PROJECT MANUAL

FOR THE
NEW CONSTRUCTION OF:

GLENOAKS ELEMENTARY SCHOOL

INTERIM PORTABLE CLASSROOM RELOCATION

PROJECT NUMBER 2019-026
BID NO. 210-20/21

OWNER:

GLENDALE UNIFIED SCHOOL DISTRICT
223 NORTH JACKSON STREET
GLENDALE, CA 91206

ARCHITECT:

DC ARCHITECTS
820 N MOUNTAIN AVENUE, SUITE 200
UPLAND CA 91786
(800) 985-6939 FAX (909) 985-0864

APRIL 15, 2021

NOTICE

THE FOLLOWING PORTIONS OF THIS
PROJECT MANUAL FOR

GLENOAKS ELEMENTARY SCHOOL
INTERIM PORTABLE CLASSROOM RELOCATION

HAVE BEEN PREPARED

IN COOPERATION WITH THE OWNER:

GLENDALE UNIFIED SCHOOL DISTRICT

- DIVISION 00 – BIDDING/CONTRACT REQUIREMENTS
- DIVISION 01 – GENERAL REQUIREMENTS

DC | ARCHITECTS

GLENDALE UNIFIED SCHOOL DISTRICT

GLENOAKS ELEMENTARY SCHOOL
INTERIM PORTABLE CLASSROOM RELOCATION

Architect
DC Architects

Richard D. Duncan
C21818

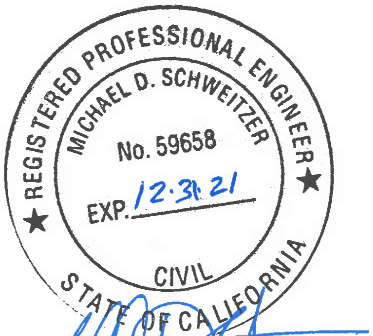
Electrical Engineer
Engineous Group, Inc.

Shane M. Foster
E21308

Mechanical Engineer
Engineous Group, Inc.

Bradley E. Severson
M27963

Civil Engineering
SWS Engineering, Inc.



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DIVISION 00 – BIDDING / CONTRACT REQUIREMENTS

For Bidding/Contract Requirements refer to:

Request for Proposals
Glendale Unified School District
INTERIM PORTABLE CLASSROOM RELOCATION

DIVISION 01 – GENERAL REQUIREMENTS

DIVISION 02 – EXISTING CONDITIONS **(NOT USED)**

DIVISION 03 – CONCRETE **(NOT USED)**

DIVISION 04 – MASONRY **(NOT USED)**

DIVISION 05 – METALS

DIVISION 06 – WOOD AND PLASTICS **(NOT USED)**

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES:

1.1.1 Work Covered by Contract Documents

1.1.2 Work by Others

1.1.3 Contractor Use of Premises

1.2 WORK COVERED BY CONTRACT DOCUMENTS:

1.2.1 Work Included: The work to be performed by the Contractor shall conform to the requirements of all of Division 1 as well as the General Conditions, Special Conditions, Specifications, all sheets in Drawings and other related documents, and includes the furnishing of all supervision, labor, materials, tools, equipment, transportation, plan and services necessary therefore and incidental thereto to complete the project. The work shall consist of, but not be limited to, the following:

1.2.1.1 Provide all scope of work shown on the plans and specifications, to include all site work, site demolition to existing grass areas, trees existing underground utilities or drywells, overhead electrical poles and wiring for power, data and communications, new finish site work as shown on the drawings, trenching & backfill for new utilities all work shown on the architectural, electrical, plumbing, civil, drawings and all work as shown on all drawings, documents, addenda's, and as described in all specifications.

1.2.1.2 Provide cutting, saw-cutting, and demolition required per the plans and/or specifications section 017329 to facilitate underground utility installation to be performed.

1.2.1.3 Review all as-builts, site survey plot plans, and contact all agencies and the Architect prior to excavation to ensure that all utility services will not be disrupted.

1.2.1.4 Provide all necessary shoring, barricades, caution tape, and trench plates for open excavations made by this bid package to maintain safety requirements and as necessary to meet building and safety codes that are required in the General Conditions.

1.2.1.5 Provide temporary access as required for their work. This includes scaffolding, catwalks, scissor lifts, but is not limited to the Contractor to perform all required work.

1.2.1.6 Continuous housekeeping and daily clean up is mandatory. The Contractor shall provide a separate debris box onsite and shall put all debris in debris box and/or remove debris from site at the Contractor's own expense prior to the end of the work day or as directed by the District's Architect. All debris boxes and containers shall be kept free of graffiti at all times. If the Contractor fails to perform daily clean up, the

District's Architect shall order that clean up be done at the Contractor's expense.

1.2.1.7 Punch list, final clean up, and closeout for this bid package per contract construction schedule. Parties agree that delays to punch list, final clean up, and closeout would constitute a delay in project completion and, therefore, entitles the District to withhold and retain potential liquidated damages per the Contract Documents from the Contractor's progress payments.

1.2.2 Existing Site Conditions: The Contractor shall make a thorough examination of the site to determine all existing conditions affecting the work.

1.2.3 Location of Site: The new site is located at 223 North Jackson Street, Glendale, CA. 91206.

1.2.4 Work Not Included: None

1.3 CONTRACT METHOD:

1.3.1 Construct the Work under a single Lump Sum Contract.

1.4 CONTRACTOR USE OF PREMISES:

1.4.1 The Contractor shall have use of the premises for the execution of the work.

1.4.2 The Contractor shall coordinate use of the premises under the direction of the District's Architect.

1.4.3 Assume full responsibility for the protection and safekeeping of products under the Contract that are stored on the site.

1.4.4 Move any stored products under the Contractor's control that interferes with the operations of the Owner or a separate Site Contractor.

1.4.5 Obtain and pay for the use of additional storage or work areas needed for operations.

1.4.6 The Contractor shall assume all responsibility for parking his own and his subcontractor's vehicles at the direction of the District's Architect. The Contractor shall direct all material deliveries to the construction gate.

1.4.7 All District property is tobacco free, drug free, alcohol free, weapons free and graffiti free. Contractor shall enforce these rules to his crew, subcontractors and suppliers.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

This Section requires the three apparent low bidders to attend and participate in a POST BID INTERVIEW with the DISTRICT'S ARCHITECT, prior to award of any contract by the DISTRICT. The POST BID INTERVIEW will be scheduled by the DISTRICT'S ARCHITECT _____ starting at _____ **a.m**. Respective three (3) lowest bidders will be notified of the schedule time. The Conditions of the Contract and all other Sections of the Contract apply to this Section as fully as if repeated herein.

1.2 REQUIRED ATTENDANCE

1.2.1 A duly authorized representative of the apparent low bidder is required to attend the POST BID INTERVIEW, in person.

1.2.2 The apparent low bidder's authorized representative must have signatory authority on behalf of the apparent low bidder.

1.2.3 Failure to attend the POST BID INTERVIEW will be considered just cause for the District to reject the Bidder's Bid.

1.3 POST BID INTERVIEW PROCEDURE

1.3.1 The DISTRICT'S ARCHITECT and ARCHITECT will review the Bidder's Proposal with the attendees.

1.3.2 The DISTRICT'S ARCHITECT and ARCHITECT will review the Contract Documents with the attendees, including but not limited to:

1.3.2.1 Insurance
1.3.2.2 Bonding
1.3.2.3 Addenda
1.3.2.4 Pre-Bid Clarifications
1.3.2.5 Scope of Work (Section 011100)
1.3.2.6 Bid Alternates and Voluntary Alternates
1.3.2.7 Value Engineering
1.3.2.8 The Contract Plans
1.3.2.9 The Contract Specifications
1.3.2.10 The Master Schedule
1.3.2.11 Critical Materials
1.3.2.12 General Contract Schedule Requirements
1.3.2.13 Prevailing Wage Requirements
1.3.2.14 Critical Dates Requirement for Other Bid Packages
1.3.2.15 Liquidated Damages
1.3.2.16 Required Documentation for Contract Administration
1.3.2.17 Contract Coordination Requirements
1.3.2.18 All Documents
1.3.2.19 Prime Contractors/Subcontractor Licenses

1.4 POST BID INTERVIEW DOCUMENTATION

The DISTRICT'S ARCHITECT will document the POST BID INTERVIEW on the form attached to this Section. Both the Apparent Low Bidder and the DISTRICT'S ARCHITECT are required to sign the POST BID INTERVIEW Documentation. The POST BID INTERVIEW Documentation is a Contract Document, and all items recorded in the POST BID INTERVIEW Documentation are part of the Contract and shall be enforced accordingly. POST BID INTERVIEWS will be conducted at **9:00 a.m., 10:15 a.m., and 11:30 a.m**. The three (3) apparent lowest bidders will be notified of their respective time schedule unless the notification to the three (3) apparent lowest bidders state otherwise.

SEE QUESTIONNAIRE STARTING

ON NEXT PAGE

GLENOAKS ELEMENTARY SCHOOL – INTERIM PORTABLE CLASSROOM RELOCATION
POST BID INTERVIEW

DISTRICT'S ARCHITECT

Glendale Unified School District
223 NORTH JACKSON STREET, GLENDALE CA 91206 PHONE (818) 507-0201

BIDDER:_____

DATE: _____ TIME: _____ PHONE # _____

I. INTRODUCTIONS: (SIGN IN BELOW)

A. Present _____ _____
CONTRACTOR NAME
_____ _____
DC ARCHITECTS NAME
_____ _____
DISTRICT'S NAME
_____ _____

II. PROPOSED CONTRACT:

III. PURPOSE OF INTERVIEW IS TO ASSURE:

A. The Contractor acknowledgment of a complete and accurate bid.	Yes	No
B. The Contractor submission of a fair and equitable bid.	Yes	No
C. Fair comparisons of bid.	Yes	No

IV. CONTRACTUAL REQUIREMENTS:

A.	Do you understand you are a prime contractor?	Yes	No
B.	Can you meet all specified insurance requirements?	Yes	No
C.	You are required to obtain a Performance, and a Labor and Material Bond for 100% of the Contract price		
1.	Is this acceptable?	Yes	No
2.	Will you provide bonds as stipulated?	Yes	No

GLENOAKS ELEMENTARY SCHOOL – INTERIM PORTABLE CLASSROOM RELOCATION
POST BID INTERVIEW

IV. CONTRACTUAL REQUIREMENTS (continued):

3. Cost for bond: _____% Yes No

4. Is the cost of the bond in your base bid? Yes No

5. Is your insurance company California licensed? Yes No

D. Do you possess a valid and active license for this project? Yes No

E. Are your listed subcontractors possess a valid and active license and such license is for the proper trade necessary to perform the work called for in the Contract Documents? Yes No

F. Acknowledged Receipt of Addenda _____1 _____2 _____3 _____4 _____5

G. Are costs for Addenda items included in your proposal? (if applicable) Yes No

V. SCOPE OF WORK:

A. You have a complete understanding of your Scope of Work under the proposed Agreement. Yes No

B. You have re-reviewed the documents and understand the Scope of the Work. Are there any items that need to be identified or require clarification? Yes No

If yes, please identify item.

1. _____

2. _____

3. _____

4. _____

5. _____

Is (are) the cost(s) for items V.B.1-5 (as applicable) included in your bid proposal? Yes No

C. Review bid alternatives (if applicable) Yes No

VI. VALUE ENGINEERING: (describe) **BASE BID:$ _____**

1. _____ Add / Deduct
2. _____ Add / Deduct
3. _____ Add / Deduct
4. _____ Add / Deduct

REVISED TOTAL $_____

VII. SCHEDULE:

Do you acknowledge and agree to complete the project no later than **as Specified in the Agreement**, and as outlined in Section 011216?

1. Can you expedite the schedule? Yes No

If not, what must change and why? _____

_____
_____

B. Identify critical materials, deliveries, and dependencies, including Owner Furnished items that could affect the completion of your work.

1._____
2._____
3._____

C. You have reviewed Section 011216, CONSTRUCTION SCHEDULE and you understand your work must be completed in accordance with the **Master Schedule**. You further understand the District **MAY** assess liquidated damages if you fail to meet the Master Schedule requirements. You further understand delays by you may cause other contractors to be delayed, and that you **WILL** accelerate your work upon written direction by the District's Architect and/or the Architect with no additional cost to District.

CRITICAL DATES

PROJECT COMPLETION **See Agreement**

Milestone Dates

Notice to Proceed	To Be Announced
All front end documents must be received by GUSD	7 days from Notice to Proceed
All submittals must be received by GUSD	30 days from Notice to Proceed
Mobilize	To Be Determined

You agree that failure to meet the project completion date is just cause for the USD to assess and retain Liquidated Damages in accordance with the Contract Documents.

