Stair Between Decks, 1'-6" Rise	3

NOTE: Deck systems are NOT included in these assemblies.

Please refer to Construction Drawings for the model particular to your system.

TOOLS AND EQUIPMENT REQUIRED

Also see 'Suggested Tools & Equipment' (Doc. # D70052) in "Installations 101"

1. Tape measure and level
2. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
3. Drill, bits, extension cords, power supply
4. Step ladder
5. Adult installers - 2 minimum

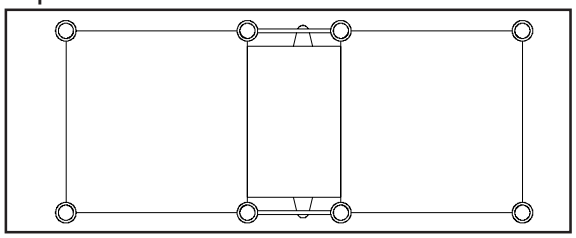
Tots' Choice® - Mira-Therm II

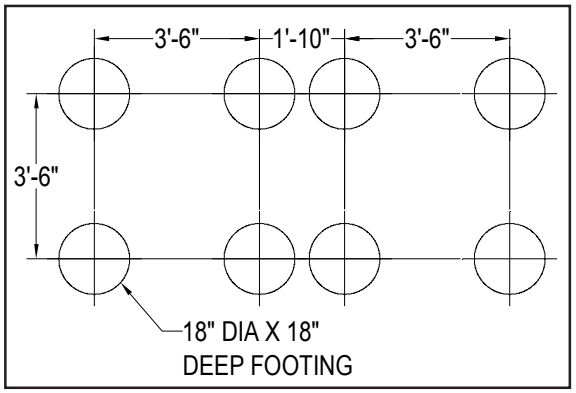
Standard Steps and ADA Stairs Between Decks

718-810-9

ADA Stair Between Decks,1' Rise

Top View





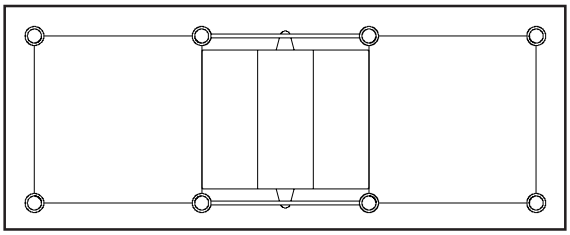
Footing Layout

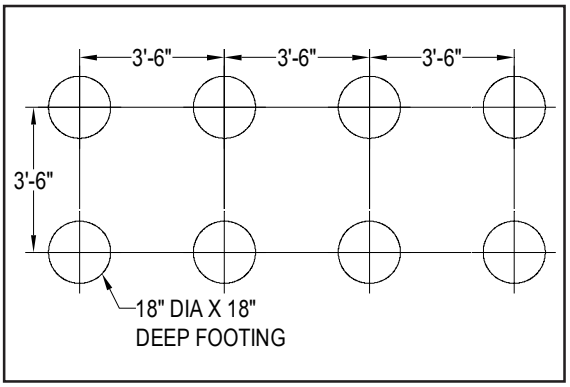


718-959-9

ADA Stair Between Decks, 2' Rise

Top View





Footing Layout



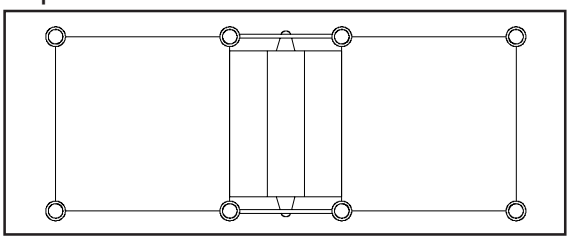
718-810-9, 718-959-9, 718-990-9, 718-993-9

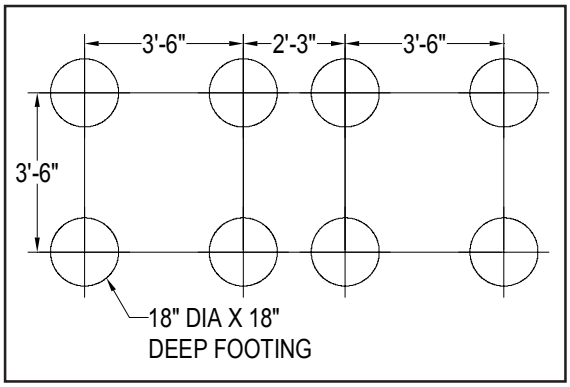
MIRACLE RECREATION EQUIPMENT COMPANY

Tots' Choice® - Mira-Therm II
Standard Steps and ADA Stairs Between Decks

718-990-9

Top View





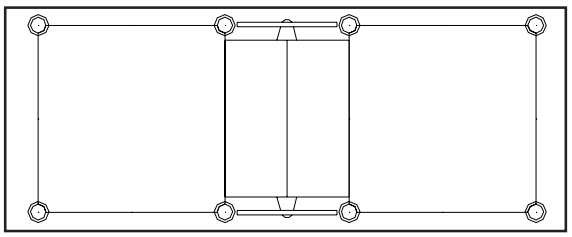
Footing Layout

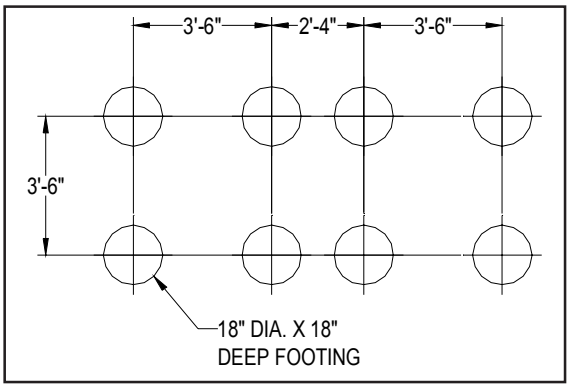
Steps Between Decks, 2' Rise (Standard)



718-993-9

Top View





Footing Layout

ADA Stair Between Decks, 1'-6" Rise



718-810-9, 718-959-9, 718-990-9, 718-993-9

Tots' Choice® - Mira-Therm II

Standard Steps and ADA Stairs Between Decks

STEP 1 PREPARE FOR INSTALLATION

Read *Safety Brochure 100, Important Notes,* these instructions, and other enclosed materials. Unpack, count, and become familiar with system components and hardware.

STEP 2 INSTALL DECK PER SEPARATE INSTRUCTIONS

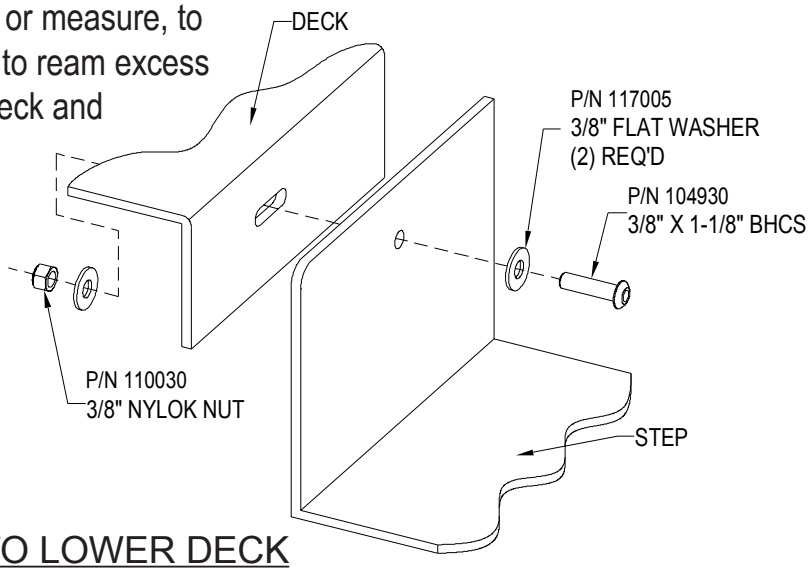
Install Deck systems per separate instructions. Plumb, level and brace in position.

Note: Do not pour concrete for footings, or permanently secure Clamps to Posts with self-drilling screws, until all components in system have been installed per instructions and braced in position level and plumb.

STEP 3 SECURE STAIR TO UPPER DECK

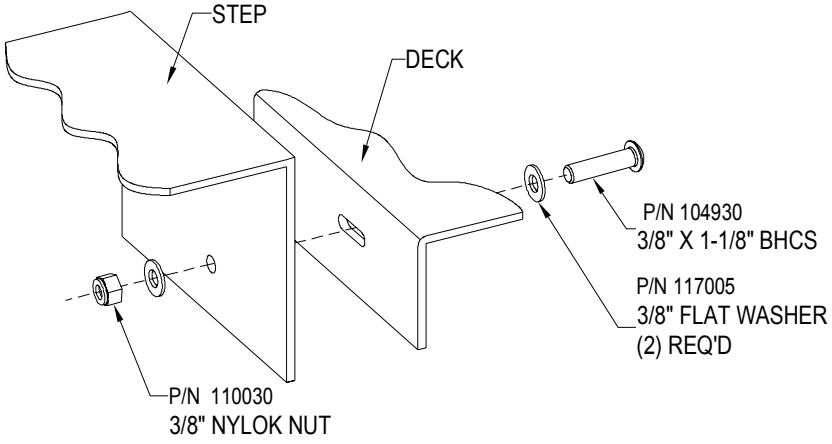
Position Stair against upper Deck, or measure, to locate mating bolt holes. Use drill to ream excess coating from only those holes in Deck and Stair. Repeat process for lower end of Stair and lower Deck.

Replace Stair against upper Deck and secure as shown.



STEP 4 SECURE STAIR TO LOWER DECK

Secure Stair Assembly to lower Deck.



718-810-9, 718-959-9, 718-990-9, 718-993-9

STEP 5 ASSEMBLE CLAMPS RINGS TO POSTS AND BAR SOCKETS TO CLAMPS

Refer to *Versalok Fastening System installation*. Loosely affix a Bar Socket (with 1-1/16" diameter hole) to each set of Clamp Ring halves.

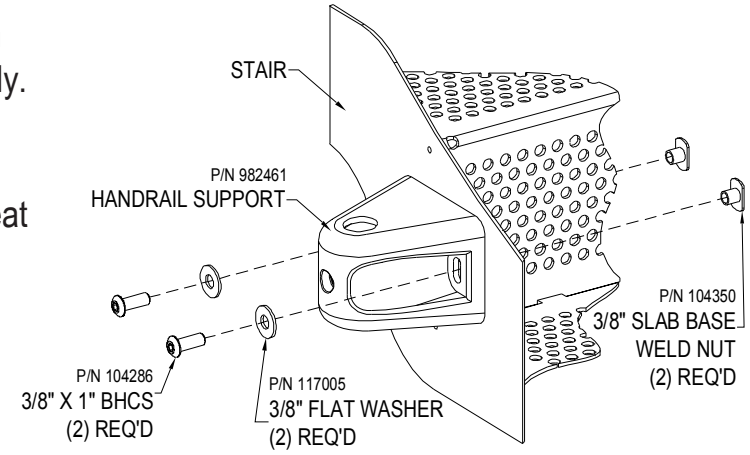
ON UPPER DECK POSTS: Loosely assemble Clamp Ring halves around Posts so that bottom edge of each Clamp is 37-1/2" from top edge of Deck-supporting Clamp.
-AND-
ON LOWER DECK POSTS, STAIR SIDE: Loosely assemble Clamp Ring halves around Posts so that bottom edge of each Clamp is 49-1/2" from top edge of Deck-supporting Clamp.

Tighten Ring but do not permanently secure to Posts with self-drilling screws. Orient Bar Sockets toward center of Deck face.

STEP 6 BOLT HANDRAILS SUPPORTS TO STAIR ASSY

Use drill to ream excess coating from bolting slots in sides of Stair Assembly.

Place Handrail ends in Bar Sockets on Clamps, but do not yet secure. Seat handrail uprights in Handrail Supports to locate and mark final position of Handrail Supports against Stair.



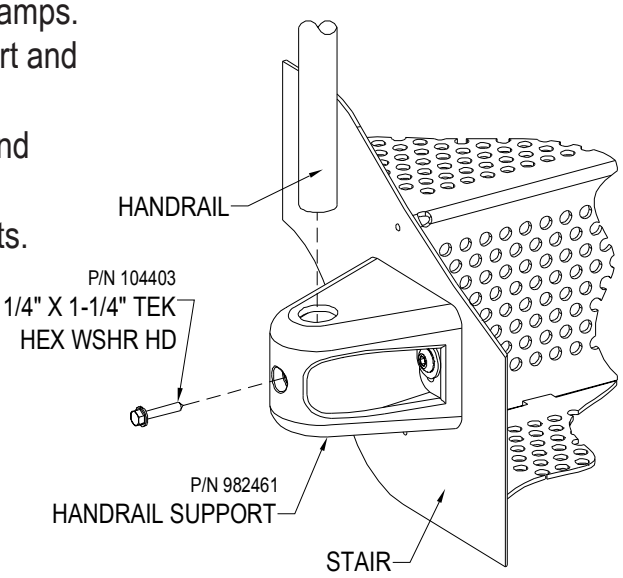
Remove Handrails from Supports and bolt Handrail Supports to Stair Assembly as shown.