GLENOAKS ELEMENTARY SCHOOL – INTERIM PORTABLE CLASSROOM RELOCATION
POST BID INTERVIEW

VIII. CONTRACTOR COMMENTS / SUGGESTIONS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

IX. CONTRACTOR

NOTE: You agree the information contained herein is part of your contractual obligations. Your signature acknowledges your agreement to perform all work discussed herein, and that costs for all work are included in your proposal.

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

Company Name

_____

Signature: _____ Title: _____

Date: _____

X. DISTRICT'S ARCHITECT

Signature: _____ Title: _____

Date: _____

XI. WITNESS

Signature: _____ Title: _____

Date: _____

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

The Work includes the preparation and submission of the schedules and reports specified herein, including the up-to-date maintenance thereof as required by the DISTRICT'S ARCHITECT. The Conditions of the Contract and the other Sections of Division 1 apply to this section as fully as if repeated herein.

The CONTRACTOR will provide the necessary resources to complete construction. TIME IS OF THE ESSENCE.

GLENOAKS ELEMENTARY SCHOOL – INTERIM PORTABLE CLASSROOM RELOCATION

Notice to Proceed	To Be Announced
All Front End Documents received by Architect ……	6 days from Issuance of the Notice to Proceed
All Submittals received to the Architect……..…..	30 days from issuance of the Notice to Proceed or in advance of construction
Mobilize.....	To be Determined
Project Completion (including final cleanup and punchlist).....…….....	To be Determined

The Contractor shall submit a detailed construction schedule to the District's Project Manager within six (6) days of issuance of the Notice to Proceed for approval by the District's Project Manager. The baseline dates shown above must be incorporated into this schedule. This schedule shall include all pertinent schedule tasks and durations. After approval of the construction schedule by the District's Project Manager, this schedule will become the official project schedule by which the project will be tracked, monitored, and enforced.

Rain days will be considered to be built into this schedule. No additional time extensions will be given to any contractor for any activities due to rain days. The only exception will be if it is determined by the Contractor that there has been an excessive amount of rain days that would be considered above normal seasonal rainfall in number of rain days only, not inches of rainfall, for the City of Perris, where this project is being constructed.

The Contractor shall plan on coordinating and adjusting their forces as necessary to meet the Contract Completion Date for a Final Completion.

HOURS OF CONSTRUCTION OPERATIONS

Weekdays:	7:00 a.m. to 8:00 p.m.
Saturday:	7:00 a.m. to 8:00 p.m.
Sundays and Holidays	8:00 a.m. to 5:00 p.m.

1.2 SUBMITTALS and SHOP DRAWINGS

Complete and transmit to ARCHITECT all submittals and shop drawings, which will allow for the proper review time by the Architect, within thirty (30) calendar days from the Notice to Proceed to assure timely scheduled procurement of products, materials, and/or assemblies.

1.3 FABRICATION AND PROCUREMENT

Establish fabrication and/or procurement lead times which will assure that no operation will be delayed from its scheduled starting date. Ten (10) calendar days after the issuance of the Notice to Proceed, in writing, notify ARCHITECT, the delivery dates of all long lead items. (Examples: casework, switchgear, ornamental iron fencing, roofing, sheet metal, and any other items necessary to assure timely completion of the Project.)

1.4 DEFINITIONS

1.4.1 Day: As used throughout the Contract, the word “day” means, “calendar day” unless otherwise indicated.

1.4.2 Adverse weather that is normal for the area and the season is taken into account in the Construction Schedule. Any overtime, weekend work, and/or acceleration necessary to comply with the construction schedule shall be included in the Contractor’s bid at no additional cost to the District.

1.5 DAILY WRITTEN MANPOWER REPORTS

The Superintendent for the CONTRACTOR shall submit to the DISTRICT’S ARCHITECT a brief daily written report by 3:00 PM on EACH AND EVERY WORKING DAY CONTRACTOR or HIS SUBCONTRACTOR is performing work on the Project site, which identifies each of the following:

1.5.1 The name and classification of each employee working on the project that day, including subcontractors. Also provide the number of hours each employee worked that day, and provide a description of what work each employee performed that day.

1.5.2 Estimated 100 percent completion date of each activity or activities currently under construction that day.

1.5.3 Specific problems, if any, with the actions and/or inaction of Subcontractors, the DISTRICT, ARCHITECT, consulting engineers, or the Contract Documents, which are preventing the CONTRACTOR'S work from being properly completed per the schedule.

1.6 COORDINATION

The CONTRACTOR must coordinate all work with subcontractors, if any, on the project in order to complete each activity of their work within the fixed duration assigned to same as shown on the "PROJECT CONSTRUCTION SCHEDULE".

1.7 PERSONNEL AND EQUIPMENT

CONTRACTOR is expected to provide properly trained and skilled personnel in adequate numbers and equipment needed and/or required in order to properly and efficiently complete all work activities per the schedule. Should DISTRICT'S PROJECT MANAGER determine at any time that CONTRACTOR is not providing an adequate work force armed with the proper materials and/or equipment, DISTRICT'S PROJECT MANAGER shall give CONTRACTOR written notice of same. (See General Conditions, DISTRICT's Right to do Work.)

1.8 RESPONSIBILITY FOR COMPLETION

The CONTRACTOR agrees that at the sole judgment of DISTRICT'S PROJECT MANAGER, whenever it becomes apparent from the current monthly updated Contract Baseline Schedule that the contract completion date will not be met, it will take some or all of the following actions, as approved by DISTRICT'S PROJECT MANAGER, at no additional cost to DISTRICT:

1.8.1 Increase construction manpower in such quantities and crafts as will substantially eliminate, in the judgment of PROJECT MANAGER, the backlog of work.

1.8.2 Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of construction equipment, or any combination of the foregoing, sufficiently to substantially eliminate, in the judgment of DISTRICT'S PROJECT MANAGER, the backlog of work. This paragraph shall not be construed to permit the CONTRACTOR to violate the work hour restrictions specified in the Contract Documents.

1.8.3 Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Provide alternative bid proposal as described in this section:

1. DEDUCTIVE ALTERNATE #1 (the low voltage, and any other associate work for the Interim Portable Classroom Relocation:

ADD _____ Dollars
(written amount)
($_____.___)

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, the Conditions of the Contract and Sections in Division 1 of these Specifications.

2. Extent: It is the responsibility of each Bidder to determine to his own satisfaction and for his own purposes the limits and extent of the work affected by each Alternate and to make full and proper allowance therefore in the submission of his Proposal. Where alternate details are furnished which relate to the Alternate Bid, the Bidder shall base his Alternate Bid on such details. Work required by Alternate Bids shall be performed in accordance with the Specifications of the trade sections affected.

C. Procedures:

1. Provide alternative proposals to be added to or deducted from the amount of the Base Bid if the corresponding change in scope is accepted by the DISTRICT.

2. Include within the alternative bid prices all costs, including labor, materials, installations, and fees.

3. Show the proposed alternative amounts opposite their proper description on the Contractor's Proposal.

1.1.4 Acceptance or Rejection:

1. Acceptance or rejection of Alternate Bids is subject to DISTRICT's discretion. The DISTRICT reserves the right to award any or none of the Alternate Proposal items as the DISTRICT may deem to be in its best interests and without regard to the order in which such items are listed in the Proposal.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Section includes: General requirements for the proposal of substitutions.

1.2 MATERIAL

1.2.1 Equipment, materials, and articles incorporated into the work shall be new and suitable for the purposes intended.

1.2.2 Reference to equipment, material, article, or patented process by trade name or catalog number shall not be construed as limiting competition.

1.2.2.1 In cases where the Specifications designate a material, product, thing, or service by specific proprietary brand or trade name, and there is only one brand or trade name listed, the item involved is:

1.2.2.1.1 Used as a standard of quality which must be satisfied without compromise, or

1.2.2.1.2 The only brand or trade name known to the District and Architect.

1.2.2.2 Wherever in the Contract Documents a material, article, or process is indicated or specified by trade, patent, proprietary name, or name of manufacturer, such indication shall be deemed to be followed by the words, “or equivalent, as accepted in writing by the Architect”.

1.2.2.2.1 Contractor shall submit a substitution request for Architect’s written acceptance.

1.2.2.3 If the phrase “NO SUBSTITUTIONS” is used, the product is required to be used since it is a unique product application.

1.2.3 The naming of more than one manufacturer in a Section does not imply that all products of named manufacturers are acceptable for use on the Project. Where more than one proprietary name is specified, provide materials or equipment of any one of the manufacturers specified, only if full compliance with other portions of the Specifications can be provided.

1.2.4 Construction shall be in compliance with the cited standards for the materials specified.

1.3 SUBSTITUTIONS

1.3.1 Should the Contractor wish to substitute an item purported to be equal to the one specified, then the Contractor shall, no later than 35 days after Award of Contract, furnish to the Architect the name of the manufacturer, model number, color options and other pertinent data and information respecting the “or equivalent” item which has been proposed in the bid and which the Contractor contemplates incorporating in the work. If the “or equivalent” item is not found by the Architect to be, in fact, equivalent or better, then the item specified in the

Contract Documents shall be furnished. When colors have been indicated prior to Bid, Contractor shall be required to provide a custom color to match.

1.3.2 When required by the Contract Documents, or when directed by the District, furnish full information concerning the material or article proposed for incorporation into the work. Testing of a proposed substitute material to assure compliance with the Specifications may be required by the District at the Contractor's expense. When so directed, submit samples for acceptance. Equipment, material, and articles installed or used without required acceptance shall be at the risk of subsequent rejection, and replacement at Contractor's cost.

1.3.3 Substitutions shall comply with, or exceed, requirements of dimension, function, structure, durability, and appearance without exception. Use of accepted substitutions shall in no way relieve the Contractor from responsibility for compliance with the Contract Documents after installation. It shall be incumbent upon the Contractor using accepted substitutions to assume extra costs caused by the use of such substitutions where they affect other work.

1.3.4 Do not substitute materials, equipment, or methods unless such substitution has been reviewed and approved by the Architect. Substitutions shall be submitted to the Division of the State Architect for approval prior to acceptance by Architect.

1.3.5 "Or Equivalent"

1.3.5.1 Where the phrases "or equivalent", "or approved equivalent", or "or equivalent as approved by the Architect" occur in the Contract Documents, do not assume that materials, equipment, or methods will be accepted as equal unless the item has been specifically accepted, in writing, for the Work by the Architect and by the Division of the State Architect, Office of Regulation Services for items which "affect health, safety or welfare."

1.3.6 Failure to place orders for specified equipment or material sufficiently in advance of the scheduled installation date will not be considered a valid reason upon which the Contractor may base his request for substitutions or for deviations from the Drawings and Specifications.

1.3.7 In the event the Contractor requests changes or revisions requiring drawings or services of the Architect or his consultants, to facilitate installation or erection of any portion of work, the Contractor shall accept the responsibility to hire and pay for the Architect's or Consultant's services. A standard hourly rate, as agreed upon, shall be paid by the Contractor whether the change is accepted or rejected. In the event the change is approved, this fee shall be deducted, and paid, from the Contract Sum.

1.3.8 Redesigning by the Contractor: Redesigning shall be by an Engineer licensed, in the State of California, to perform such work. In the event approval is required from authorities having jurisdiction, such approval shall be obtained by the Contractor at his expense before submitting the revised design or substitution to the Architect.

1.3.9 Revision After Approval: When a submittal has been reviewed by the Architect, resubmittal for substitution of materials or equipment will not be considered unless accompanied by an explanation acceptable to the Architect as to the

reason substitution is considered necessary. Changes in Plans and Specifications, which effect safety, health or welfare, shall be made by Addenda or Change Orders approved by the Division of the State Architect.

1.4 SUBSTITUTION REQUEST FORM:

1.4.1 Submittal of the requested information shall be accompanied by the attached Substitution Request Form. Submit seven copies of each request to the Architect. Architect will distribute as appropriate.

PART 2 – PRODUCTS

(Not Applicable)

PART 3 – EXECUTION

(Not Applicable)

ATTACHMENT: Substitution Request Form

END OF SECTION

SUBSTITUTION REQUEST FORM

Re: GLENOAKS ELEMENTARY SCHOOL – INTERIM PORTABLE CLASSROOM RELOC.
Project Name

_____
Project Manual Section Number

_____
Item

To: DC Architects
Architect

From: _____
Contractor

Reviewed for timeliness and completeness by General Contractor:

We hereby submit for your consideration the following product comparisons of the specified item and the proposed substitution:

A. Comparison Specified Item Substitution

1. Product Name/Model _____ _____
2. Manufacturer _____ _____

Address _____

Address _____

Phone Number _____

3. Product Cost _____

Installation/Labor Cost _____

4. Delivery Time _____

Installation Time_____

5. Product Characteristics _____ _____

_____ _____

_____ _____

_____ _____

6. Dimensions/Effects _____ _____

_____ _____

_____ _____

_____ _____

7. Guarantee/Warranty _____ _____

_____ _____

8. ICBO No. _____ _____

9. UL Rating _____ _____

B. Substantiating Data:

Attach manufacturer's literature for both specified item and substitution.