Tots' Choice® - Mira-Therm II

Standard Steps and ADA Stairs Between Decks

STEP 7 SECURE HANDRAILS IN HANDRAIL SUPPORTS

Replace Handrail in Bar Sockets on Clamps. Firmly seat Handrail in Handrail Support and secure as shown. Repeat for second Handrail. Plumb and level Handrails and secure in Bar Sockets, Bar Sockets on Clamps, and Clamp Rings around Posts. Refer to *Versalok Fastening System installation*.



FINAL STEP

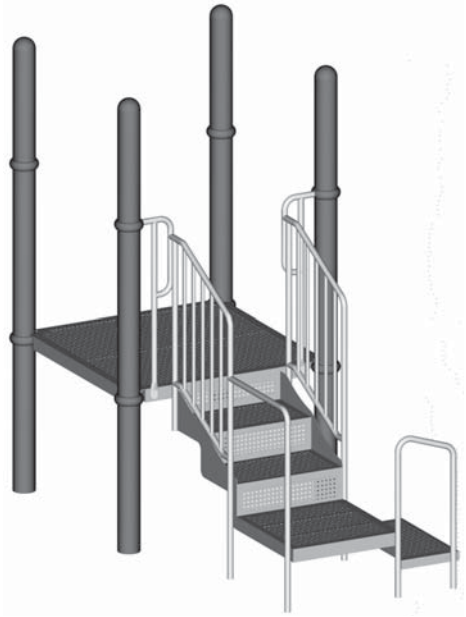
Proceed with *Final Assembly installation* located behind *Installations 101* in Installation Manual.

Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

IMPORTANT! Prior to installation of any components, refer to Playsystem Installation Guidelines and Tips in the *Install 101* section of your manual. This section will provide important tips pertaining to site preparation, footings, system stabilization, and other necessary information vital to the success of your installation.



Model 718-851-39 shown.

TOOLS AND EQUIPMENT REQUIRED

Also see 'Suggested Tools & Equipment' (Doc. # D70052) in "Installations 101"

1. Concrete for footings, wheelbarrow or mixer, 5 gallon bucket, water supply
2. Digging equipment for footings (spade shovel, post hole digger, auger)
3. Bracing materials (2x4's, wood pieces, concrete blocks, bricks, jack stands, sawhorses, etc.)
4. Tape measure and level
5. Open end wrench set, Allen and 6-lobe wrenches or bits, socket set, screwdrivers
6. Drill, bits, extension cords, power supply
7. Hammer
8. Step ladder
9. Adult installers - 2 minimum

718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

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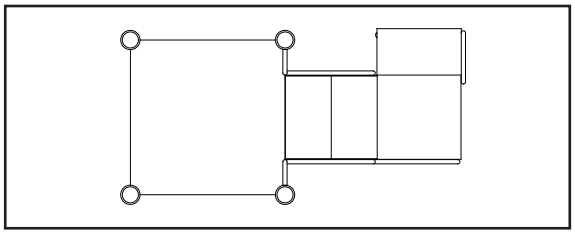
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

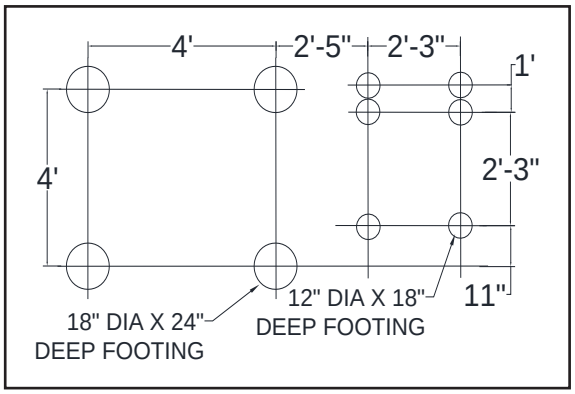
Deck systems not included in these assemblies.

718-851-39

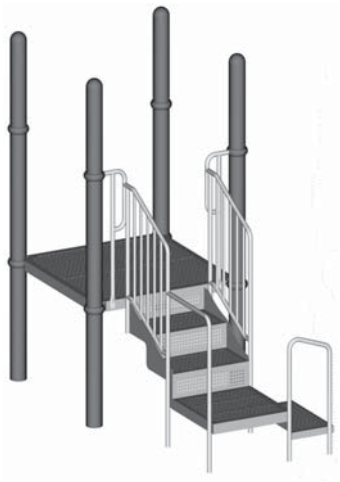
Square Transfer Point for 3' Deck, Closed
Bottom step to exit LEFT

Top View





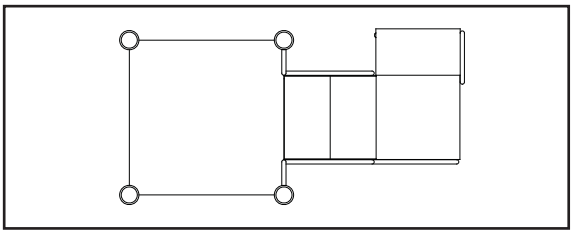
Footing Layout

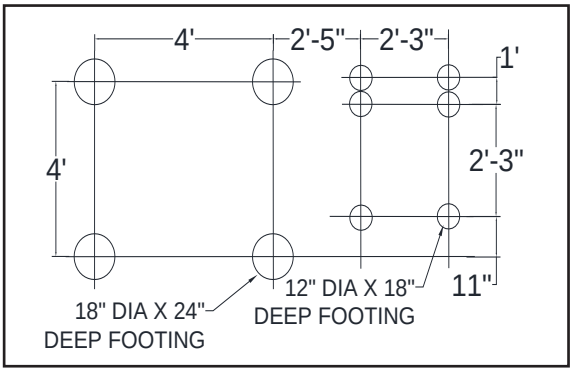


718-851-359

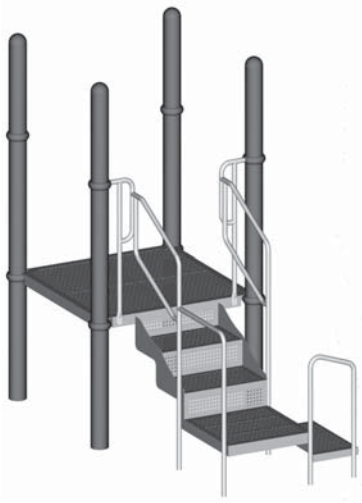
Square Transfer Point for 3' Deck, Open
Bottom step to exit LEFT

Top View





Footing Layout



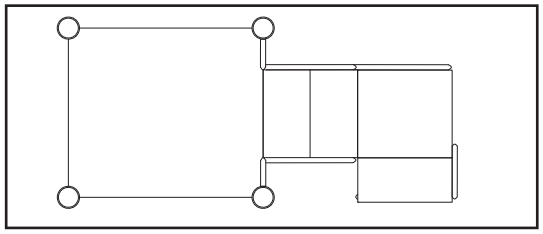
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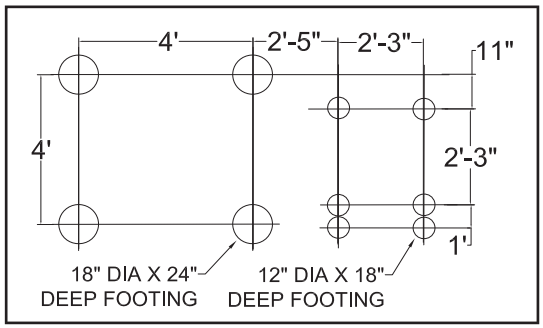
Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

Top View

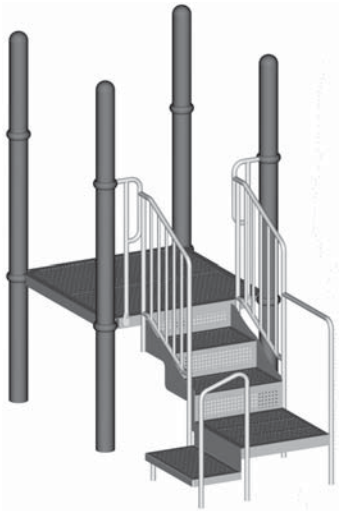




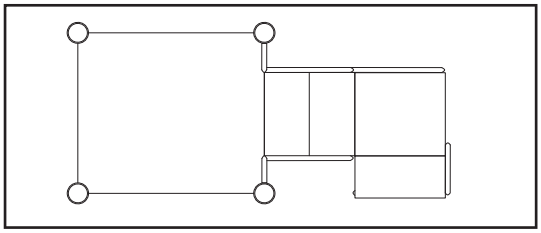
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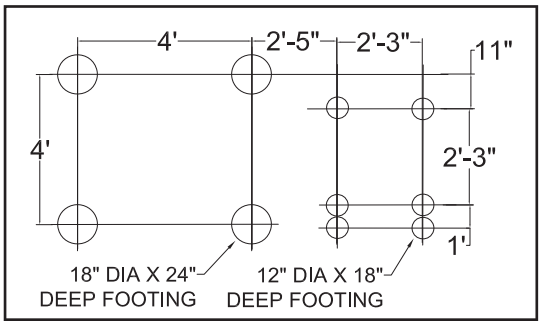
718-851-39

Square Transfer Point for 3' Deck, Closed
Bottom step to exit RIGHT



Top View

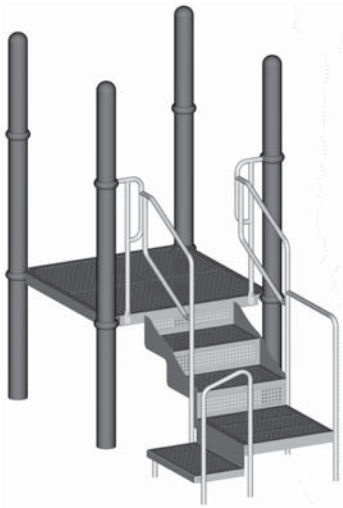




Footing Layout

718-851-359

Square Transfer Point for 3' Deck, Open
Bottom step to exit RIGHT

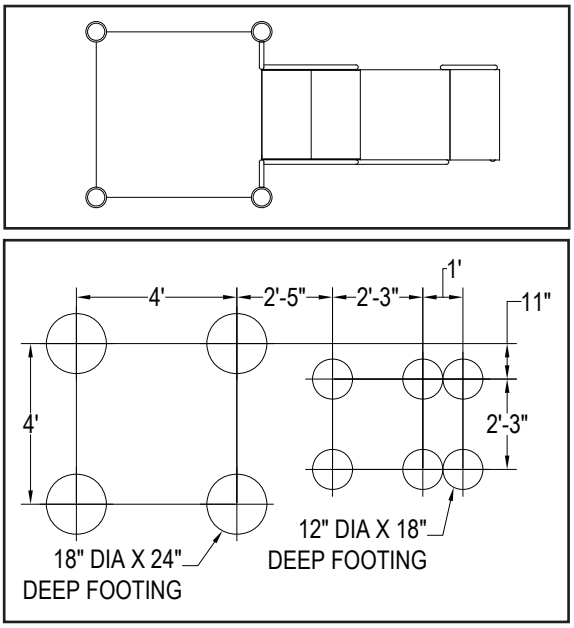


Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

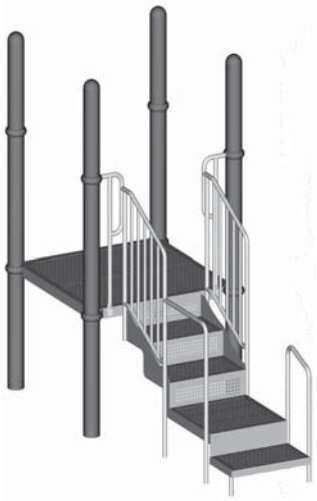
Top View



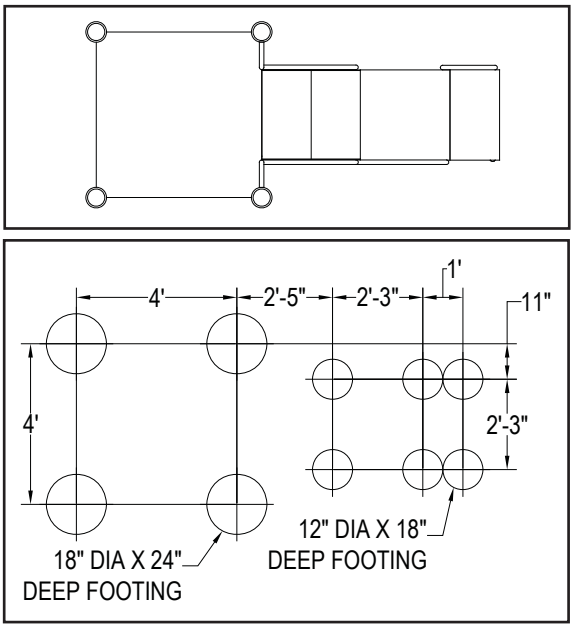
Footing Layout

718-851-39

Square Transfer Point for 3' Deck, Closed
Bottom step to exit STRAIGHT
with handrail on LEFT