C. Samples: Provide samples for both specified item and substitution, if applicable.

D. Similar Projects for Reference:

1. _____ _____
Name Date

_____
Address

_____
Address

_____
Contact

_____
Telephone

2. _____ _____
Name Date

_____
Address

_____
Address

_____
Contact

_____
Telephone

E. Maintenance Service/Parts/Supplier:

_____
Name

_____
Address

_____
Address

_____
Telephone

F. What effect does this substitution have on applicable code requirements?

_____

_____

_____

_____

G. Change Data:

Attach complete information for changes to be made to drawings and project manual.

****

Certification of equal performance and assumption of liability for equal performance.

The Contractor shall agree to pay for costs involved in changing the building design; including engineering, drafting and detail cost caused by the proposed substitution.

Submitted by:

_____ _____
Name Signature

_____ _____
Title Date

_____
Firm

_____
Address

_____ _____
City State Zip Telephone

Remarks:

_____

_____

_____

_____

Signature must be by persons having authority to legally bind his firm to the above terms. Failure to provide legally binding signature will result in retraction of approval.

For Use by District's Representative:

☐ Accepted ☐ Not Accepted

Owner's Consultant:

By: _____

Date: _____

☐ Accepted ☐ Not Accepted

School District:

By: _____

Date: _____

****

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION

1.1.1 Work included: Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as are described in written Change Orders signed by the DISTRICT and the ARCHITECT and issued after execution of the Contract, in accordance with the provisions of this Section.

1.1.2 Related work:

1.1.2.1 Documents affecting work of this Section include, but are not necessarily limited to the Conditions of the Contract and Sections in Division 1 of these specifications.

1.1.2.2 Changes in the Work are described further in Article 66 of the General Conditions.

1.2 QUALITY ASSURANCE

1.2.1 Include within the Contractor's quality assurance program such measures as are needed to assure familiarity of the Contractor's staff and employees with these procedures for processing Change Order data.

1.3 SUBMITTALS

Make submittals through the ARCHITECT. Submit the number of copies called for under the various items listed in this Section.

1.4 PRODUCT HANDLING

The ARCHITECT shall maintain and coordinate a Register of Bulletins and Change Orders at the job site, accurately reflecting current status of all pertinent data as submitted by the CONTRACTOR. Make the Register available to the ARCHITECT for review at his request.

1.5 PROCESSING CHANGES INITIATED BY THE DISTRICT

1.5.1 Should the DISTRICT contemplate making a change in the Work or a change in the Contract Time of Completion, the ARCHITECT will issue a "Bulletin" to the CONTRACTOR.

1.5.1.1 Bulletins will be dated and will be numbered in sequence.

1.5.1.2 The Bulletin will describe the contemplated change, and will carry one of the following instructions to the CONTRACTOR:

1.5.1.2.1 Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion;

1.5.1.2.2 Make the described change in the Work, credit or cost for which will be determined in accordance with Article 66 of the General Conditions;

1.5.1.2.3 Promptly advise the ARCHITECT as to credit or cost proposed for the described change. This is not an authorization to proceed with the change.

1.5.2 If the CONTRACTOR has been directed by the ARCHITECT to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the CONTRACTOR wishes to make a claim for one or both of such changes, the CONTRACTOR shall proceed with the change and shall notify the ARCHITECT of its intention to make a claim.

1.5.3 If the CONTRACTOR has been directed by the ARCHITECT to promptly advise him as to credit or cost proposed for the described change, the CONTRACTOR shall:

1.5.3.1 Analyze the described change and its impact on costs time;

1.5.3.2 Secure the required information and forward it to the ARCHITECT for review;

1.5.3.3 Meet with the ARCHITECT as required to explain costs and, when appropriate, determine other acceptable ways to achieve the desired objective;

1.5.3.4 Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the DISTRICT'S cost for making the change, advising the ARCHITECT in writing when such avoidance no longer is practicable.

1.6 PROCESSING CHANGES INITIATED BY THE CONTRACTOR

1.6.1 Should the CONTRACTOR discover a discrepancy among the Contract Documents, or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, he shall notify the ARCHITECT.

1.6.2 Upon agreement by the ARCHITECT that there is reasonable cause to consider the Contractor's proposed change, the ARCHITECT will issue a Bulletin or written direction.

1.7 PROCESSING BULLETINS (And/or Work Orders)

1.7.1 Make written reply to the ARCHITECT in response to each Bulletin.

1.7.1.1 State proposed change in the Contract Sum, if any.

1.7.1.2 State proposed change in the Contract Time of Completion, if any. (There will be no additional time allotted for completion of the Project, including all overtime as required.)

1.7.2 Clearly describe other changes in the Work required by the proposed change.

1.7.2.1 CONTRACTOR to include full backup data such as subcontractor's letter of proposal or similar information. (Including quantities and unit lists for labor and material.)

1.7.2.2 Submit this response in single copy to the ARCHITECT.

1.7.3 When cost or credit for the change has been agreed upon by the ARCHITECT and the CONTRACTOR, the ARCHITECT will prepare a "Change Order" and submit to the CONTRACTOR, for signatures.

1.7.3.1 Upon receipt of Contractor's signature, forward back to ARCHITECT for submittal and distribution to DISTRICT and other parties.

1.8 PROCESSING CHANGE ORDERS

1.8.1 Change Orders will be dated, numbered in sequence and contain the D.S.A. Application No. and File No. as well as O.P.S.C. Application No. and File No. (D.S.A. and O.P.S.C. No.'s required only if applicable.)

1.8.2 Each change order shall include the following information:

1.8.2.1 A detailed description of the change required, with back-up documentation (Bulletin, Change Order Request, cost data, letters, etc.).

1.8.2.2 The reason for the change.

1.8.2.3 Who requested the change.

1.8.2.4 The dollar amount of each item (add, deduct, or no cost).

1.8.3 The DISTRICT, ARCHITECT shall review, approve, and sign the Change Orders.

1.8.4 The ARCHITECT will distribute the required number of copies (minimum of seven (7)) of each Change Order prepared, signed and submitted to the DISTRICT.

1.8.4.1 The ARCHITECT will retain one signed copy in his file, will forward the other signed copies to the Division of the State Architect (D.S.A.), and the Office of Public School Construction (O.P.S.C.) for approval (if applicable).

1.8.4.2 The DISTRICT, upon approval, will sign all copies, retain one (1) signed copy for their file and return the remaining copies through the ARCHITECT for distribution.

1.8.4.2.1 All Change Orders and Addenda must be approved by D.S.A. in accordance with Section 4-338 Title 24, Part 1, C.C.R. and O.P.S.C. (if applicable) prior to change being made in the Work.

1.8.4.3 All Change Orders must be approved by the DISTRICT'S Board prior to the CONTRACTOR invoicing the DISTRICT for that change.

END OF SECTION

APPLICATION AND CERTIFICATE FOR PAYMENT

TO:

PROJECT: **GLENOAKS E.S.-INTERIM PORTABLE CR RELOCATION**

APPLICATION NO. _____

PERIOD TO: _____

Distribution to:

- ☐ OWNER
- ☐ ARCHITECT
- ☐ CONTRACTOR
- ☐ OTHER

FROM:

ARCHITECT: DC Architects

DSA No.: 03-121342

DCA Project No. 2019-026

CONTRACT FOR: _____

Project No. _____

CONTRACT DATE: _____

CONTRACTOR'S APPLICATION FOR PAYMENT

CHANGE ORDER SUMMARY

		ADDITIONS	DEDUCTIONS
Change Orders approved in previous months by Owner			
TOTALS:			
Approved this Month			
Number	Date Approved		
TOTALS			
Net change by Change Orders			

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates of Payment were issued and payments received from the Owner, and that current payments shown herein is now due.

CONTRACTOR:

BY: _____ DATE:_____

ARCHITECT'S CERTIFICATE FOR PAYMENT

INSPECTOR:

BY: _____ DATE:_____

OWNER:

BY: _____ DATE:_____

_____

Application is made for Payments as shown below, in connection with the Contract. Schedule of Values is attached.

1. **Original contract sum:** $
2. **Net change by Change Orders:** $
3. **Contract sum to date:** $
4. **Total completed and stored to date:** $
   (Column G on Schedule of Values sheet)
5. **Retainage:**
   a. _10_% of Completed Work
   (Column D + E on Schedule of Values Sheet)
   b. _10_% of Stored Material
   (Column F on Schedule of Values Sheet)
   Total Retainage (Line 5a + 5b or Total in Column 1 of Schedule of Values Sheet) $
6. **Total earned less Retainage:** $
   (Line 4 less Line 5 Total)
7. **Less previous certificates for payment:** $
   (Line 6 from prior Certificate)
8. **Current payment due:** $
9. **Balance to finish, plus retainage:** $
   (Line 3 less Line 6)

State of: County of:

Subscribed and sworn to before me this day of , 20

Notary Public:

My Commission expires:

AMOUNT CERTIFIED: $

(Attach explanation if amount certified differs from the amount applied for)

ARCHITECT: DC Architects

BY: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

A. GENERAL INFORMATION

AIA Document G702, Application and Certificate for Payment, is to be used in conjunction with AIA Document G703, Continuation Sheet. These documents are designed to be used on a project where a Contractor has a direct Agreement with the Owner. Procedures for their use are covered in AIA Document A20L General Conditions of the Contract for Construction, 1976 Edition.

B. COMPLETING THE G702 FORM:

After the Contractor has completed AIA Document G703, Continuation Sheet, summary information should be transferred to AIA Document G702, Application and Certificate for Payment.

The Contractor should sign the form, have it notarized and submit it, together with G703, to the Architect.

The Architect should review it and, if it is acceptable, complete the Architect's Certificate for Payment on this form. The completed form should be forwarded to the Owner.

C. COMPLETING THE G703 FORM:

Heading: Complete the information here consistent with similar information on AIA Document G702, Application and Certificate for Payment.

Columns A, B & C: These columns should be completed by identifying the various portions of the project and their scheduled value consistent with the schedule of values submitted to the Architect at the commencement of the project or as subsequently adjusted. The breakdown may be by sections of the Work or by Subcontractors and should remain consistent throughout the Project. Multiple pages should be used when required.

Column C should be subtotaled at the bottom when more than one page is used and totaled on the last page. Initially, this total should equal the original Contract Sum. The total of column C may be adjusted by Change Orders during the project.

Column D: Enter in this column the amount of completed Work covered by the previous application. This is the sum of columns D and E from the previous application. Values from column I (Materials Presently Stored) from prior payments should not be entered in this column.

Column E: Enter here the value of Work completed until the time of this application, including the value of materials incorporated in the project which were listed on the previous Application and Certificate for Payment under Materials Presently Stored (column F).

Column F: Enter here the value of Materials Presently Stored for which payment is sought. The total of the column must be recalculated at the end of each pay period. This value covers both materials newly stored for which payment is sought and materials previously stored which are not yet incorporated into the Project. Mere payment by the Owner for stored materials does not result in a deduction from this column. Only as materials are incorporated into the Project is their value deducted from the column and incorporated into column E (Work Completed-This Period).

Column G: Enter here the total of columns D, E and F. Calculate the percentage completed by dividing column G by column C.

Column H: Enter here the difference between column C (Scheduled Value) and column G (Total Completed and Stored to Date).

Column I: This column is normally used only for contracts where variable retain age is permitted on a line-item basis. It need not be completed on projects where a constant retain age is withheld from the overall contract amount.

Change Orders: Although Change Orders could be incorporated by changing the schedule of values each time a Change Order is added to the Project, this is not normally done. Usually, Change Orders are listed separately, either on their own G703 form or at the end of the basic schedule. The amount of the original contract adjusted by Change Orders is to be entered in the appropriate location on the G702 form.

D. MAKING PAYMENT

The owner should make payment directly to the Contractor based on the amount certified by the Architect on AIA Document G702, Application and Certificate for Payment. The completed form contains the name and address of the Contractor. Payment should not be made to any other party unless specifically indicated on this form.

CONTINUATION SHEET

AIA DOCUMENT G703

AIA Document G702, APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certification is attached.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NUMBER:	
APPLICATION DATE:	
PERIOD TO:	
DSA Number:	**03-121342**

Contractor Name

A.	B.	C.	D.	E.	F.	G.		H.	I.
			WORK COMPLETED						
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	FROM PREVIOUS APPLICATION (D+E)	THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G/C)	BALANCE TO FINISH (C-G)	RETAINAGE
		$0.00	$0.00	$0.00	$0.00	$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
		$0.00		$0.00		$0.00		$0.00	$0.00
	Total								

PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Section Includes: Administrative and procedural requirements governing the Contractor's Applications for Payment.

1.1.2 Related Work:

1.1.2.1 The Progress Schedule is included in Section 013216 and shall be coordinated with the work of this Section.

1.1.2.2 RECORD DOCUMENTS: All requirements for record documents, Specifications Section 017800, shall be satisfied to the Owner's satisfaction prior to Owner's processing of each month's Application for Payment.

1.2 SCHEDULE OF VALUES

1.2.1 Coordinate preparation of the Schedule of Values with preparation of the Network Analysis Schedule.

1.2.2 Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than 10 days after the issuance of the Notice to Proceed. Include with initial submission a projected monthly payment request schedule for total cost of project, for Owner's cash flow planning.

1.2.3 Acceptance of the Schedule of Values by the Architect and the District is required prior to approval and payment of the first application for payment.

1.2.4 Format and Content: The Project Manual Table of Contents may be used as a general guide to format the Schedule of Values; specific item numbers may be sequentially numerical.

1.2.4.1 The Schedule of Values shall be a detailed breakdown of the price to provide and install each item of work and material on the project.

1.2.4.2 Each line item on the Schedule of Values shall be presented to allow the Architect to easily find that item of work within the construction during his review of the construction operations and evaluate whether that line item is 100 percent complete or not.

1.2.4.3 Each line item of the Schedule of Values shall be given a value by the Contractor that, in the opinion of the Contractor, best represents the value of that work, and if required to present evidence of his opinion, the Contractor will be able to substantiate the value by the use of supplier and/or subcontractor written quotations, labor wages/rates, hourly estimates, and/or by industry recognized cost estimating references.

1.2.4.4 Each line item of the Schedule of Values shall be in such detail and coordinated with other line items of work and with the contractor's Construction Schedule, that when making application for payment each month, each line item depicts a portion of work that can be completed

within one month's pay period, reviewed by the Inspector and the Architect; if that line item is 100 percent complete, recommended to the Owner for payment. If, in the opinion of the Architect, the line item is not 100 percent complete, the line item will not be recommended for payment.

1.2.4.5 Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed. Each sheet of the Schedule of Values shall be titled and numbered sequentially.

1.2.4.5.1 Line Item Number

1.2.4.5.2 Description of Item

1.2.4.5.3 Quantity

1.2.4.5.4 Unit of Measure

1.2.4.5.5 Unit Price

1.2.4.5.6 Value of Line Item

1.2.4.5.7 Line Item Value Request this month

1.2.4.5.8 Line Item Value Previously completed

1.2.4.5.9 At the bottom of each sheet, the Total Amount of Columns f and g shall be tabulated and carried forward on each page and the TOTAL AMOUNT presented at the end.

1.2.5 Do not round any dollar amounts, the total shall equal the Contract Sum.

1.2.6 Schedule Updating: Update and resubmit the Schedule of Values when Change Orders or Construction Change directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

1.3.1 Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.

1.3.1.1 The initial Application for Payment, the Application for Payment at the time of Substantial Completion, and the final Application for Payment involve additional requirements.

1.3.1.2 Submit a pencil draft of the approved schedule of values to the Architect by the 25th of each month.

1.3.2 Payment Application Times: The date for each progress payment is the 1st day of each month. The period of construction Work covered by each Application for Payment is the period ending the last day of the month and starting the day following the end of the preceding period. For example, the period of a progress payment dated November 1st would be October 1st through October 31st.

1.3.3 Payment Application Forms: Use AIA Document G702 and the form of Schedule of Values accepted by the Architect and approved by the District.

1.3.4 Application Preparation: Complete each entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.

1.3.4.1 Entries shall match data on the Network Analysis Schedule. Use updated schedules if revisions have been made.

1.3.4.2 Include amounts of Owner-approved Change Orders issued prior to the last day of the construction period covered by the application.

1.3.5 Transmittal: Submit six (6) executed copies (one original and five copies) of each Application for Payment to the ARCHITECT. All copies shall be complete, including waivers of lien and similar attachments, when required.

1.3.6 Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics lien from entity who may lawfully be entitled to file a mechanics lien arising out of the Contract, and related to the Work covered by the payment.

1.3.6.1 Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period covered by the Application.

1.3.6.2 Submit final Application for Payment with or preceded by final waivers from entity involved with performance of Work covered by the application who could lawfully be entitled to a lien.

1.3.7 Initial Application for Payment: Administrative actions and submittals that must precede submittal of the first Application for Payment include the following:

1.3.7.1 List of subcontractors

1.3.7.2 Schedule of Values

1.3.7.3 Schedule of unit prices, if applicable

1.3.7.4 Copies of permits as may be required to start the Work (encroachment permits, etc., may be obtained as necessary for sequence of construction).

1.3.7.5 Copies of authorizations and licenses from governing authorities for performance of the Work.

1.3.7.6 Certificates of insurance and insurance policies

1.3.7.7 Performance and payment bonds

Note: Each preceding item shall be submitted to the Architect, accepted by the Architect and approved by the Owner prior to the certification and approval of the first payment to the Contractor.

1.3.8 Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work. Administrative actions and submittals that shall proceed or coincide with this application include:

1.3.8.1 Occupancy permits and similar approvals

1.3.8.2 Warranties (guarantees) and maintenance agreements

1.3.8.3 Test/adjust/balance records

1.3.8.4 Maintenance instructions

1.3.8.5 Meter readings

1.3.8.6 Start-up performance reports

1.3.8.7 Change-over information related to Owner's occupancy, use, operation, and maintenance

1.3.8.8 Final cleaning

1.3.8.9 Application for reduction of retainage and consent of surety

1.3.8.10 Advice on shifting insurance coverage

1.3.8.11 Final progress photographs

1.3.8.12 List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion. Each work item value shall be listed and the total amount deducted from amounts owed over and above the retention.

1.3.9 Final Payment Application: Administrative actions and submittals which must precede or coincide with submittal of the final payment Application for Payment include the following:

1.3.9.1 Completion of Project closeout requirements

1.3.9.2 Completion of items specified for completion after Substantial Completion

1.3.9.3 Written assurance that unsettled claims will be settled

1.3.9.4 Written assurance that Work not complete and not accepted will be completed without undue delay.

1.3.9.5 Transmittal of required Project construction records to Owner

1.3.9.6 Certified property survey.

1.3.9.7 Proof that taxes, fees, and similar obligations have been paid

1.3.9.8 Removal of temporary facilities and services

1.3.9.9 Removal of surplus materials, rubbish, and similar elements

1.3.9.10 Change of door locks to Owner's access

PART 2 - PRODUCTS
(Not Applicable)

PART 3 - EXECUTION
(Not Applicable)

END OF SECTION

- See Attached:
  - Application and Certificate for Payment
  - Continuation Sheet
  - Instruction Sheet

FROM: _____ _____
(Trade Contractor)

REQUEST FOR INFORMATION	**Project Name: Glenoaks E.S.** **Interim Portable Classroom Reloc.** **Architect's Project No.: 2019-026**	**RFI#:** _____ **DATE:** _____

TO: Attn:
Fax _____

Brief Summary of this RFI: (Provide attachment if additional space is needed)

DRAWINGS REFERENCE: _____ SPEC REFERENCE: _____

PROPOSED SOLUTION: (Provide attachment if additional space is needed)

IMPACT CONTRACT TIME: _____	**IMPACT CONTRACT PRICE:** _____
RESPONSE NEEDED BY: _____ **WHY? (if less than 1 week):** _____	**SUBMITTER'S SIGNATURE:** _____

RESPONSE:

DATE: _____	**DC Arch. SIGNATURE:** _____ **Organization:** _____

ARCHITECT
DC Architects
820 N. Mountain Ave., Ste. 200
Upland, CA 91786
Phone: (909) 985-6939 Fax: (909) 985-0864

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED:

1.1.1 Each CONTRACTOR shall coordinate his Work and Work of his subcontractors for the Project.

1.1.2 Each Contractor shall:

1.1.2.1 Coordinate work of his own employees and suppliers.

1.1.2.2 Expedite his work to assure compliance with schedules.

1.1.2.3 Coordinate his work with that of other Contractors, subcontractors, and work by DISTRICT.

1.1.3 Each Contractor shall coordinate his work and the work of his subcontractors with other Contractors on Project.

1.2 RELATED REQUIREMENTS:

1.2.1 The General Conditions of the Contract: Authority and responsibilities of the Contractor and subcontractor.

1.3 CONSTRUCTION ORGANIZATION AND START-UP:

1.3.1 The Contractor shall establish on-site lines of authority and communications, and each Contractor shall:

1.3.1.1 Attend pre-construction meeting and mandatory weekly progress meetings.

1.3.1.2 Establish procedures for inter-project communications:

1.3.1.2.1 Submittals

1.3.1.2.2 Reports and records

1.3.1.2.3 Recommendations

1.3.1.2.4 Coordination drawings

1.3.1.2.5 Resolution of conflicts

1.3.1.3 Interpret Contract Documents:

1.3.1.3.1 Consult with ARCHITECT to obtain interpretation.

1.3.1.3.2 Assist in resolution of questions or conflicts which may arise.

1.3.1.3.3 Transmit written interpretations to subcontractors and to other concerned parties.

1.3.1.4 Assist in obtaining permits and approvals:

1.3.1.4.1 Building permits and special permits required for all Work or for temporary facilities.

1.3.1.4.2 Verify that subcontractors have obtained inspections for all Work through the D.S.A. approved INSPECTOR.

1.3.1.5 Control the use of site:

1.3.1.5.1 Supervise field engineering and site layout.

1.3.1.5.2 Allocate space for each subcontractor's use for field offices, sheds, and work and storage areas as approved by the ARCHITECT.

1.3.1.5.3 Establish access, traffic, and parking allocations and regulations.

1.3.1.5.4 Monitor use of site during construction.

1.4 GENERAL DUTIES:

1.4.1 Construction Schedules - Each Contractor shall:

1.4.1.1 Monitor schedules as work progresses:

1.4.1.1.1 Identify potential variances between scheduled and probable completion dates for each phase.

1.4.1.1.2 Recommend to ARCHITECT adjustments in schedule to meet required completion dates.

1.4.1.1.3 Adjust schedules of subcontractors as required.

1.4.1.1.4 Document changes in schedule, submit to DISTRICT and ARCHITECT and to involved subcontractors.

1.4.1.1.5 Upon written notice by ARCHITECT, CONTRACTOR shall, within three (3) calendar days, provide a complete recovery schedule, including manpower loading, resource loading, detailing how the CONTRACTOR and his subcontractors will recover CONTRACTOR'S original scheduled milestone dates. Recovery schedule shall show overtime, weekends, or multiple shifts as necessary to meet each milestone of the original schedule.

1.4.1.2 Observe Work of each subcontractor to monitor compliance with schedule.

1.4.1.2.1 Verify that labor and equipment are adequate for the Work and the schedule.

1.4.1.2.2 Confirm that product procurement schedules are adequate.

1.4.1.2.3 Confirm that product deliveries are adequate to maintain schedule.

1.4.1.2.4 Report noncompliance to District, D.S.A. approved INSPECTOR, with recommendation for changes.

1.4.2 Process Shop Drawings, product data, and samples - Each Contractor shall:

1.4.2.1 Prior to submittal to ARCHITECT, review for compliance with Contract Documents:

1.4.2.1.1 Field dimensions and clearance dimensions.

1.4.2.1.2 Relation to available space.

1.4.2.1.3 Relation to other contracts and to other trades.

1.4.2.1.4 Effect of any changes on the Work of any other contracts or other trades.

1.4.2.1.5 Provide written approval that submittals have been approved by Contractor.

1.4.3 Review coordination drawings prepared by mechanical and electrical Contractors - Each Contractor shall:

1.4.3.1 Prior to submittal to ARCHITECT, review for compliance with Contract Documents.

1.4.3.2 Resolve conflicts and assure coordination of the Work of, or affected by, mechanical and electrical trades, or by special equipment requirements.

1.4.4 Inspection and testing - Each Contractor shall:

1.4.4.1 Inspect Work to assure performance in accordance with requirements of Contract Documents.

1.4.4.2 Bring to ARCHITECT'S attention the need of any special testing and inspections of suspect Work.

1.4.4.3 Reject Work which does not comply with requirements of Contract Documents.

1.4.4.4 Coordinate Testing Laboratory services:

1.4.4.4.1 Verify that required laboratory personnel are present.

1.4.4.4.2 Verify that tests are made in accordance with specified standards.

1.4.4.4.3 Review test reports for compliance with specified criteria.

1.4.4.4.4 Recommend and administer any required retesting.

1.4.5 Monitor the use of temporary utilities - Each Contractor shall verify that adequate services are provided and maintained.