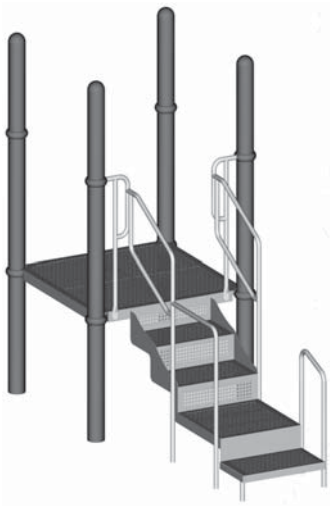
Top View



Footing Layout

718-851-359

Square Transfer Point for 3' Deck, Open
Bottom step to exit STRAIGHT
with handrail on LEFT



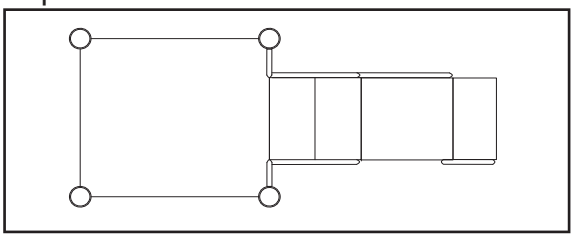
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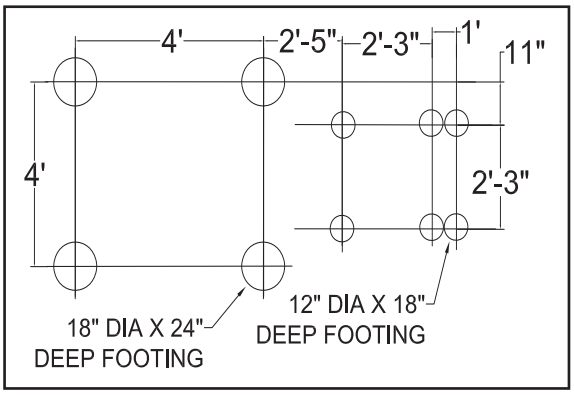
Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

Top View

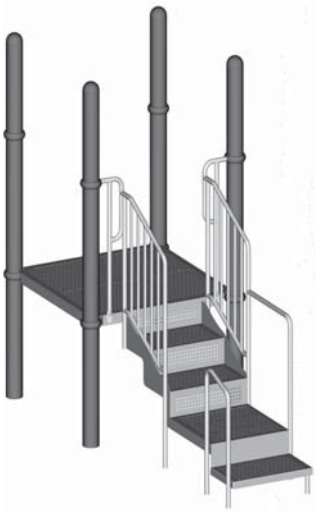




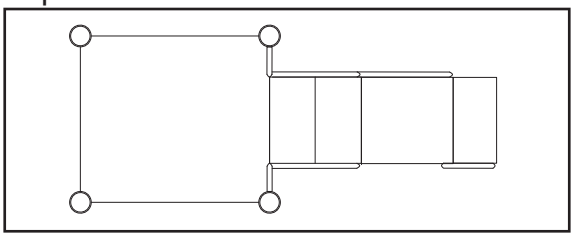
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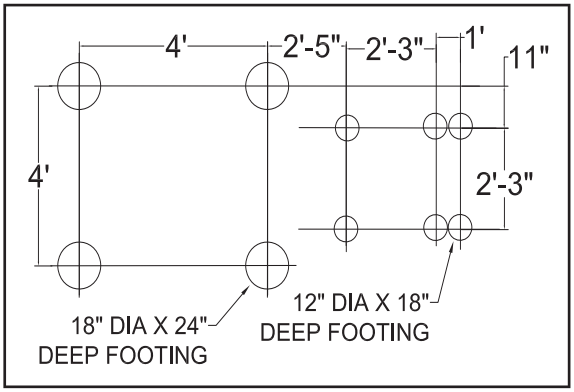
718-851-39

Square Transfer Point for 3' Deck, Closed
Bottom step to exit STRAIGHT
with handrail on RIGHT



Top View

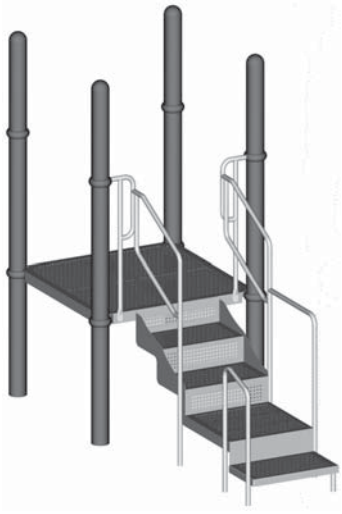




Footing Layout

718-851-39

Square Transfer Point for 3' Deck, Open
Bottom step to exit STRAIGHT
with handrail on RIGHT



718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

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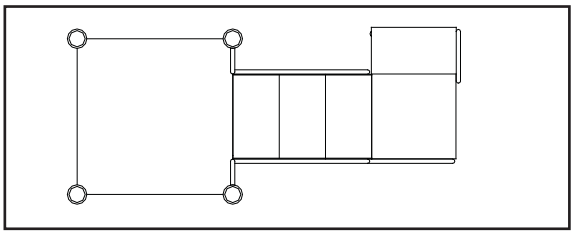
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

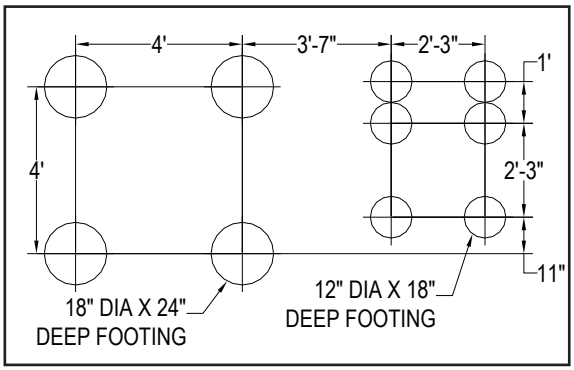
Deck systems not included in these assemblies.

718-851-49

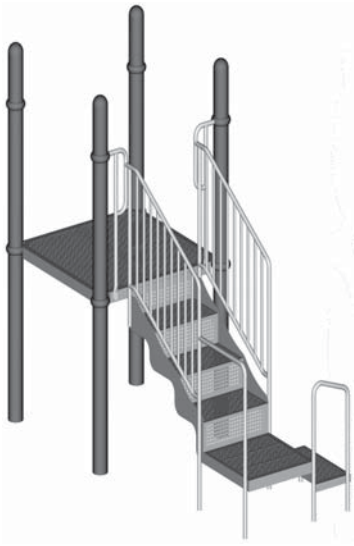
Square Transfer Point for 4' Deck, Closed
Bottom step to exit LEFT

Top View





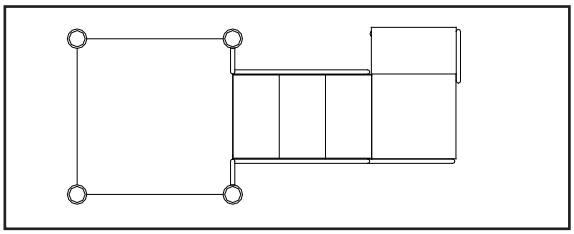
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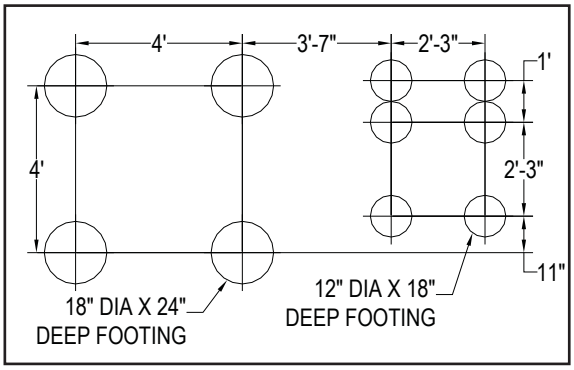


718-851-459

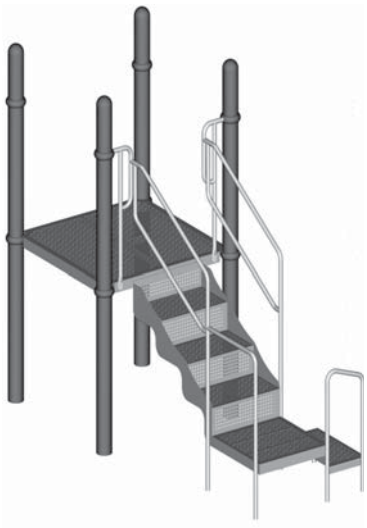
Square Transfer Point for 4' Deck, Open
Bottom step to exit LEFT

Top View





Footing Layout



718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

Tots' Choice® - Mira-Therm II™

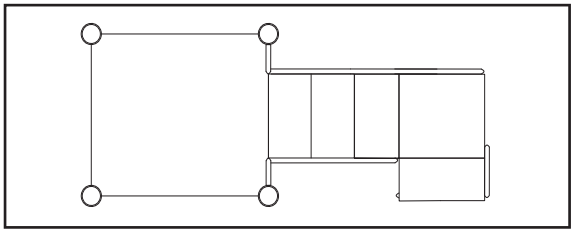
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

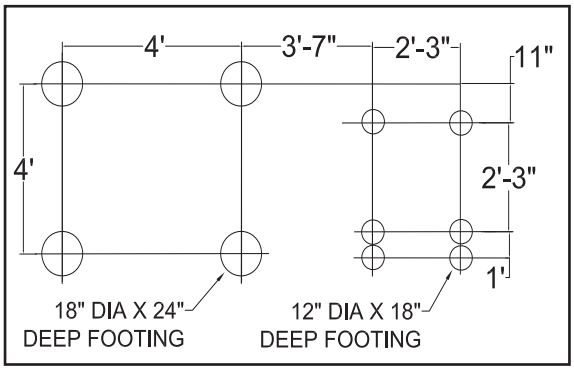
Deck systems not included in these assemblies.

718-851-49

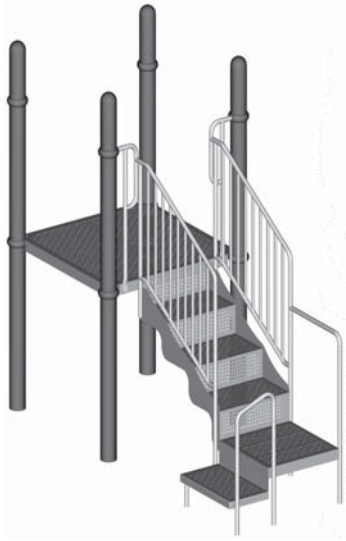
Square Transfer Point for 4' Deck, Closed
Bottom step to exit RIGHT

Top View





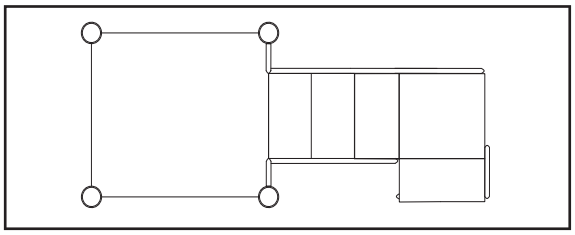
Footing Layout

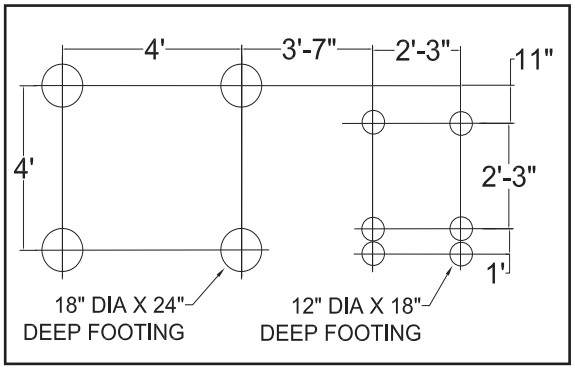


718-851-459

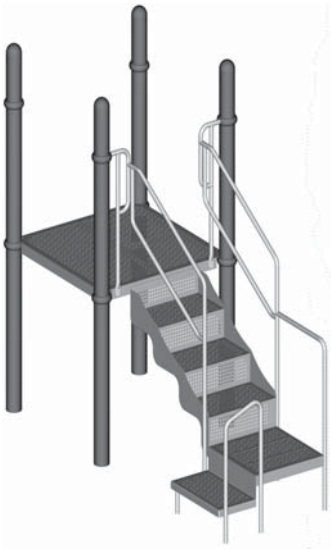
Square Transfer Point for 4' Deck, Open
Bottom step to exit RIGHT

Top View





Footing Layout



718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

Tots' Choice® - Mira-Therm II™

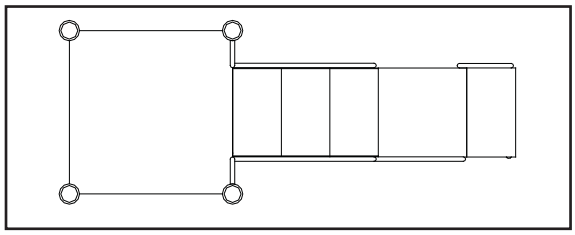
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

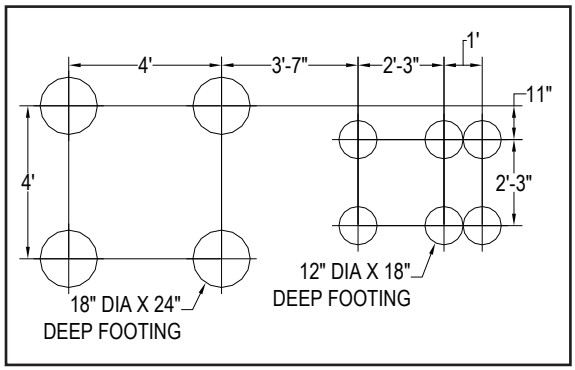
Deck systems not included in these assemblies.

718-851-49

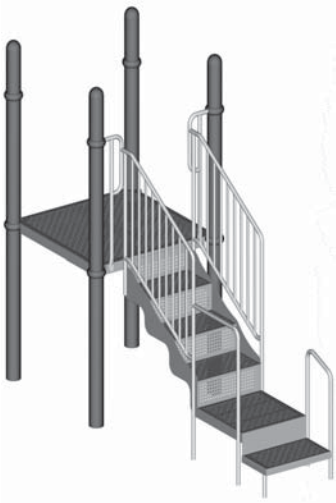
Square Transfer Point for 4' Deck, Closed
Bottom step to exit STRAIGHT
with handrail on LEFT

Top View





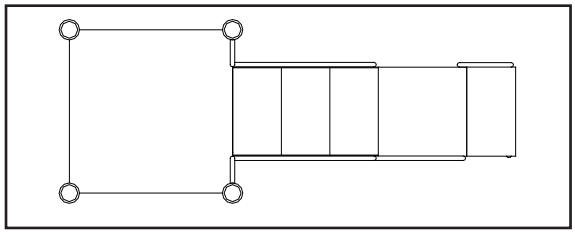
Footing Layout

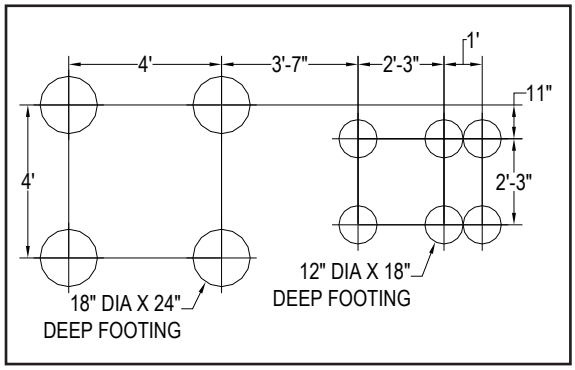


718-851-459

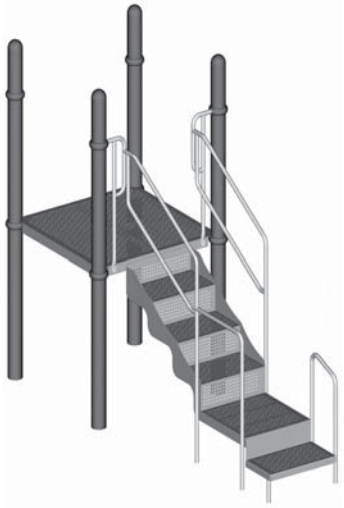
Square Transfer Point for 4' Deck, Open
Bottom step to exit STRAIGHT
with handrail on LEFT

Top View





Footing Layout



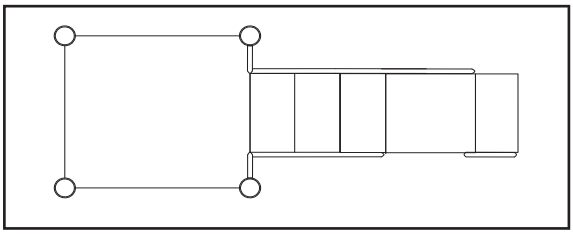
718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

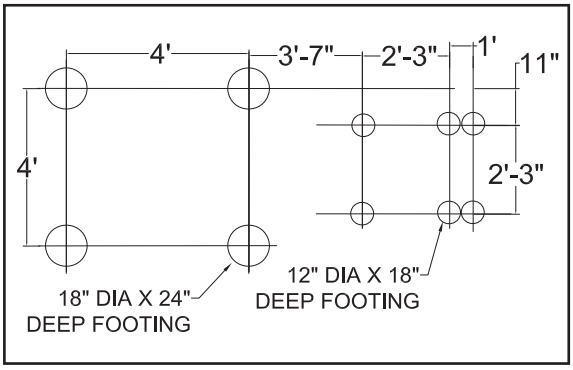
Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

Top View

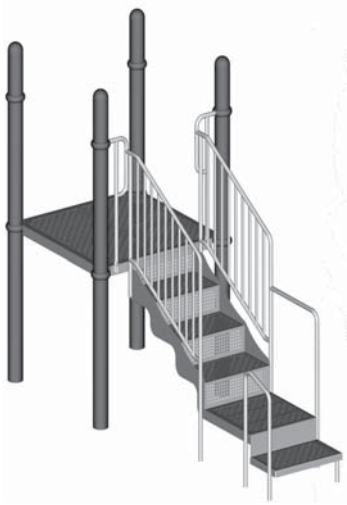




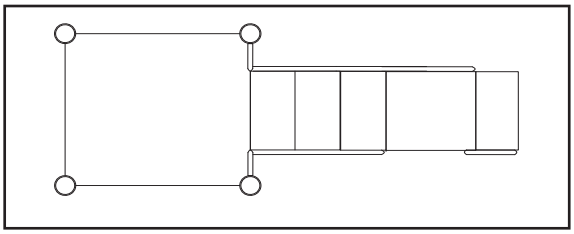
Footing Layout

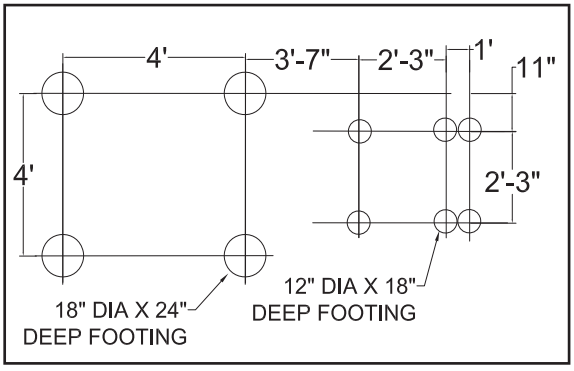
718-851-49

Square Transfer Point for 4' Deck, Closed
Bottom step to exit STRAIGHT
with handrail on RIGHT



Top View

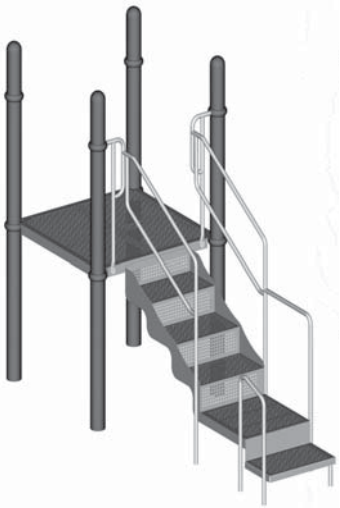




Footing Layout

718-851-459

Square Transfer Point for 4' Deck, Open
Bottom step to exit STRAIGHT
with handrail on RIGHT



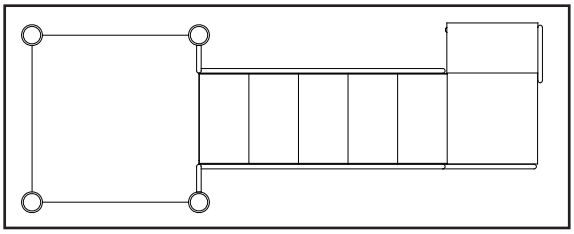
718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

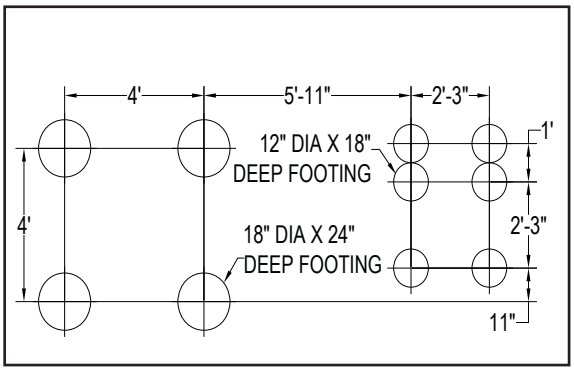
Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

Top View





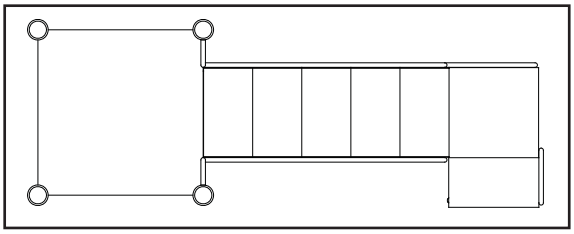
Footing Layout

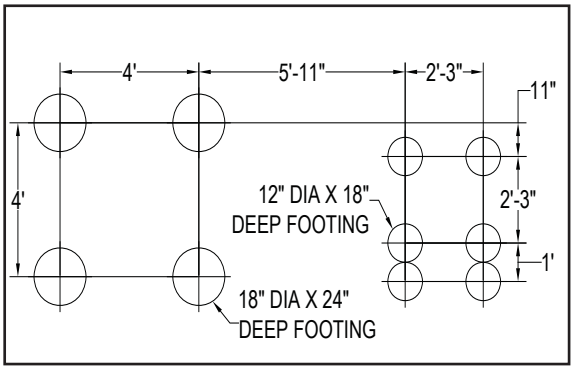
718-851-59

Square Transfer Point for 5' Deck, Closed
Bottom step to exit LEFT



Top View





Footing Layout

718-851-59

Square Transfer Point for 5' Deck, Closed
Bottom step to exit RIGHT

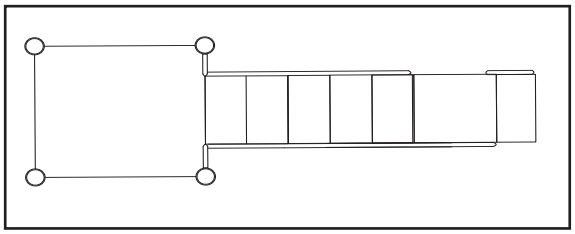


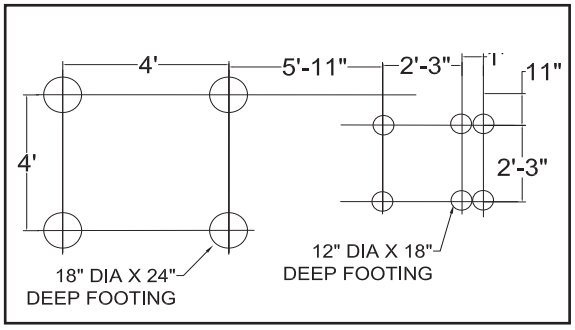
Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

Top View





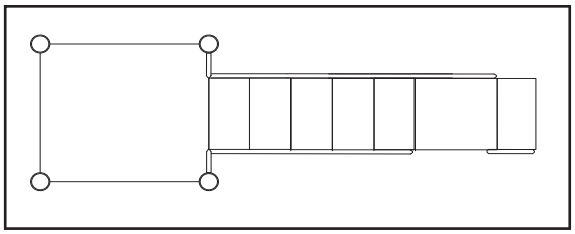
Footing Layout

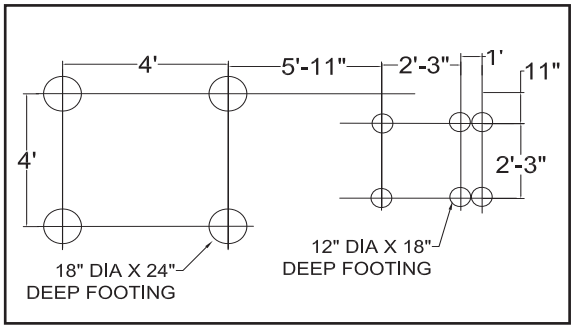
718-851-59

Square Transfer Point for 5' Deck, Closed
Bottom step to exit STRAIGHT
with handrail on LEFT



Top View





Footing Layout

718-851-59

Square Transfer Point for 5' Deck, Closed
Bottom step to exit STRAIGHT
with handrail on RIGHT



718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

Tots' Choice® - Mira-Therm II™

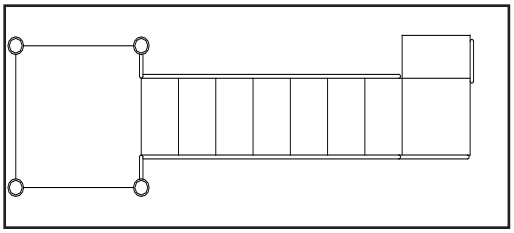
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

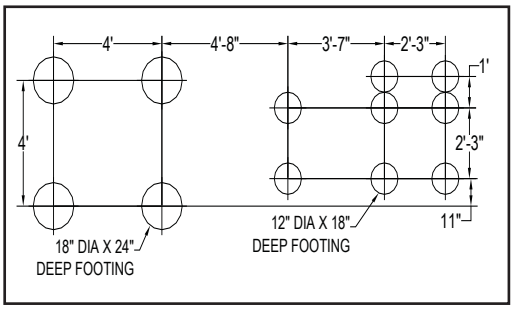
Deck systems not included in these assemblies.