1.4.6 Monitor the CONTRACTOR'S periodic cleaning - Each Contractor shall:

1.4.6.1 Enforce compliance with Specifications.

1.4.6.2 Resolve any conflicts.

1.4.7 Arrange for delivery of DISTRICT furnished products - Each Contractor shall:

1.4.7.1 Inspect for condition at delivery.

1.4.7.2 Turn over to appropriate subcontractor, obtain receipt.

1.4.8 Changes and substitutions - Each Contractor shall:

1.4.8.1 Recommend necessary or desirable changes to DISTRICT and to ARCHITECT.

1.4.8.2 Review subcontractor's requests for changes and substitutions. Submit recommendations to DISTRICT and to ARCHITECT.

1.4.8.3 Assist ARCHITECT in negotiating Change Orders.

1.4.8.4 Promptly notify all subcontractors of pending changes or substitutions.

1.5 CLOSE-OUT DUTIES:

1.5.1 Mechanical and electrical equipment start-up:

1.5.1.1 Coordinate check-out of utilities, operations systems, and equipment.

1.5.1.2 Assist in initial start-up and testing.

1.5.1.3 Record dates of start of operation of systems and equipment.

1.5.1.4 Submit to DISTRICT written notice of beginning of warranty period for equipment put into service.

1.5.2 At completion of Work of each Contract, conduct an inspection to assure that:

1.5.2.1 Specified cleaning has been accomplished.

1.5.2.2 Temporary facilities have been removed from site.

1.5.3 Substantial Completion:

1.5.3.1 Conduct an inspection to confirm or supplement Contractor's list of work to be completed or corrected.

1.5.3.2 Assist ARCHITECT in preparation of correction list.

1.5.3.3 Supervise correction and completion of Work as established in Certificate of Substantial Completion.

1.5.4 When DISTRICT occupies a portion of Project prior to final completion, coordinate established responsibilities of CONTRACTOR and DISTRICT.

1.5.5 Final Completion:

1.5.5.1 When each Contractor determines that Work is finally complete, conduct an inspection to verify completion of Work, prior to Punchlist.

1.5.5.2 Assist ARCHITECT in verification of final completion.

1.5.6 Administration of Contract Close-out: - Each Contractor shall:

1.5.6.1 Review final submittals and as-builts prior to transmittal.

1.5.6.2 Transmit to ARCHITECT with recommendations for action.

1.6 REQUEST FOR INFORMATION

1.6.1 Each Contractor shall plan, schedule, coordinate and sequence Work so Requests for Information (RFI), if necessary, may be submitted to the Architect in a timely manner so as not to delay progress of Work. Submission of and responses to RFI(s) with copies to District shall be transmitted via facsimile (FAX) equipment or hand-delivered.

1.6.2 Architect shall have three days and an additional four days if Architect's consultants are involved, to respond to RFI(s). When Architect responds to an RFI within the time frame allotted per the contract documents but when the response already is contained or included within contract documents, or is based on referenced standards, or is based on established and common construction practices, Contractor shall reimburse the Architect at the current DCA hourly rates.

If RFI requires Architect's Consultant(s) acknowledgement, Contractor shall reimburse consultant(s), at the same hourly rate for consultant's staff; Contractor shall also pay to the Architect, a percentage for overhead and profit to the consultant's fee, equal to the markup the Contractor adds to "Change Orders".

1.6.3 Contractor shall be billed at "Request for Payment" meeting, and payment is due on the 10th day of the following month. If payment is not received by Architect by that date, Architect's response to pending RFIs will be delayed by the same number of days as the days the payment check for RFI services is late.

1.6.4 No damages for delay due to RFI response beyond allotted time will be allowed, unless Contractor can show that RFI was not foreseeable with proper planning, scheduling, coordination, and sequencing, and the Architect's late response delayed timely purchase or delivery of equipment or material, or limited construction personnel from proceeding with their task(s), within previously listed "Construction Schedule" activity period(s).

1.7 QUALITY ASSURANCE

1.7.1 Familiarity With Contract Documents:

1.7.1.1 Contractor and all Subcontractors shall conduct a study necessary to become completely familiar with all requirements. Applicable requirements indicated or described in the Contract Documents, and the publications referred to, are a part of the Work required as though repeated in each such Section.

1.7.1.2 In the event discrepancies or conflicts are encountered, notify the Architect immediately. Where there is discrepancy between different parts of the contract documents, including referenced codes and standards, the documents requiring the higher quality, the greater quantity, or the more difficult work shall govern, unless determined otherwise by the Architect.

1.7.1.3 Promptly distribute required information to entities concerned and ensure the needed actions are taken.

1.7.2 Reporting: Unless otherwise noted by the Contractor in his transmittals, all of the Contractor's data transmittals to the Architect for the Architect's review will be construed as stipulating that the Contractor has thoroughly and completely reviewed and coordinated the data prior to transmittal.

1.7.3 Interfacing: It shall be solely the responsibility of each Contractor to make sure that the assigned work completes in a timely manner and that all interfaces are prepared, connected, and function as required.

PART 2 – PRODUCTS (Not applicable)

PART 3 – EXECUTION

3.1 PLANNING THE WORK

3.1.1 By thorough advance planning of activities, coordinate the following in addition to other coordination activities required:

3.1.1.1 Materials, services, and equipment purchasing.

3.1.1.2 Shipping.

3.1.1.3 Receipt and storage at the site.

3.1.1.4 Installation, including interface with related items.

3.1.1.5 Inspection and testing, to the extent required under the Contract.

3.1.1.6 Assistance in initial start-up and operational tests.

3.1.1.7 Completion of the Work, including removal and disposal of Contractor's surplus material and equipment, and final cleaning of structures and sites.

3.2 COORDINATION

3.2.1 Coordinate construction activities included under various Sections of these Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation connection and operation.

3.2.2 Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work.

3.3 GENERAL INSTALLATION PROVISIONS

3.3.1 Coordination methods used by the Contractor are at the Contractor's option, except that the Architect may disapprove Work completed by the Contractor or data submitted by the Contractor when, in the Architect's judgment, coordination has been inadequate to ensure the specified quality.

3.3.2 Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

END OF SECTION

Attachment: RFI form

PART 1 - GENERAL

1.1 DESCRIPTION

1.1.1 Work included: To enable orderly review during progress of the Work and to provide for systematic discussion of problems, the ARCHITECT will conduct project meetings throughout the construction period.

1.1.2 Related work:

1.1.2.1 Documents affecting work of this Section include, but are not necessarily limited to, the Conditions of the Contract and Sections in Division 1 of these Specifications.

1.1.2.2 The THE CONTRACTOR's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the THE CONTRACTOR'S responsibility and normally are not part of project meetings content.

1.2 QUALITY ASSURANCE

1.2.1 For those persons designated by the THE CONTRACTOR to attend and participate in project meetings, THE CONTRACTOR shall provide required authority to commit the THE CONTRACTOR to solutions agreed upon in the project meetings.

1.3 SUBMITTALS

1.3.1 Agenda items: To the maximum extent practicable, advise the ARCHITECT at least 24 hours in advance of project meetings regarding items to be added to the agenda.

1.3.2 Minutes:

1.3.2.1 The ARCHITECT will compile minutes of each project meeting and will fax or make available required copies to the THE CONTRACTOR and required copies to the DISTRICT, ARCHITECT, and INSPECTOR.

1.3.2.2 Recipients of copies may make and distribute such other copies at their discretion.

PART 2 – PRODUCTS
(Not Applicable)

PART 3 – EXECUTION

3.1 MEETING SCHEDULE

3.1.1 Except as noted below for Pre-Construction Meeting, project meetings will be held weekly.

3.1.2 Coordinate as necessary to establish mutually acceptable schedule for meetings.

3.2 MEETING LOCATION

3.2.1 The ARCHITECT will schedule all meetings at the job site office. To the maximum extent possible, all meetings will be held at the job site office.

3.3 PRE-CONSTRUCTION MEETING

3.3.1 Pre-Construction Meeting will be scheduled by the ARCHITECT and prior to the commencement of construction, as scheduled by the ARCHITECT.

3.3.1.1 Provide attendance by authorized representatives of the CONTRACTOR and major subcontractors. (Major subcontractors pre-approved by the ARCHITECT)

3.3.1.2 The ARCHITECT will advise other interested parties, including the DISTRICT, ARCHITECT'S Consultants, Inspector, and Testing Lab and request their attendance. In all cases, the meetings shall be coordinated by the ARCHITECT to maximize meeting input and minimize the number of meetings required.

3.3.2 Minimum Agenda: Data will be distributed and discussed on at least the following items.

3.3.2.1 Organizational arrangement of CONTRACTOR'S forces and personnel, and those of subcontractors, materials, suppliers, and ARCHITECT.

3.3.2.2 Channels and procedures for communication

3.3.2.3 Construction schedule, including sequence of critical work.

3.3.2.4 Contract Documents, including distribution of required copies of original Documents and revisions.

3.3.2.5 Processing of Shop Drawings and other data submitted to the ARCHITECT for review.

3.3.2.6 Processing of Bulletins, field decisions, Work Orders, and Change Orders.

3.3.2.7 Rules and regulations governing performance of the work.

3.3.2.8 Procedures for safety and first aid, security, quality control, housekeeping, and related manners.

3.3.2.9 Format and procedures for submitting "Application and Certificate for Payment" and "Schedule of Values" forms.

3.4 PROJECT MEETINGS

3.4.1 Attendance:

3.4.1.1 The CONTRACTOR will assign the same person or persons to represent the CONTRACTOR at the mandatory project meetings throughout progress of the Work.

3.4.1.2 Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved, as pre-approved by the ARCHITECT.

3.4.2 Minimum Agenda:

3.4.2.1 Review, revise as necessary, and approve minutes of previous meetings.

3.4.2.2 Review progress of the Work since last meeting, including status of long-lead submitted material and equipment.

3.4.2.3 Identify problems that impede planned progress.

3.4.2.4 Develop corrective measures and procedures to regain planned schedule.

3.4.2.5 Complete other current business.

3.4.2.6 Revisions to minutes

3.4.2.7 Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting (meetings are scheduled every seven (7) days, they will be accepted as properly stating the activities and decisions of the meeting.

3.4.2.8 Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.

3.4.2.9 Challenge to minutes shall be settled as priority portion of “old business” at the next regularly scheduled meeting.

END OF SECTION

PART 1 - GENERAL

1.1 DEFINITIONS

1.1.1 Day: As used throughout the Contract, the word “day” means “calendar day” unless otherwise indicated.

1.1.2 Adverse weather that is normal for the area and the season shall be taken into account in the Construction Schedule.

1.2 QUALITY ASSURANCE

1.2.1 Reliance Upon Published Schedule.

1.2.1.1 The published schedule, as accepted, shall be an integral part of the contract and will establish interim Contract completion dates for various activities.

1.2.1.2 Should any activity fail to be completed within five (5) days after the stipulated schedule date, the owner shall reserve the right to order the contractor to submit a detailed recovery schedule showing all recovery dates and durations to fully recover the schedule.

1.2.1.3 Should any activity fail to be completed within 10 days after the stipulated schedule date, the Owner shall have the right to order the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor, and as set forth in the General Conditions of the Contract.

1.2.1.4 Should any activity fall behind schedule, the Owner shall have the right to perform the activity or have the activity performed by whatever method the Owner may deem appropriate, and as set forth in the General Conditions of the Contract.

1.2.1.5 Cost incurred by the Owner in connection with expediting construction shall be deducted from the Contract amount.

1.2.1.6 Failure by the Owner to exercise the option to either order the Contractor to expedite an activity or to expedite the activity by other means, will not be considered a precedent for any other activities nor a waiver of the Owner’s rights to exercise his rights on subsequent occasions.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SUBMITTAL TRANSMITTAL LETTER **DC Architects**

Project Title: **Glenoaks E.S. - Interim Portable CR Relocation** School District: **Glendale Unified School District**	DSA Number: 03-121342	Specification Section	Submittal No.:

Architect: DC Architects Address: 820 N. Mountain Avenue, Suite 200 Upland, CA 91786 Phone Number: 909-985-6939 Contact Name:	General Contractor: Address: Phone Number: Contact:

Submittal Description:

Resubmittal? ☐ No ☐ Yes Previous Submittal No.: _____

Substitution? ☐ No ☐ Yes Specified Item: _____

SUBMITTAL HISTORY

Date Received From Contractor:

Consultant Review:

☐ Civil ☐ Electrical ☐ Kitchen
☐ Structural ☐ Landscape ☐ D.S.A.
☐ Mechanical ☐ Hardware

Date Sent: _____
Date Due: _____
Date Received: _____

Distribution Date: _____

Number of Copies to:

	P.D.	S.D.	MISC.
Consultant	____	____	____
Architect	____	____	____
Owner	____	____	____
Inspector	____	____	____
Contractor	____	____	____
Other	____	____	____

Architect/Engineer's Shop Drawing Stamp

DC | ARCHITECTS

❑ MAKE CORRECTIONS NOTED
❑ NO EXCEPTION TAKEN
❑ REJECTED
❑ REVISE AND RESUBMIT
❑ SUBMIT SPECIFIED ITEMS

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL TRADES AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

SIGNED_____DATE_____

Remarks:

DC Architects
820 N. Mountain Ave., Ste. 200, Upland, CA 91786
Phone (909) 985-6939 / Fax (909) 985-0864

PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Section Includes:

1.1.1.1 Whenever possible throughout the Contract Documents, the minimum acceptable quality of workmanship and materials has been defined, either by manufacturer's name and catalog number, by reference to recognized industry standards, or description of required attributes and performance.