718-851-69

Square Transfer Point for 6' & 6'-6" Deck, Closed
Bottom step to exit LEFT

Top View





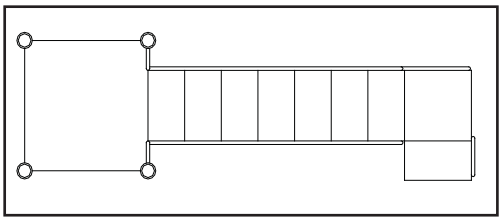
Footing Layout

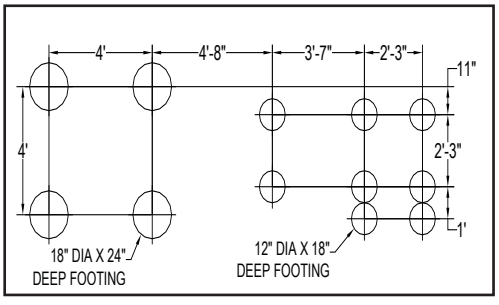


718-851-69

Square Transfer Point for 6' & 6'-6" Deck, Closed
Bottom step to exit RIGHT

Top View





Footing Layout



718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

Tots' Choice® - Mira-Therm II™

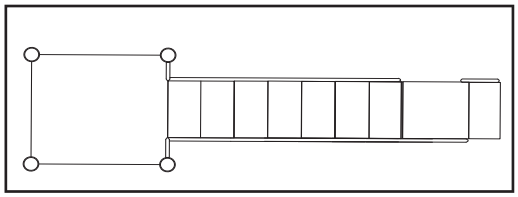
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

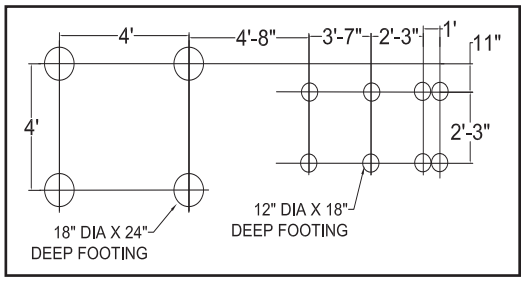
Deck systems not included in these assemblies.

718-851-69

Square Transfer Point for 6' & 6'-6" Deck, Closed
Bottom step to exit STRAIGHT
with handrail on LEFT

Top View





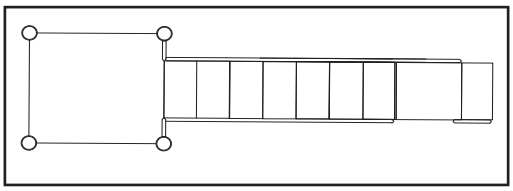
Footing Layout

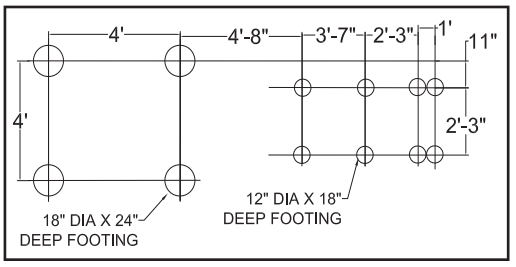


718-851-69

Square Transfer Point for 6' & 6'-6" Deck, Closed
Bottom step to exit STRAIGHT
with handrail on RIGHT

Top View





Footing Layout



718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

RECOMMENDED ASSEMBLY SEQUENCE

1. Deck system (per separate instructions)
2. Footings
3. Deck enclosures to deck and to posts (via clamps and bar sockets)
4. Stair handrail and stair/deck handrail to deck enclosures
5. Swaged extensions (and sleeves if applicable) to stair handrail and stair/deck handrail (extensions into footings)
6. Stair to deck and to handrails (via sleeves if applicable)
7. Transfer point deck to stair
8. Transfer deck handrail to stair/deck handrail and transfer point deck (transfer deck handrail into footing)
9. Transfer step handrail to transfer point deck (transfer step handrail into footings)
10. Bottom step to transfer point deck and transfer step handrail
11. Rung leg to bottom step (rung leg into footing)
12. Final assembly

STEP 1

1a. Read *Safety Brochure 100, Important Notes,* these instructions, and other enclosed materials. Unpack, count, and become familiar with system components and hardware.

STEP 2

2a. Install deck system per separate instructions. Plumb, level and brace in position.

Note: Do not pour concrete for footings, or permanently secure clamps to posts with self-drilling screws, until <u>all</u> components in system have been installed per instructions and braced in position, level and plumb.

STEP 3

3a. Dig footings per *Footing Layout,* Construction Drawings, and *Footing Details installation*.

718-851-39, 718-851-359, 718-851-49, 718-851-459, 718-851-59, 718-851-69

Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

STEP 4

4a. Refer to *Versalok Fastening System installation.* Loosely assemble clamp rings around posts so that bottom edge of each clamp is 37-3/8" from top edge of deck supporting clamp.

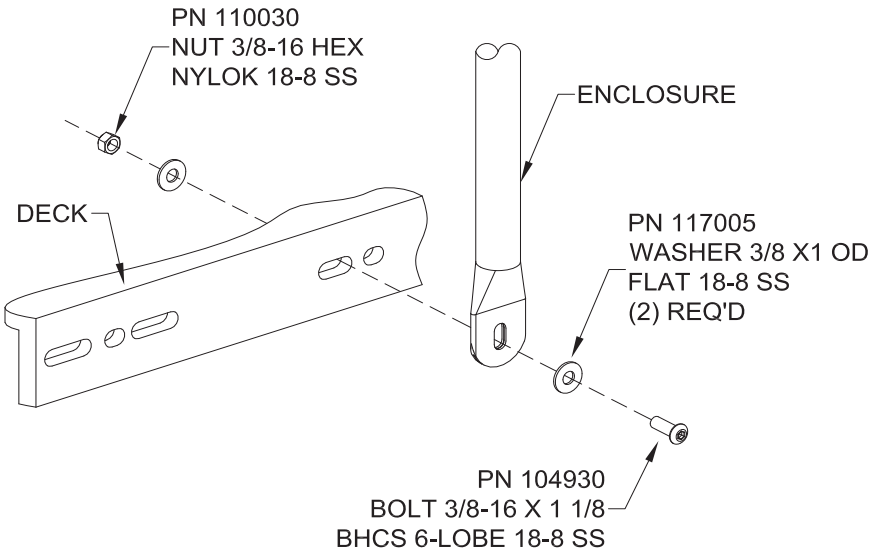
4b. Loosely assemble a bar socket to each clamp ring and orient toward center of deck midpoint.

STEP 5

5a. Position deck enclosures (PN 990133P) with top rail ends in bar sockets, uprights plumb and holes in mashed ends aligned with holes in deck.

5b. Use a drill to remove excess PVC from only mating bolt holes in deck edge. Assemble enclosures to deck as shown below.

5c. Refer to *Versalok Fastening System installation*. Affix enclosures in bar sockets, bar sockets to clamps and clamp rings around posts. If necessary, adjust clamp positions to ensure enclosure uprights are plumb.



Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

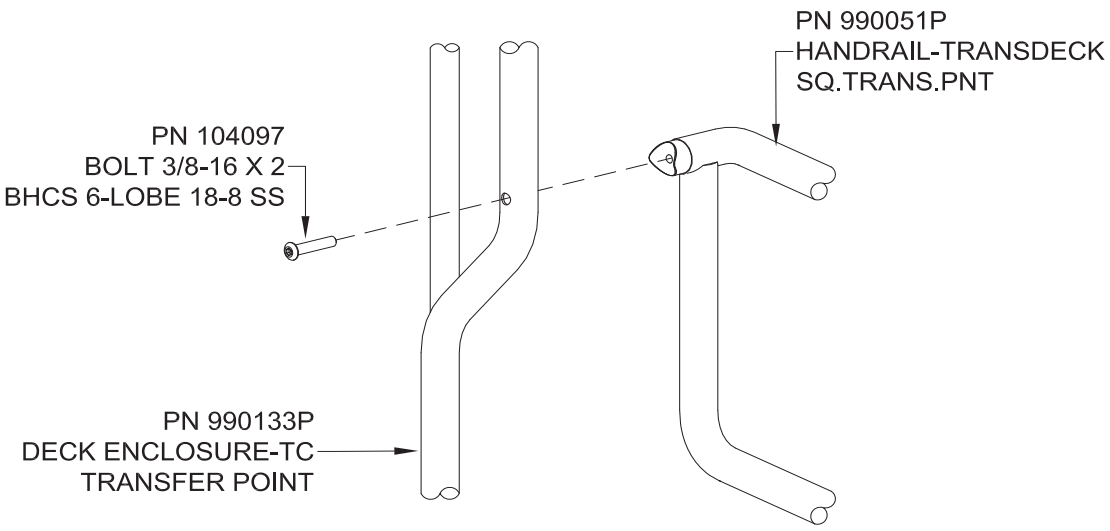
Deck systems not included in these assemblies.

STEP 6

6a. Refer to *Construction Drawing Top View* to determine planned orientation of transfer point's bottom step and transfer step handrail, which establishes correct location for stair handrail and stair/deck handrail (i.e. which side of stair assembly to install each).

Note: Transfer handrail contains a bolt hole in its bottom upright for assembly of transfer deck handrail, while stair handrail does not contain the hole.

6b. Assemble top ends of handrails to deck enclosures as shown. Support handrails until next step is complete.



STEP 7

For models from 5' and 6'-6" Decks only:

7a. Refer to *step 12* or *step 13 illustration*. Place handrail sleeves on lower upright of stair handrail and stair/deck handrail and loosely insert a bolt into one hole, to hold sleeve above connection point of handrail extension (per next instruction). Repeat for middle uprights for model 718-851-59 only.

Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

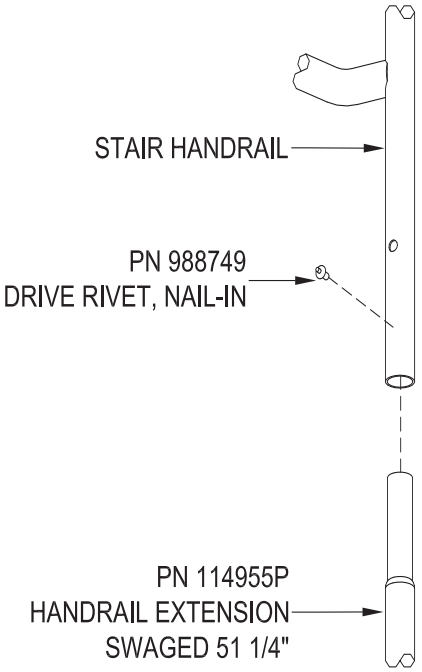
Deck systems not included in these assemblies.

STEP 7, cont.

For ALL models:

7b. Set handrail extensions into footings beneath uprights of stair handrail and stair/deck handrail. Insert and fully seat swaged ends of extensions into lower handrail uprights and middle uprights for model 718-851-69 only.

7c. Plumb assemblies and drill a 1/4" hole through handrails into extensions. Fully seat a drive rivet in each and strike pin with hammer to expand.



STEP 8

8a. Use a drill to remove excess PVC from four (4) bolt holes in both top and bottom ends of stair, for attachment to deck and transfer point deck, and from holes on both sides of stair for handrail attachment.

8b. Remove excess PVC from mating bolt holes in deck edge and two faces of transfer point deck for attachment to stair and bottom step.