1.1.1.2 To help ensure that the specified products are furnished and installed in accordance with design intent, submit design product and data in advance for review by the Architect. Review by the Architect and the design consultants in no way relieves the contractor, subcontractor, or supplier from providing the products or construction as described in the Contract Documents.

1.1.1.3 Make submittals required by the Contract Documents. Revise and resubmit as necessary to establish compliance with the specified requirements.

1.1.2 Related Work Described Elsewhere: Additional requirements for submittals are described in other Sections of these Specifications and the General Conditions.

1.2 QUALITY ASSURANCE

1.2.1 Coordination of Submittals: Prior to each submittal, review and coordinate each item being submitted and verify that each item and the submittal conform with the requirements of the Contract Documents. By affixing the Contractor’s signature to each submittal, the contractor certifies that this coordination has been performed.

1.2.2 Certificates of Compliance

1.2.2.1 Certify that materials used in the Work comply with specified provisions thereof. Certification shall not be construed as relieving the Contractor from furnishing satisfactory materials if, after tests are performed on selected samples, the material is found not to meet specified requirements.

1.2.2.2 Show on each certification the name and location of the Work, name and address of Contractor, quantity and date or dates of shipment or delivery to which the certificate applies, and name of the manufacturing or fabricating company. Certification shall be in the form of letter or company-standard form containing required data. An officer of the manufacturing or fabricating company shall sign certificates.

1.2.2.3 In addition to the above information, laboratory test reports submitted shall show the date or dates of testing, the specified requirements of which testing was performed, and results of the test or tests.

1.3 SUBMITTALS

1.3.1 Contractor shall submit all shop drawings, samples, requests for substitutions, mix designs, and other items, in accordance with this Section within thirty (30) calendar days after Award of the Contract.

1.3.2 The required number of copies to submit for all shop drawings, manufactures literature, and samples shall be seven (7). Submittals will not be accepted by the Construction Manager if the correct number of copies is not received at the time of submission. Two (2) copies will be returned to the Prime Contractor. The Contractor shall make and distribute copies required for the Contractors purposes.

1.3.3 Provide required submittals for the following products to interface with other portions of the Work. Submit data to verify compliance only.

1.3.3.1 For products specified only by reference standard, select product meeting that standard, by manufacturer.

1.3.3.2 For products specified by naming several products or manufacturers, select one of the products or manufacturers named.

1.3.3.3 For products specified by naming one or more products or manufacturers and stating “or other approved”, or “or approved equivalent”, or other such wording on drawings or within specifications sections, submit a request for substitutions for product or manufacturer which is not specifically named, but only after submitting bid on specified products and systems.

PART 2 – PRODUCTS

2.1 SHOP DRAWINGS AND COORDINATION DRAWINGS:

2.1.1 Scale and Measurements: Make shop drawings to a scale sufficiently large to shown pertinent aspects of the item and its method of connection to the Work.

2.1.2 Reproduction of Reviewed Shop Drawings: Printing and distribution of reviewed shop drawings for the Architect’s use will be by the Architect.

2.1.3 Review comments of the Architect will be shown on one bond copy when it is returned to the Contractor. The Contractor shall make and distribute copies required for his purposes.

2.2 MANUFACTURER’S LITERATURE

2.2.1 General: Where submitted literature from manufacturers includes data not pertinent to the submittal, indicate which portion of the contents is being submitted for review. Submittals not clearly marked will be returned without review.

2.3 SAMPLES

2.3.1 Accuracy of Samples: Precise article proposed to be furnished shall be identified with a submittal number.

2.3.2 Reuse of Samples: In situations accepted by the Architect, the Architect's retained sample may be used in the construction as one of the installed items.

2.3.3 Size of Samples: Samples shall be 6 inches by 6 inches, or manufactured width by 12 inches, unless otherwise required by the pertinent Specification section.

2.4 COLORS AND PATTERNS

Unless the precise color and pattern is specifically described in the Contract Documents, and whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charts to the Architect for review and selection. Submit data to verify compliance only.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS:

3.1.1 General: Consecutively number submittals within the respective specification section. Accompany each submittal with transmittal cover letters attached to the end of this Section. Fill out each transmittal cover letter completely, number sequentially, include specification section, name of supplier or installer, and contact person and telephone number.

3.1.2 Internal Identification: On the first page of each copy of each submittal, and elsewhere as required for positive identification, indicate the submittal number.

3.1.3 Resubmittals: When material is resubmitted, transmit under a new letter of transmittal and with same submittal number plus a "alphabetic" suffix indicating it is a resubmittal, e.g. 033000.

3.1.4 Submittal Log: Maintain submittal log for the duration of the Contract. Show current status of submittals, with columns showing "approved", "approved as corrected", etc., to match Architect's categories. Make the submittal log available for the Architect's review upon request. Log shall be available and will be reviewed at each project meeting.

3.2 COORDINATION OF SUBMITTALS

3.2.1 The Contractor's Project Engineer shall be responsible to coordinate and review all submittals prior to forwarding to Architect. All submittals shall be stamped with Contractor's stamp, signed and dated, stating:

3.2.1.1 Contractor has reviewed submittal for compliance with requirements of the Contract Documents.

3.2.1.2 Contractor has reviewed submittal for proper interfacing with other trades.

3.2.2 General: Prior to making submittals, coordinate materials including, but not necessarily limited to:

3.2.2.1 Determine and verify interface conditions, catalog numbers, and similar data.

3.2.2.2 Coordinate with other trades as required.

3.2.2.3 Clearly indicate deviations from requirements of the Contract Documents. Deviations which are not clearly called out as a deviation and which subsequently becomes a part of an approved submittal can under no circumstances be considered legitimate grounds for an additive change order.

3.2.3 Grouping of Submittals: Make submittals in groups containing associated items to ensure that information is available for checking each item when it is received. Partial submittals may be rejected as not complying and the Contractor shall be strictly liable for occasioned delays.

3.2.4 Color selections for materials in the same space or same elevation shall be submitted at one time. “Piece meal” submission of the color samples or charts is unacceptable and will be returned awaiting a “complete” submission.

3.3 TIMING OF SUBMITTALS

3.3.1 General: Make submittals far enough in advance of dates scheduled for installation to provide time required for reviews, for possible revisions and resubmittals, for placing orders and securing delivery, and as otherwise required by Part 1.3 of this Section.

3.3.2 Architect’s Review Time: In scheduling, allow at least seven (7) calendar days for review by the Architect following his receipt of the submittal or as otherwise may be required under each Specification section. Allow an additional 10 days for reviews involving Architect’s consultants or as otherwise may be required under each Specification section.

3.3.3 Delays: Delays caused by tardy submission of submittals or resubmittals will not be an acceptable basis for extension of the Contract completion time.

3.4 ARCHITECT’S REVIEW

3.4.1 General: Corrections or comments made on Shop Drawings during his review shall not relieve the Contractor from compliance with requirements of the Drawings and Specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. The Contractor is responsible for confirming and correlating quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating his work with that of other trades, and performing his work in a safe and satisfactory manner.

3.4.1.1 Authority to Proceed: The notations “Furnish as Submitted” or “Furnish as Corrected” authorize the Contractor to proceed with fabrication, purchase, or both or the items so noted, subject to the revisions, if any, required by the Architect’s review comments.

3.4.1.2 Revisions: The notations “Revise and Resubmit” or “Submit Specified Item” means make revisions required by the Architect and resubmit. If the Contractor considers required revision to be a change, he shall so notify the Architect as provided for under “Changes” or “Changes in the Work” in the General Conditions. Show each drawing revision by number, date, and subject in a revision block on the Drawing. Make only those revisions directed by or accepted by the Architect.

3.4.1.3 Rejection: The notation “Rejected” means the submission does not meet requirements of project contract documents. Make new submission meeting project contract documents.

END OF SECTION

Attachment: Contractor’s SUBMITTAL TRANSMITTAL LETTER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

1.1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

1.2.1 This Section specifies administrative requirements for compliance with governing regulations, codes, and standards.

1.2.1.1 Requirements include obtaining permits, licenses, inspections, releases, and similar documentation, as well as payments, statements, and similar requirements associated with regulations, codes, and standards.

1.2.1.2 Refer to General Conditions for requirements for compliance with governing regulations.

1.3 DEFINITIONS

1.3.1 GENERAL
Definitions contained in this Article are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

1.3.2 INDICATED
Refers to graphic representations, notes, or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.

1.3.3 DIRECTED
Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean “directed by the ARCHITECT, and similar phrases. However, no implied meaning shall be interpreted to extend the ARCHITECT'S responsibility into the CONTRACTOR'S area of construction supervision.

1.3.4 APPROVED
The term "approved," where used in conjunction with the ARCHITECT'S action on the CONTRACTOR'S submittals, applications, and requests, is limited to the responsibilities and duties of the ARCHITECT stated in General Conditions. Such approval shall not release the CONTRACTOR from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.

1.3.5 REGULATION
The term "Regulations" includes laws, statutes, ordinances, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

1.3.6 FURNISH
The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."

1.3.7 INSTALL
The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."

1.3.8 PROVIDE
The term "provide" means "to furnish and install, complete and ready for the intended use."

1.3.9 INSTALLER
An "Installer" is an entity engaged by the CONTRACTOR either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1.3.9.1 The term "experienced," when used with the term "Installer" means having a minimum of five (5) previous projects similar in size and scope to this project, having familiarity with the precautions required, and having compliance with requirements of the authority having jurisdiction.

1.3.10 PROJECT SITE
"Project Site" is the space available to the CONTRACTOR for performance of the Work, either exclusively or in conjunction with others performing other construction as part of the Project. The extent of the Project Site is shown on the Drawings, and may or may not be identical with the description of the land upon which the Project is to be built.

1.3.11 TESTING LABORATORIES
A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

1.3.12 DAYS
Days shall mean calendar days in every case.

1.4 SPECIFICATION FORMAT AND CONTENT EXPLANATION

This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions. None of the explanations shall be interpreted to modify the substance of Contract Requirements.

1.4.1 SPECIFIED FORMAT
These Specifications are organized into Divisions, Sections, or Trade Headings based on Construction Specifications Institute's 16-Division format and the MASTER FORMAT numbering system. This organization conforms generally to recognized construction industry practice.

1.4.2 SPECIFIED CONTENT

This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:

1.4.2.1 Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.

1.4.2.2 Imperative Language is used generally in the Specifications. Requirements expressed imperatively are to be performed by the CONTRACTOR. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the CONTRACTOR, or by others when so noted.

1.4.3 ASSIGNMENT OF SPECIALISTS

The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and the assignments are requirements over which the CONTRACTOR has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the CONTRACTOR.

1.4.3.1 This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

1.4.3.2 Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.5 DRAWING SYMBOLS

1.5.1 GRAPHIC SYMBOLS

Graphic Symbols used on Drawings are those recognized in the construction industry for purpose indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards," published by John Wiley & Sons, Inc., Seventh Edition.

1.5.2 MECHANICAL / ELECTRICAL DRAWINGS

Graphic Symbols used on mechanical and electrical Drawings are generally aligned with symbols recommended by American Society of Heating, Refrigerating, & Air-Conditioning Engineers (ASHRAE). Where appropriate, they are supplemented by more specific symbols recommended by technical associations including American Society Mechanical Engineers (ASME), American Society of Plumbing Engineers (ASPE), Institute of Electrical and Electronics Engineers (IEEE), and similar organizations. Refer instances of uncertainty to the ARCHITECT for clarification before proceeding.

1.6 INDUSTRY STANDARDS

1.6.1 APPLICABILITY OF STANDARDS

Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents by reference. Individual Sections indicate which codes and standards the CONTRACTOR must keep available at the Project site for reference.

1.6.1.1 Referenced standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.

1.6.1.2 Unreferenced standards are not directly applicable to the Work, except as a general requirement of whether the Work complies with recognized construction industry standards.

1.6.1.3 Unreferenced standards. Except as otherwise limited by the Contract Documents, standards not referenced but recognized in the industry as applicable will be informed for performance of the Work. The ARCHITECT will decide whether a code or standard is applicable, or which of several are applicable.

1.6.2 PUBLICATION DATES

Where compliance with an industry standard is required, comply with the standard in effect as of date of Contract Documents.

1.6.2.1 Updated standards. At the request of the ARCHITECT, CONTRACTOR or authority having jurisdiction, submit a Change Order proposal where an applicable code or standard has been revised and issued after the date of the Contract Documents and before performance of Work affected. The ARCHITECT will decide whether he will issue a Change Order to proceed with the updated standard.

1.6.3 CONFLICTING REQUIREMENTS

Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the ARCHITECT for a decision before proceeding.

1.6.3.1 Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the ARCHITECT for Decision before proceeding.

1.6.4 COPIES OF STANDARDS

Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.

1.6.4.1 Where copies of standards are needed for performance of a required construction activity, the CONTRACTOR shall obtain copies directly from the publication source.

1.6.4.2 Although copies of standards needed for enforcement of requirements may be part of required submittals, the ARCHITECT reserves the right to require the CONTRACTOR to submit additional copies as necessary for enforcement of requirements.

1.6.5 ABBREVIATIONS AND NAMES
Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the Specifications or other Contract Documents they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

1.7 GOVERNING REGULATIONS / AUTHORITIES

The ARCHITECT has contacted authorities having jurisdiction where necessary to obtain information necessary for the preparation of Contract Documents; that information may or may not be of significance to the CONTRACTOR. Contact authorities having jurisdiction directly for information and decisions having a bearing on the Work.

1.8 SUBMITTALS

1.8.1 PERMITS, LICENSES, AND CERTIFICATES
For the DISTRICT records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

PART 2 - PRODUCTS
(Not Applicable)

PART 3 – EXECUTION
(Not Applicable)

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Throughout the Contract Documents, reference is made to codes and standards, which establish qualities and types of workmanship and materials as well as methods for testing and reporting on the pertinent characteristics.

1.1.2 Provide materials and workmanship that meet or exceed the specifically named code or standard.

1.1.3 Deliver to the ARCHITECT required proof that the materials or workmanship, or both, meet or exceed the requirements of the specifically named code or standard. Such proof shall be in the form requested by the ARCHITECT and will generally be required to be copies of a certified report of tests conducted by a testing agency acceptable for that purpose to the ARCHITECT.

1.2 RELATED WORK SPECIFIED ELSEWHERE

1.2.1 Specific naming of codes or standards occurs on the Drawings and in other Sections of these Specifications. Comply with laws, ordinances, and regulations of authorities having jurisdiction. Proof of compliance with laws, ordinances, and regulations shall be by the signed approval of the respective authorities having jurisdiction. Costs relative thereto shall be borne by the CONTRACTOR.

1.3 QUALITY ASSURANCE

1.3.1 Familiarity with Pertinent Codes and Standards: Verify the requirements of the specifically named codes and standards as well as requirements mandated by law, ordinance, and authority. Verify that the items procured and installed in this Work meet or exceed the specified requirements.

1.3.2 Rejection of Noncomplying Items: The ARCHITECT reserves the right to reject items incorporated into the Work, which fail to meet such minimum requirements.

1.4 APPLICABLE CODES

1.4.1 Work of the project shall conform to the following Codes, copies of which shall be maintained at the job site by the CONTRACTOR throughout the duration of the work:

1.4.1.1 2019 Building Standards Administrative Code, Part 1, Title 24, C.C.R.

1.4.1.2 2019 California Building Code (CBC), Part 2, Title 24, C.C.R.
(2018 International Building Code with 2019 California Amendments)

1.4.1.3 2019 California Electric Code (CEC), Part 3, Title 24, C.C.R.
(2017 National Electric Code with 2019 California Amendments)

1.4.1.4 2019 California Mechanical Code (CMC), Part 4, Title 24, C.C.R.
(2018 Uniform Mechanical Code with 2019 California Amendments)

1.4.1.5 2019 California Plumbing Code (CPC), Part 5, Title 24, C.C.R.
(2018 Uniform Plumbing Code with 2019 California Amendments)

1.4.1.6 2019 California Energy Code (CEnC), Part 6, Title 24, C.C.R.

1.4.1.7 2019 California Fire Code (CFC), Part 9, Title 24, C.C.R. (2018 International Fire Code with 2019 California Amendments)

1.4.1.8 2019 California Referenced Standards Code, Part 12, Title 24, C.C.R.

1.4.1.9 Regulations of the State Fire Marshal, C.C.R. Title 19

1.4.1.10 NFPA 13 Automatic Sprinkler Systems, 2016 edition (CA Amended)

1.4.1.11 NFPA 14 Standpipe & Hose Systems, 2016 edition (CA Amended)

1.4.1.12 NFPA 17 Dry Chemical Extinguishing Systems, 2017 edition

1.4.1.13 NFPA 17A Wet Chemical Extinguishing Systems, 2017 edition

1.4.1.14 NFPA 20 Stationary Fire Pumps for Fire Protection, 2016 edition

1.4.1.15 NFPA 24 Private Fire Service Mains, 2016 edition (CA Amended)

1.4.1.16 NFPA 25 Inspection, Testing and Maintenance of Water Based Fire Protection Systems, 2013 California Edition

1.4.1.17 NFPA 37 Installation and Use of Stationary Combustion Engines and Gas Turbines, 2015 edition.

1.4.1.18 NFPA 72 National Fire Alarm and Signaling Code, 2016 edition (CA Amended)

1.4.1.19 NFPA 80 Fire Doors and other Opening Protectives, 2016 edition

1.4.1.20 NFPA 101 Life Safety Code, 2018 Edition

1.4.1.21 NFPA 110 Emergency and Standby Power Systems, 2016 edition

1.4.1.22 NFPA 170 Standard for Fire Safety and Emergency Symbols, 2018 edition

1.4.1.23 NFPA 221 Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls, 2018

1.4.1.24 NFPA 2001 Clean Agent Fire Extinguishing Systems, 2015 edition

1.4.1.25 ICC 300 Standards on Bleachers, Folding and Telescopic Seating, and Grandstands 2017 edition

1.4.1.26 ICC-ES AC77 Acceptance Criteria for Smoke Containment Systems Used with Fire-resistance-rated Elevator Hoistway Doors and Frames

1.4.1.27 SFM Std. 12-10-1Power Operated Exit Doors

1.4.1.28 SFM Std. 12-10-2 Single-Point Latching or Locking Devices

1.4.1.29 SFM Std. 12-10-3 Emergency Exit and Panic Hardware

1.4.1.30 SFM Std. 12-7A Materials and Construction Methods for Exterior Wildfire Exposure

1.4.1.31 UBC Std. 15-2 Test Standard for Determining the Fire Retardancy of Roof-Covering Materials

1.4.1.32 UL 38 Manual Operating Signal Boxes, 1999 edition w/ revisions through February 2, 2005 as amended.

1.4.1.33 UL 268 Smoke Detectors for Fire Protective Signaling Systems, 2009 edition

1.4.1.34 UL 268A Smoke Detectors Duct Applications, 1999 edition w/revisions through October 22, 2003

1.4.1.35 UL 294 Standard for Access Control System Units, 1999 edition w/revisions through February 2015

1.4.1.36 UL 305 Standard for Panic Hardware, 2012 edition

1.4.1.37 UL 346 Waterflow indicators for Fire Protective Signaling Systems, 2005 Edition

1.4.1.38 UL 464 Audible Signal Appliances, 2003 edition

1.4.1.39 UL 521 Heat Detectors for Fire Protective Signaling Systems, 1999 edition, w/revisions through July 20, 2005

1.4.1.40 UL 864 Control Units for Fire Protective Signaling Systems, 2003 edition w/revisions through December 2014

1.4.1.41 UL 2034 Standard for Single- and Multiple Station Carbon Monoxide Alarms, 2017 edition

Reference code section for NFPA Standards- 2019 CBC (SFM) Chapter 35. See Chapter 35 for State of California amendments to NFPA Standards.

1.5 REFERENCE STANDARDS

1.5.1 Standards referenced in the Specifications are usually referred to by the abbreviation of the organization’s name and the designation of the document

(e.g., ASTM A 36). Documents in common use may be referred to by their own designation (e.g., the National Electrical Code is published by the National Fire Protection Association as NFPA-70, but is referred to as NEC and is part of a series of documents or standards referred to as the National Fire Code). References are to the latest issue of the publication available on the date stipulated for the receipt of bids.

STANDARDS ORGANIZATIONS

AA	Aluminum Association
AAMA	American Architectural Manufacturer's Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AISC	American Institute of Steel Construction
AITC	American Institute of Timber Construction
AMCA	Air Movement and Control Association, Inc.
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
ARI	Air Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Material
AWPA	American Wood Preservers' Association
AWPB	American Wood Preservers' Bureau
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders' Hardware Manufacturers Association
CDA	Copper Development Association
CCR	California Code of Regulations
CGA	Compressed Gas Association

CISPI	Cast Iron Soil Pipe Institute
CPSC	Consumer Product Safety Commission
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard of U.S. Dept. of Commerce
CTI	Ceramic Tile Institute
CSMA	Chemical Specialties Manufacturing Association
EPA	Environmental Protection Agency
FGMA	Flat Glass Marketing Council
FM	Factory Mutual System
FS	Federal Specification
GA	Gypsum Association
HI	Hydraulic Institute, Hydraulics Institute
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
MIL	Military Specifications
ML/SFA	Metal Lath/Steel Framing Association
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
NAAMM	National Association of Architectural Metal Manufactures
NBS	National Bureau of Standards
NEBB	National Environmental Balancing Bureau
NEC	National Electric Code (NFPA)
NEMA	National Electric Manufacturers Association
N FLUID PA	National Fluid Power Association

NFPA	National Fire Protection Association
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NWWDA	National Wood Window and Door Association
PS	Product Standard (of NBS)
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SDI	Steel Deck Institute
SJI	Steel Joist Institute
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
CBC	California Building Code, 2019
CBC	California Building Standards Administrative Code (Part 1, Title 24, CCR). 2019 California Building Code, Volumes 1, 2, and 3 (Part 2, Title 24, CCR). (2018 Edition International Building Code with 2019 California Amendments).
UL	Underwriters' Laboratories
WIC	Woodwork Institute of California
WLPDIA	Western Lath Plaster Drywall Industries Association
CMC	California Mechanical Code – See IAPMO
CPC	California Plumbing Code – See IAPMO
TITLE	Title 24, C.C.R., Parts 1 and 2

PART 2 - PRODUCTS
(Not Applicable)

PART - 3 EXECUTION
(Not Applicable)

END OF SECTION

PART 1 – GENERAL

1.1 GENERAL

1.1.1 DISTRICT will employ and pay for the services of an Independent Testing Laboratory approved by D.S.A. to perform specified Testing.

1.1.1.1 The CONTRACTOR shall cooperate with the Laboratory and shall in no way relieve the CONTRACTOR's obligation to perform the Work of the Contract.

1.1.1.2 Employment of the Laboratory shall in no way relieve the CONTRACTOR's obligations to perform the Work of the Contract.

1.2 RELATED WORK

1.2.1 Related Requirements in other parts of the Project Manual:

1.2.1.1 Inspections and testing required by laws, ordinances, rules, regulations, orders or approval of public authorities: General Conditions.

1.2.2 Related Requirements Specified in Other Sections:

1.2.2.1 Certification of Products: The respective section of this Specification.

1.2.2.2 Test, Adjust, and Balance of Equipment: The respective section of this Specification.

1.2.2.3 Laboratory Test Required, and Standards for Testing: The respective sections of this Specification.

1.3 DISTRICT INSPECTOR

1.3.1 An Inspector, approved by D.S.A., employed by the DISTRICT in accordance with the Requirements of the State of California Code of Regulation, Title 24, will be assigned to the Work. His/her duties are specifically defined in Title 24, Part 1, Section 4-342.

1.3.2 The work of construction in all stages of progress shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the Work at any time. The CONTRACTOR shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the Work shall not relieve the CONTRACTOR from any obligation to fulfill this Contract.

1.4 QUALIFICATION OF LABORATORY

1.4.1 Meet "Recommended Requirements for Independent Laboratory Qualification" published by American Council of Independent Laboratories.

1.4.2 Meet basic requirements of ASTME 329, “Standards for Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction.”

1.5 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

1.5.1 Laboratory is not authorized to:

1.5.1.1 Release, revoke alter or enlarge on requirements of Contract Documents.

1.5.1.2 Approve or accept any portion of the Work.

1.5.1.3 Perform any duties of the CONTRACTOR.

1.6 CONTRACTOR’S RESPONSIBILITIES

1.6.1 Cooperate with Laboratory personnel and provide access to Work and to manufacturer’s operations.

1.6.2 Secure and deliver to the Laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

1.6.3 Provide to the Laboratory the preliminary design mix proposed to be used for material mixed which require control by the testing laboratory.