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Tots' Choice® - Mira-Therm II™

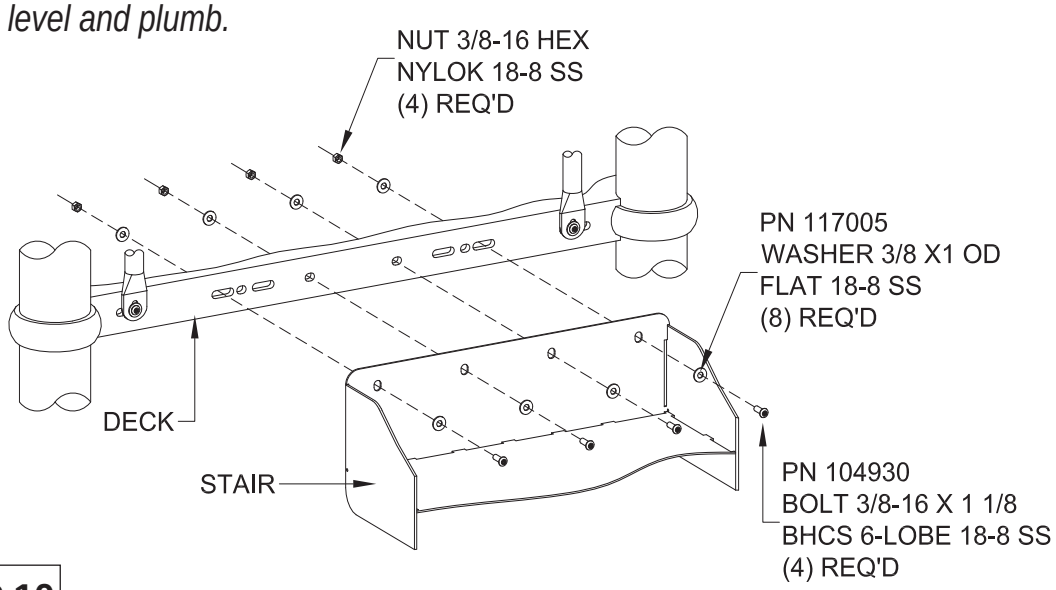
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

STEP 9

9a. Position top end of stair against deck and assemble as shown.

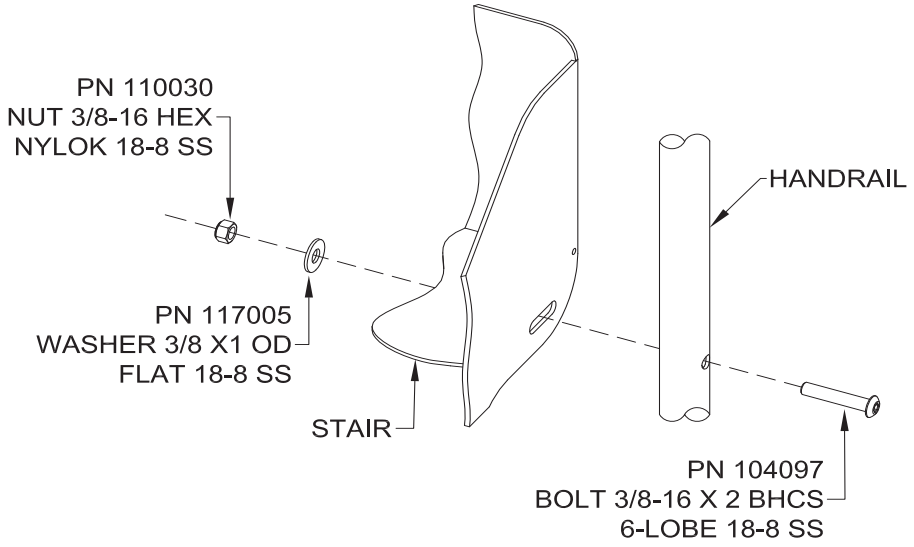
Note: Do not tighten bolts in this assembly until all parts are fully installed and braced in position, level and plumb.



STEP 10

For models with Closed (Spoked) Handrails only:

10a. Assemble topmost upright on handrails to stair sides as shown. Assemble middle upright on handrails to stair sides as shown for model 718-851-59 only.



Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

STEP 11

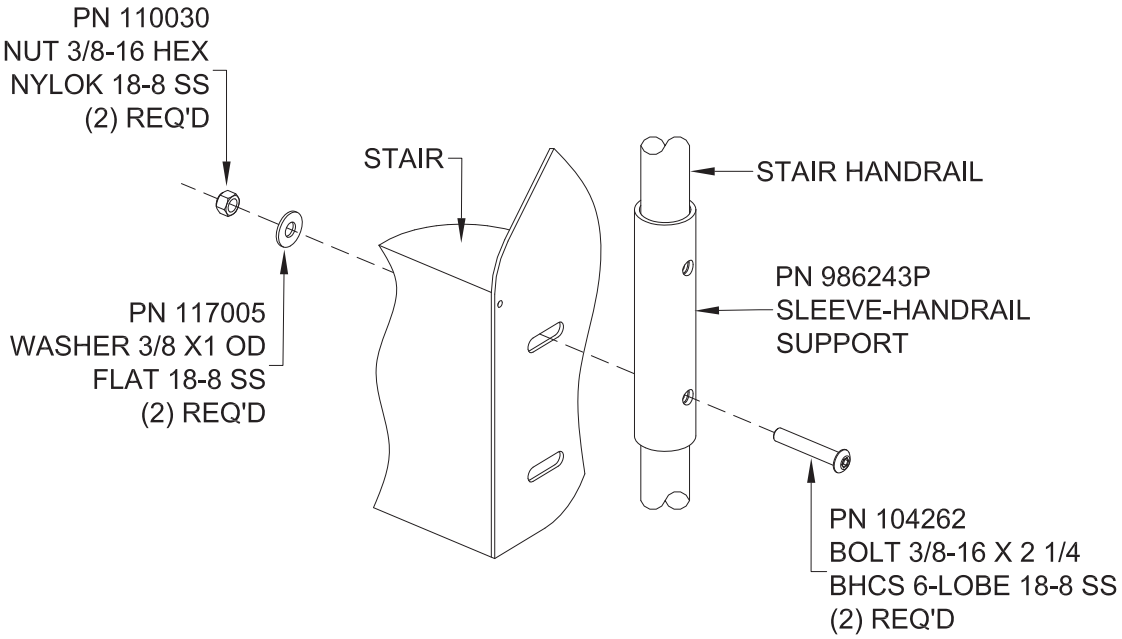
For models from 3' and 4' Decks only:

11a. Refer to *Step 10 illustration* on previous page. Assemble handrails to stair sides (at bottom end) as shown.

STEP 12

For models from 5' Decks only:

12a. Bolt through <u>bottom</u> hole in handrail sleeve, through pre-drilled hole in handrail (above connection point of swaged extension), and through pre-drilled hole in stair. Repeat on opposite side of stair.



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Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

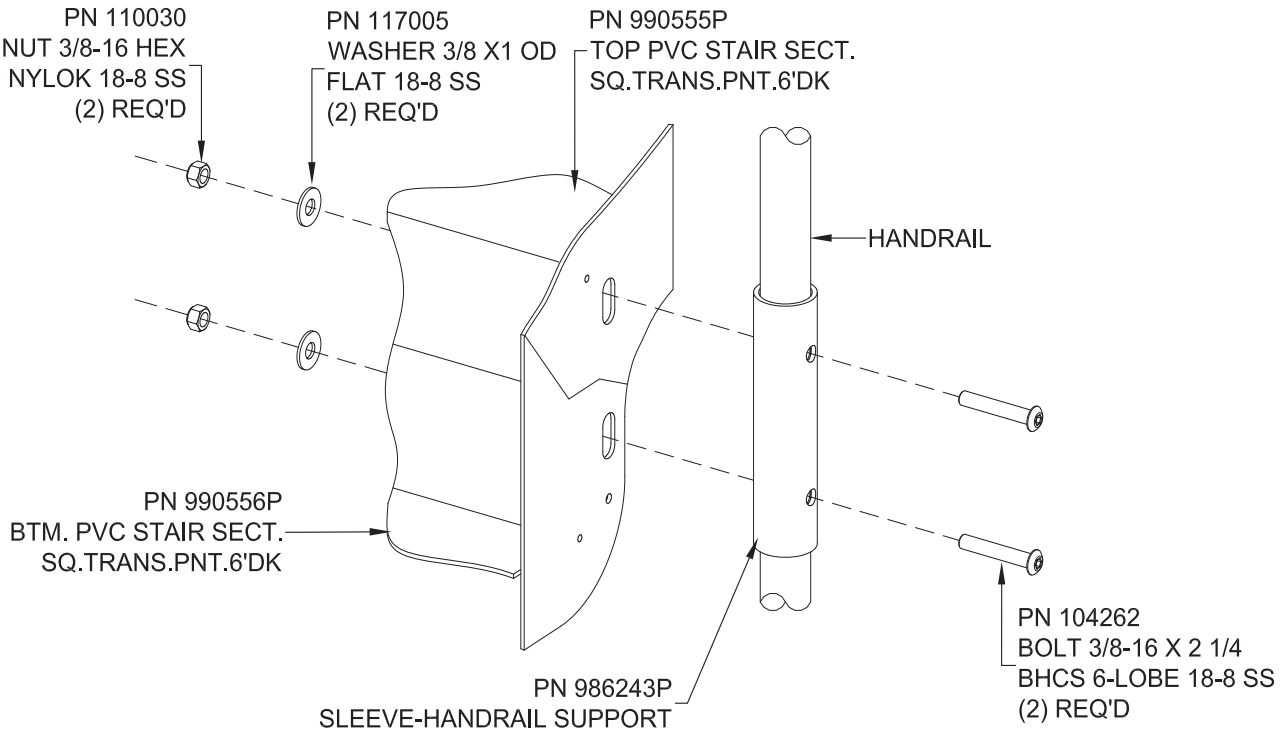
Deck systems not included in these assemblies.

STEP 13

For models from 6'-6" Decks only:

13a. Assemble handrails to stair sides (at approximate mid-point and bottom end) through handrail sleeves as shown (in effect, splicing bottom stair to top stair).

Note: The bottom end handrail uprights contain only <u>one</u> pre-drilled hole, as in step 12 illustration on previous page, not two as shown in "mid-point" handrail illustration below, and require only one bolt, washer and nut each; bolt through sleeve's bottom hole only when assembling to bottom end handrail uprights.



Tots' Choice® - Mira-Therm II™

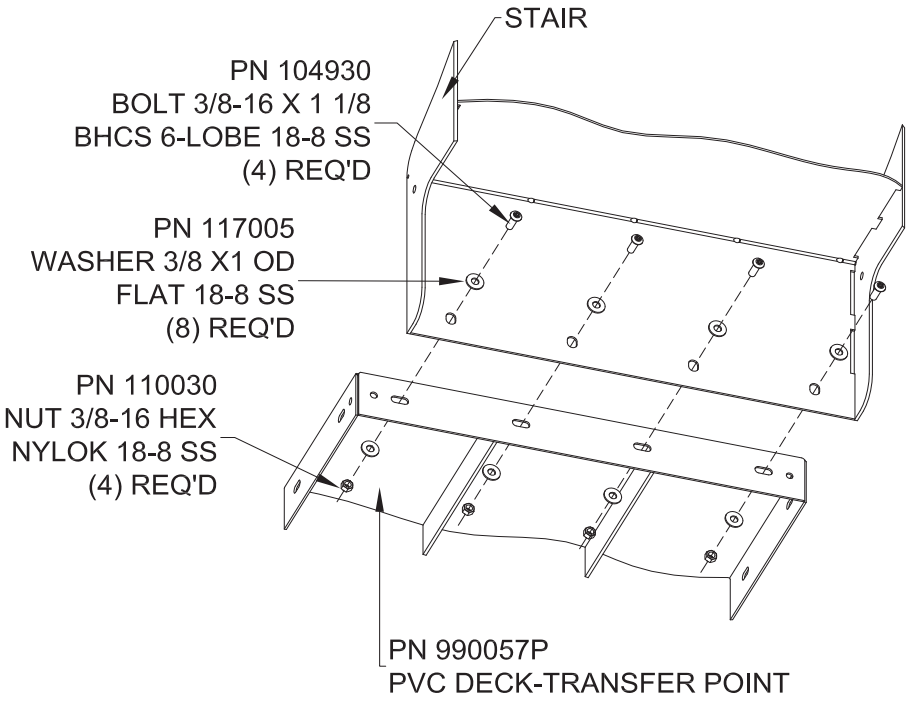
Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

STEP 14

14a. Attach transfer point deck to stair assembly as shown. Support deck until assembled to handrails in next steps.

Note: If model is attached to 6' deck, transfer point deck must stand 11" from finished grade. If model is attached to 6'-6" deck, transfer point deck must stand 16" from finished grade.



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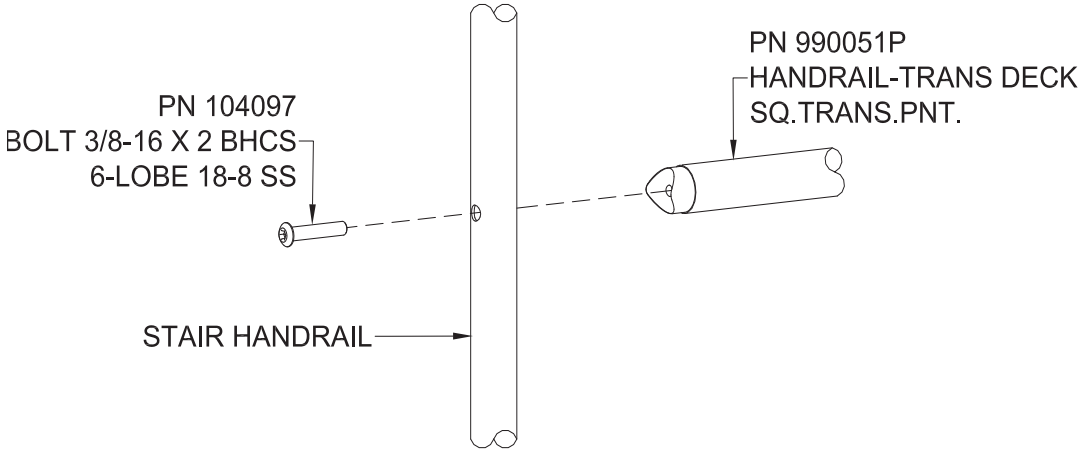
Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

STEP 15

15a. Set transfer deck handrail leg into footing and fasten top end to stair/deck handrail as shown.



STEP 16

16a. Refer to pertinent *model illustration* from *pages 1 - 8.* Locate bolt holes on sides of transfer point deck that mate with bolt holes in transfer deck handrail and transfer step handrail. Use a drill to remove excess PVC from them.

STEP 17

17a. Refer to *step 10 illustration* on *page 18*. Attach transfer point deck to transfer deck handrail.

STEP 18

18a. Refer to *step 10 illustration* on *page 18*. Place legs of transfer step handrail into footing holes, with longer leg (higher arch) oriented toward transfer point deck. Fasten longer leg of transfer step handrail to transfer point deck.

Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

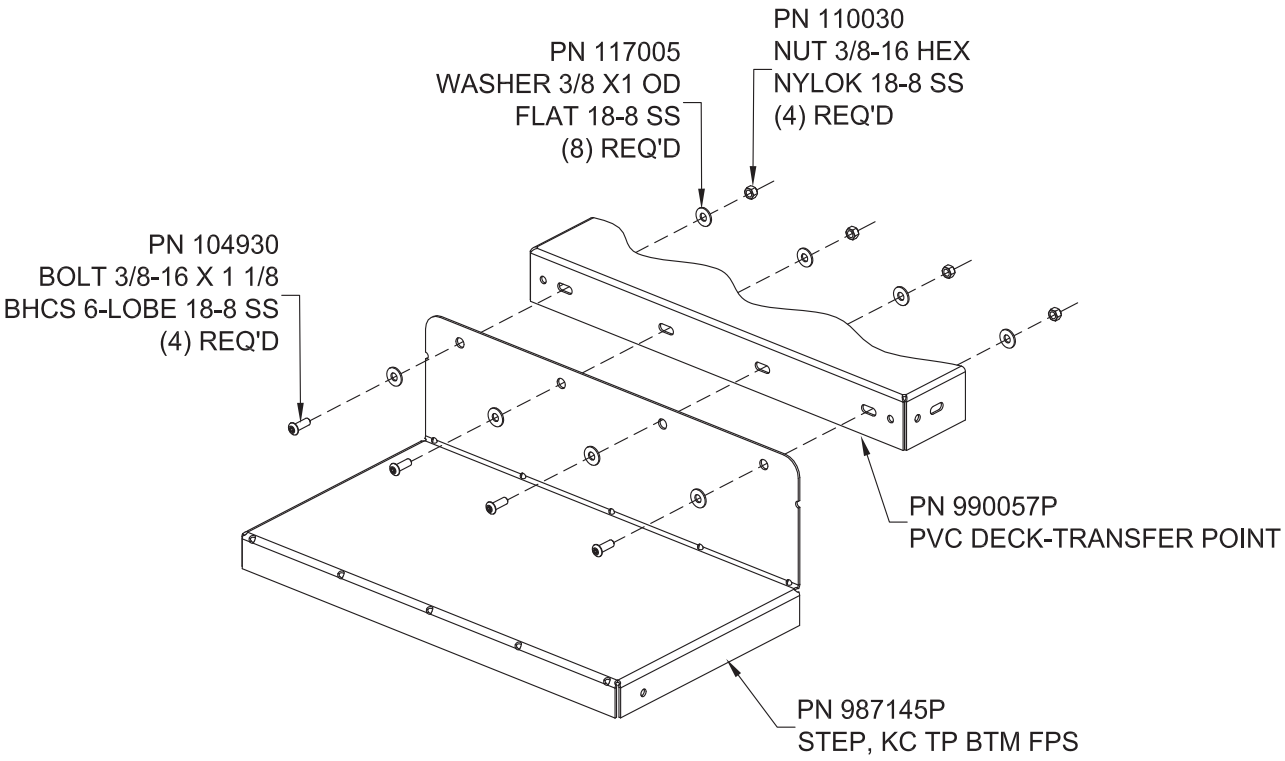
Deck systems not included in these assemblies.

STEP 19

19a. Use drill to remove excess PVC from bolt holes in top of bottom step and on sides for handrail and rung leg attachment.

19b. Assemble bottom step to transfer point deck as shown.

19c. Refer to *step 10 illustration* on *page 18*. Fasten side of bottom step to shorter leg of transfer step handrail.



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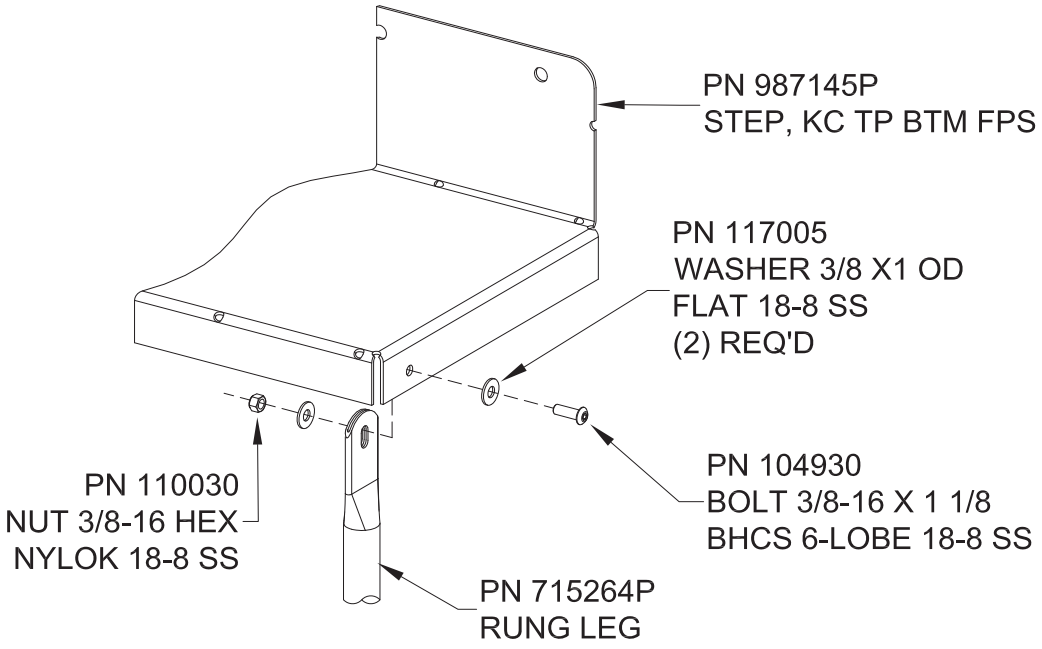
Tots' Choice® - Mira-Therm II™

Square Transfer Points - 3', 4', 5', 6' & 6'-6" Decks with Closed or Open Handrails

Deck systems not included in these assemblies.

STEP 20

20a. Set rung leg into footing and attach to bottom step as shown.



FINAL STEP

Plumb and level entire assembly. Tighten all hardware. Proceed with *Final Assembly installation.*

Tots' Choice®

Steering Wheel, Post Mount

IMPORTANT! Prior to installation of any components, refer to the "Owner/Operator Manual". This manual will provide important information pertaining to site preparation, footings, system stabilization and other necessary information vital to the success of your installation.



718-900-P1

Steering Wheel, Post Mount

Note:

- *An (*) by a part number (CODE) indicate: Color Code Required.*
- *Posts are not included in this assembly.*

TOOLS AND EQUIPMENT REQUIRED

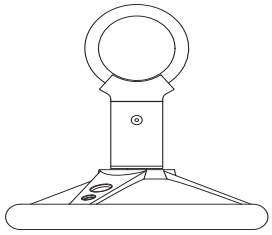
Refer to "Installations 101"

1. Concrete for footings, wheelbarrow or mixer, 5 gallon bucket, water supply
2. Digging equipment for footings (spade shovel, post hole digger, auger)
3. Bracing materials (2x4's, wood pieces, sawhorses, etc.)
4. Tape measure, level and marker
5. Drill, bits, extension cords, power supply
6. Adult installers - 1 minimum

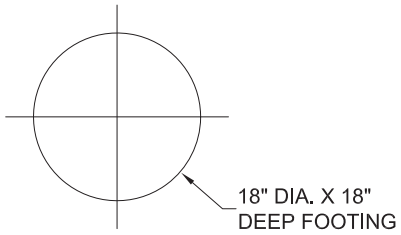
Tots' Choice®

Steering Wheel, Post Mount

Top View



Footing Layout



STEP 1 DIG FOOTINGS

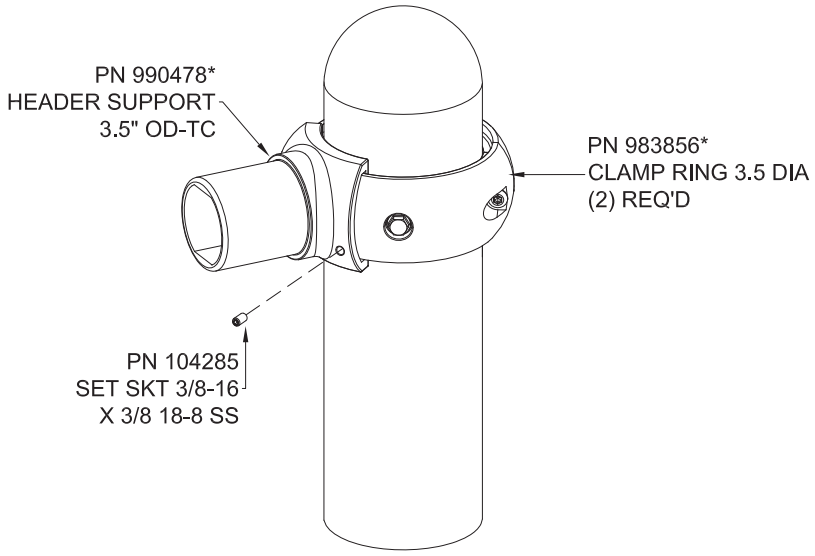
1a. Dig footings per *Footing Layout*, Construction Drawings *and* ***Footing Details*** *installation* located behind *Installations 101* in Installation Manual.

Note: Do not pour concrete or permanently secure clamps to posts with self-drilling screws until components illustrated in this installation guide have been installed per instructions, braced in position, leveled and plumbed.

STEP 2 LOOSELY ASSEMBLE CLAMP TO POST

2a. Refer to ***Versalok Fastening System*** *installation.*

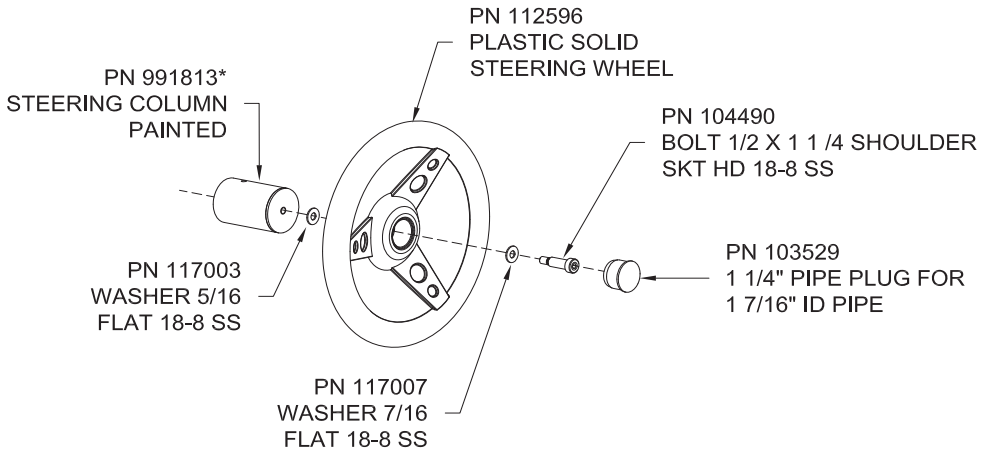
2b. Loosely assemble clamp rings and header around post; tighten rings but do not yet permanently secure with self-drilling screws.



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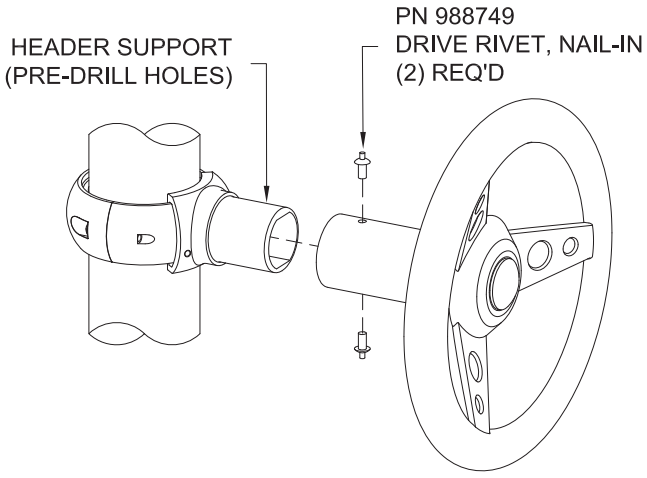
Steering Wheel, Post Mount

STEP 3 ATTACH STEERING WHEEL TO STEERING COLUMN



STEP 4 AFFIX STEERING WHEEL ASSEMBLY TO HEADER SUPPORT

Note: Pre-drill holes in the header support using the steering column as a guide.



FINAL STEP

Proceed with ***Final Assembly*** *installation* located behind *Installations 101* in Installation Manual.

Installation Guide

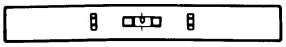
June 4, 2001 Rev. C

Final Assembly

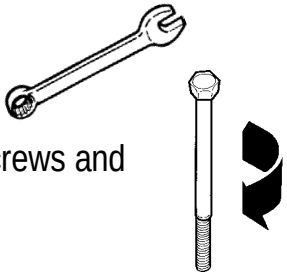
Kids' Choice, Tots' Choice, Center Stage, and City Parks Series Deck Systems & Misc.

STEP 1

Plumb and level assemblies.

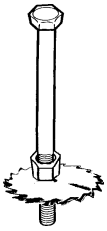


STEP 2



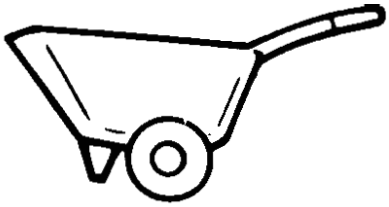
Secure Clamps to Posts with self-drilling screws and tighten all fasteners.

STEP 3

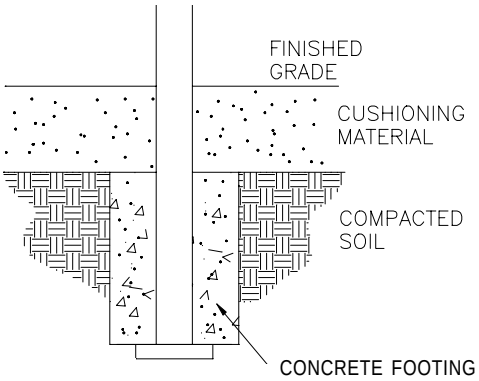


Trim all bolts. No more than two (2) threads may protrude after trimming by installer. Peen ends smooth to touch.

STEP 4



Pour concrete in remaining Footings, and allow 72 hours to cure.



STEP 5

Install cushioning material (protective surfacing) in, around and beneath areas required for unit.

STEP 6

Apply *Warning* and *Manufacturer's I.D.* labels, and *Age Appropriate* labels if included. Refer to ***Installations 101.***

FINAL STEP

Establish and adhere to a regular maintenance schedule, checking for loose or missing bolts, worn parts, etc.



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Installation Guide

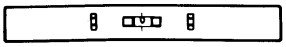
June 4, 2001 Rev. A

Final Assembly

Miscellaneous Freestanding Play Equipment and Non-Play Equipment

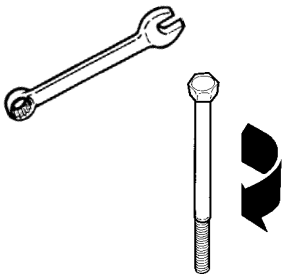
STEP 1

Plumb and level assemblies.



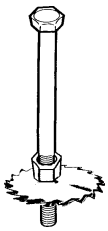
STEP 2

Tighten all fasteners.



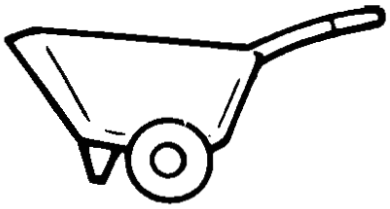
STEP 3

Trim all bolts. No more than two (2) threads may protrude after trimming by installer. Peen ends smooth to touch.



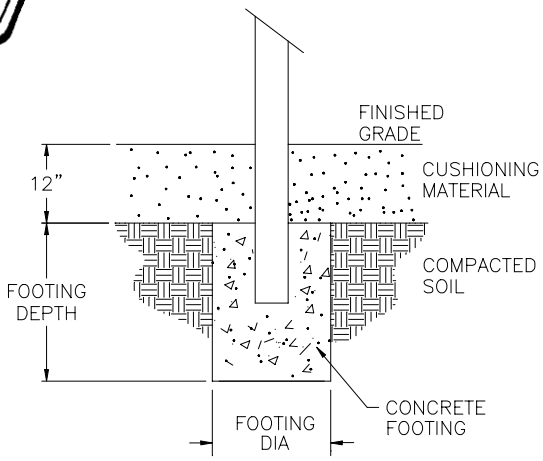
STEP 4

Pour concrete in remaining Footings, and allow 72 hours to cure.



STEP 5

If applicable, install cushioning material (protective surfacing) in, around, and beneath areas required for unit.



STEP 6

If applicable, apply *Age Appropriate, Warning,* and *Manufacturer's I.D.* labels. Refer to ***Installations 101.***

FINAL STEP

Establish and adhere to a regular maintenance schedule, checking for loose or missing bolts, worn parts, etc.



Installation Guide

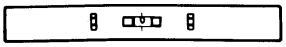
June 4, 2001 Rev. C

Final Assembly

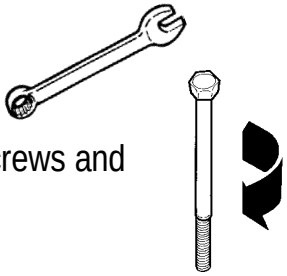
Kids' Choice, Tots' Choice, Center Stage, and City Parks Series Deck Systems & Misc.

STEP 1

Plumb and level assemblies.

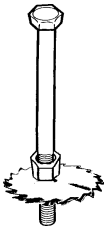


STEP 2



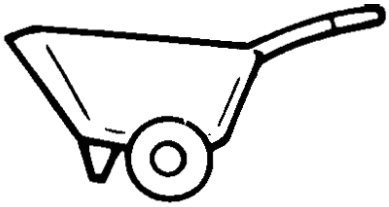
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STEP 3

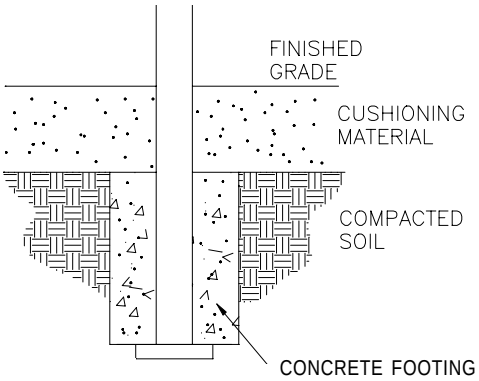


Trim all bolts. No more than two (2) threads may protrude after trimming by installer. Peen ends smooth to touch.

STEP 4



Pour concrete in remaining Footings, and allow 72 hours to cure.



STEP 5

Install cushioning material (protective surfacing) in, around and beneath areas required for unit.

STEP 6

Apply *Warning* and *Manufacturer's I.D.* labels, and *Age Appropriate* labels if included. Refer to ***Installations 101.***

FINAL STEP

Establish and adhere to a regular maintenance schedule, checking for loose or missing bolts, worn parts, etc.



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WARRANTY

Miracle Recreation Equipment Company warrants its products against structural failure due to defects in materials and workmanship for the warranty periods and material categories prescribed below.

Buyer agrees that products sold by Miracle Recreation Equipment Company carry only the following warranties:

1. **LIMITED WARRANTY FOR AS LONG AS YOU OWN THE PRODUCT:** Aluminum deck posts, steel deck posts, VersaLok® fastening system, cast aluminum parts, and stainless steel hardware.
2. **LIMITED FIFTEEN (15) YEAR WARRANTY:** All rigid steel playground components, decks, steps, and weldments, rotationally molded and sheet plastic components, plastic lumber, roof panels, and stainless steel slides, except as otherwise specified below.
3. **LIMITED TEN (10) YEAR WARRANTY:** Fabric shade steel frames, Shadesure™ and Colourshade FR fabrics (Note Exception: Limited Five (5) Year Warranty on Shadesure™ fabrics in colors Red, Yellow, Electric Purple, Zesty Lime, Cinnamon, and Olive.)
4. **LIMITED EIGHT (8) YEAR WARRANTY:**
   - Fiberglass signage, accessible swing seats, precast PolyFiberCrete or precast concrete products.
   - Play Terrain Synthetic Turf safety surfacing against deterioration of specified attenuation performance and appearance.
   - Integrated shade fabric and components against rot, UV deterioration and defects in materials and workmanship (Note Exception: Limited Three (3) Year Warranty for fabric in shades of red).
5. **LIMITED FIVE (5) YEAR WARRANTY:**
   - Heavy duty diamond barrier mesh and Kidrox™ Climbing Rocks.
   - Mira-Therm™ PVC coating and PE coating against cracking or peeling.
   - Park and Site Amenities (i.e. benches, tables, trash receptacles, etc.).
   - GFRP (Glass Fiber Reinforced Polymer) Products.
   - Steel core cable nets and rope fittings and connections (Note Exception: Warranty does not cover normal wear and tear such as fraying or facing of cable coating).
6. **LIMITED THREE (3) YEAR WARRANTY:** Flexible belting, plastic border timbers and accessories, and electronic panel speakers, sound chips, and circuit boards.
7. **LIMITED ONE (1) YEAR WARRANTY:**
   - Slashproof Swing Seats, 360° Bucket Tot Swing Seats, and Tuff Net no climbing mesh.
   - Pool slide support structures, stairways, landings and railings.
   - All other products, components and custom pieces that are not specifically listed above, including, without limitation, all moving parts, such as swing hangers and bearings, swivels, chains, whirls, springs and flexible components, and all high wear items, such as trolleys, cables, wheels, and bumper stops related to rail and cable ride products.

BUYER'S REMEDY: If any products prove defective or non-conforming under normal use and within the above-prescribed warranty periods and material categories, Buyer must promptly notify Miracle in writing at 878 E. Hwy 60, Monett, MO 65708 USA. Miracle may elect to inspect the alleged defect at Buyer's site or at Miracle's facility. Buyer shall not return products to Miracle unless authorized by Miracle to do so. Authorized returns must be properly packaged and shipped prepaid and insured, at Buyer's expense. Upon verification of warranty coverage, Miracle may elect, in its sole discretion, to repair defective or non-conforming products, or replace them by delivering products or part(s) of similar functionality free of charge to the site. Miracle's limited warranties do not cover the cost of labor to remove defective or non -conforming part(s) or to install repaired or replacement part(s). By use of these limited warranties, Buyer accepts their terms and limitations, and waives any rights it would otherwise have to claim or assert that such warranties fail of their essential purpose. Buyer agrees that venue for any court action to enforce these limited warranties shall be in Barry or Greene Counties in the State of Missouri.

LIMITATIONS: All warranty periods begin on the date of Miracle's invoice. Repaired and/or replacement part(s) are warranted only for the balance of the original limited warranty period. Warranties extend only to the original Buyer/end user for products purchased from Miracle or a Miracle authorized reseller, and are not transferrable.

Warranties apply only to Miracle products that are erected and installed in conformance with Miracle's installation instructions, and that are maintained and inspected in conformance with Miracle maintenance and operational instructions.

Warranties specifically do not cover Miracle products:

- for cosmetic damage or flaws occurring under normal use, such as surface scratches, minor chips, hairline cracks, dents, marring, efflorescence, color fade (except for shade fabric as noted above), discoloration, corrosion/rust, fraying, or warping of recycled plastic lumber;
- that have been modified, altered, or repaired by unauthorized third parties;
- that have not been used as designed or intended, or misused;
- to which non-Miracle parts have been added or substituted;
- that have been removed from their original location and re-installed elsewhere;
- or that have been damaged due to excessive wear and tear, vandalism, abnormal use, abuse, negligence, environmental factors (such as wind-blown sand, salt spray, or airborne emissions from industrial sources), extreme weather (such as hail, flooding, lightning, tornados, sandstorms, earthquakes, or wind storms), and acts of God.

Miracle does not warrant that any particular color will be available for any specific period of time, and reserves the right, its sole discretion, to discontinue any color for any reason.

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