1.6.4 Furnish incidental labor and facilities:

1.6.4.1 To provide access to Work to be tested.

1.6.4.2 To obtain and handle samples at the project site or at the source of the product to be tested.

1.6.4.3 To facilitate inspections and tests.

1.6.4.4 For storage and curing of test samples.

1.6.5 Notify D.S.A. approved Inspector a minimum of 24 hours in advance of operations to allow for Laboratory assignment of personnel and scheduling of tests.

1.6.5.1 When tests or inspections cannot be performed after such notice, reimburse DISTRICT for Laboratory personnel and travel expenses incurred due to CONTRACTOR’S negligence.

1.6.6 Make arrangements through the DISTRICT’S PROJECT MANAGER and INSPECTOR and pay for additional samples and tests required for the CONTRACTOR’S negligence.

1.6.7 Employ and pay for the services of a separate, equally qualified Independent Testing Laboratory to perform additional inspection, sampling and testing required when initial tests indicate Work does not comply with Contract Documents.

1.6.8 The District shall pay and back charge the CONTRACTOR for additional testing of all failed tests for this project and special testing required which may be required due to any failed test samples.

1.6.9 The CONTRACTOR shall pay for all tests and inspections of materials which require testing of material outside of the State for where this Project is constructed to include providing travel expenses, lodging expenses, tools or testing devices, etc., for the testing laboratory personnel.

1.7 SUBMITTALS

1.7.1 Furnish copies of reports promptly for distribution as follows:

1.7.1.1 One (1) copy to DISTRICT

1.7.1.2 One (1) copy to ARCHITECT

1.7.1.3 One (1) copy to Structural Engineer

1.7.1.4 One (1) copy to D.S.A. approved Inspector

1.7.1.5 Two (2) copies to the Division of the State Architect (D.S.A.) or as required by codes and ordinances.

1.7.2 Each report shall include, as applicable:

1.7.2.1 Date issued.

1.7.2.2 Project title and DSA Application Number.

1.7.2.3 Testing laboratory name, address, and telephone number.

1.7.2.4 Name and signature of laboratory inspector.

1.7.2.5 Date and time of sampling or inspection.

1.7.2.6 Record of temperature and weather conditions.

1.7.2.7 Date of test.

1.7.2.8 Identification of product and specification section.

1.7.2.9 Location of sample test in the Project.

1.7.2.10 Type of inspection or test.

1.7.2.11 Results of tests and compliance with Contract Documents.

1.7.2.12 Interpretation of test results, when requested by ARCHITECT.

1.7.2.13 All tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported.

1.7.2.14 That the material or materials were sampled and tested in accordance with the requirements of Title 24 and with this Specification.

1.8 SCHEDULE OF INSPECTIONS AND TESTS BY OWNER'S TESTING AGENCY

1.8.1 Site Excavation, Fills and Foundation Preparation (Title 24, Part 2):

1.8.1.1 All earthwork, including earth fill compaction – 1704A.7

1.8.1.2 Inspection of Excavation/fill Installation – 1704A.7

1.8.2 Concrete (Title 24, Part 2, Chapter 19A):

1.8.2.1 Materials

1.8.2.1.1 Portland Cement - 1903A, 1916A.1, 1704A.4.1

1.8.2.1.2 Concrete Aggregates – 1903A, 1903A.5, 1704A.4.1

1.8.2.1.3 Reinforcing Bars – 1903A, 1916A.2

1.8.2.1.4 Admixtures – 1903A, 1903A.4

1.8.2.1.5 Waiver of Material Testing (Reinforcing Bars) – 1916A.2

1.8.2.2 Concrete Quality

1.8.2.2.1 Proportions of Concrete - 1904A, 1905A.1, 1905A.2, 1905A.3, 1905A.4, 1905A.5

1.8.2.2.2 Strength Tests – 1905A.6, 1905A.1.1

1.8.2.3 Concrete Inspection

1.8.2.3.1 Job Site Inspection – 1704A.4.5, 1704A.6, 1905A.7

1.8.2.3.2 Batch Plant Inspection – 1704A.4.2

1.8.2.3.3 Waiver of Batch Plant Inspection – 1704A.4.3

1.8.2.3.4 Reinforcing Bar Welding Inspection – 1704A.4.1

1.8.2.3.5 Drilled-in Expansion Anchors – 1916A.7

1.8.3 Masonry (Title 24, Part 2, Chapter 21A)

1.8.3.1 Materials

1.8.3.1.1 Masonry Units – 2103A.1

1.8.3.1.2 Mortar – 2103A.8

1.8.3.1.3 Grout – 2103A.12

1.8.3.1.4 Reinforcing Bars – 1903A.7, 1916A.2, 2103A.13

1.8.3.2 Masonry Quality

1.8.3.2.1 Portland Cement Tests – 1903A, 1916A.1

1.8.3.2.2 Mortar and Grout Tests – 2105A.2.2.1.4

1.8.3.2.3 Masonry Core Tests – 2105A.4

1.8.3.2.4 Masonry Prism Tests – 2105A.2.2.2

1.8.3.2.5 Masonry Unit Tests – 2105A.2.2.1

1.8.3.3 Masonry Inspection

1.8.3.3.1 Reinforced Masonry – 1704A.5

1.8.3.3.2 Reinforcing Bar Welding Inspection – 1704A.4.3.1.3

1.8.4 Structural Steel (Title 24, Part 2, Chapter 22A)

1.8.4.1 Materials

1.8.4.1.1 Structural Steel, Cold Formed Steel – 2205A.1

1.8.4.1.2 Cold Formed Steel – 2209A.1

1.8.4.1.3 Material Identification - 2203A.1

1.8.4.1.4 High Strength Bolts, Nuts, Washers – 2212A.1

1.8.4.2 Structural Steel Inspection

1.8.4.2.1 Shop Fabrication Inspection – 1704A.3.2

1.8.4.2.2 High Strength Bolt Inspection – 1704A.3.3

1.8.4.2.3 Welding Inspection – 1704A.3.1

1.8.5 Miscellaneous Fasteners:

1.8.5.1 Anchorage test methods as shown on drawings and specified in respective sections.

1.8.6 Wood (Title 24, Part 2, Chapters 23):

1.8.6.1 Materials

1.8.6.1.1 Lumber and Plywood Grading – 2303.1

1.8.6.1.2 Glued-Laminated Members – 2303.1.3

1.8.6.2 Wood Inspection

1.8.6.2.1 Glued-Laminated Fabrication – 1704A.6.3.1, 2303.1.3

Note: Chapters and Articles refer to the 2019 Edition CBC with 2018 State of California amendments and Title 24, Parts 1 and 2.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES: Furnishing and installing required temporary facilities as indicated or specified as required for proper performance of the Contract. Locate temporary facilities where directed by the ARCHITECT and maintain in a safe and sanitary condition at all times until completion of the Contract.

1.1.1 Related Documents: The Conditions of the Contract and the other sections of Division 1 apply to this section as fully as if repeated herein.

1.2 REGULATORY REQUIREMENTS:

1.2.1 Comply with governing regulations and utility company regulations and recommendations.

1.2.2 Comply with pollution and environmental protection regulations for use of water and energy, for discharge of wastes and storm drainage from Project Sites, and for control of dust, air pollution, and noise.

1.2.3 Temporary construction shall conform to requirements of State, County, and local authorities and underwriters which pertain to operation, health, safety, and fire hazard. CONTRACTOR shall furnish and install items necessary for conformance with such requirements, whether or not called for under the separate division of these specifications.

1.2.4 Comply with Federal Storm Water Mitigation requirements.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 TEMPORARY HEATING AND VENTILATING:

3.1.1 The CONTRACTOR shall provide adequate forced ventilation of enclosed areas for curing of their installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases from his operation.

3.1.2 The CONTRACTOR shall provide and pay for venting and cooling for their labor throughout the Project to ensure adequate levels to permit personnel to properly perform their construction activities and to ensure a safe working condition.

3.1.3 The CONTRACTOR shall maintain required room temperature needed per manufacturer recommendation for their construction material installation.

3.2 CONSTRUCTION EQUIPMENT:

3.2.1 The CONTRACTOR shall, at his own cost, provide necessary equipment as required and, upon completion of the Work, remove such temporary equipment.

3.2.2 CONTRACTOR shall erect, equip, and maintain construction equipment in strict accordance with applicable statutes, laws ordinances, rules, and regulations of authority having jurisdiction.

3.2.3 CONTRACTOR shall provide, maintain, and remove, upon completion of the Work, all temporary rigging, scaffolding, hoisting equipment, rubbish chutes, ramps, stairs, runways, platforms, ladders, railings, and other temporary construction as required for all Work thereunder.

3.3 STORAGE:

3.3.1 Operations of the CONTRACTOR, including storage of materials, shall be confined to areas approved. CONTRACTOR shall be liable for damage caused by him during such use of property of the DISTRICT or other parties. CONTRACTOR shall save the DISTRICT and the ARCHITECT and his employees free and harmless from liability of any nature or kind arising from any use, trespass, or damage occasioned by his operations on premises of third persons. Storage facilities shall provide protection of products from excessive cold, heat, moisture, humidity, or physical abuse as specified in the respective sections for the products stored.

3.4 STORM PROTECTION:

3.4.1 Should warnings or presence of heavy rain or high winds be noted, the CONTRACTOR shall take every practical precaution to eliminate or prevent danger to the Work and to adjacent property. These precautions shall include closing all openings to make them weather tight, removing loose materials, tools, or equipment from exposed locations, and removing or securing scaffolding.

3.4.2 CONTRACTOR to develop a Storm Water Mitigation Plan to be approved by the local authorities meeting the Federal Act of September 1993, and provide the DISTRICT a copy.

3.4.3 The CONTRACTOR shall implement all required Storm Water Mitigation measures associated with their operations. (Not required for these projects)

3.5 MAINTENANCE AND REMOVAL

3.5.1 Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work, and as directed by the ARCHITECT.

3.5.2 Remove temporary facilities and controls, such as temporary office facilities barricades, storage sheds, utilities, and other construction of a temporary nature as rapidly as the progress of the Work will permit, and as directed by the ARCHITECT, and recondition and restore portions of the site occupied to original condition to be acceptable to DISTRICT and ARCHITECT.

END OF SECTION

1.1 WORK SPECIFIED IN THIS SECTION

1.1.1 Work In this section includes all labor, equipment, and materials necessary for the implementation, maintenance, and monitoring of the STORM WATER POLLUTION PREVENTION PLAN (S.W.P.P.P.). A copy of the S.W.P.P.P. is available from the DISTRICT.

1.1.2 Principal items of Work included Herein:

1.1.2.1 Plan administration, maintenance, and updates.

1.1.2.2 Placement of Erosion/Pollution control devices.

1.1.2.3 Maintenance and monitoring of control devices.

1.1.2.4 Non-Storm Water Manager.

1.1.2.5 Miscellaneous related work necessary for plan compliance.

1.1.2.6 Reports and Certificates

1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS

1.2.1 All other sections of this Specification shall comply with the requirements of this section. All trades working on the Project need to be aware of and in compliance with the S.W.P.P.P.

1.2.2 All materials that can potentially enter and/or pollute storm water discharges and the generation of non-storm water discharges shall be in compliance with the S.W.P.P.P. Representative materials and procedures include erosion control of native and fill materials, construction vehicles and equipment, soil treatment chemicals, and general construction debris potentially entering the storm drain system’s natural flow course.

1.3 REGULATORY REQUIREMENTS

1.3.1 Prior to the beginning of construction on this site, the DISTRICT will be filing with the State of California, State Water Resources Control Board a Notice of Intent (N.O.I.) that this Project will comply with the terms of the State Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) General Permit No. CA5000002, Waste Discharge Requirements (WDRS) for discharge of storm water run-off associated with construction activity. With the filing of the N.O.I., the THE CONTRACTOR will be obligated to comply with the requirements of the State's General Permit with the implementation and maintenance of the S.W.P.P.P.

1.4 QUALITY ASSURANCE

1.4.1 Pre-construction Conference: The CONTRACTOR, all Subcontractors, and all heavy equipment operators shall attend the pre-construction conference, at which time the working copies of the S.W.P.P.P. will be presented to the THE CONTRACTOR and the S.W.P.P.P. requirements will be reviewed.

1.4.2 THE CONTRACTOR shall submit a list of measures they will execute for their respective bid package(s) within thirty-five (35) calendar days after issuance of the Letter of Intent and/or the Notice to Proceed.

1.4.3 THE CONTRACTOR, ARCHITECT, PROJECT ENGINEER, and Construction Superintendent shall become familiar with all aspects of the S.W.P.P.P. (including the State's General Permit) and shall be responsible for ensuring compliance with the S.W.P.P.P. for the project.

1.4.4 THE CONTRACTOR shall educate, direct, and enforce compliance with the requirements of the S.W.P.P.P. by all subcontractors.

1.5 PERFORMANCE REQUIREMENTS

1.5.1 The Storm Water Pollution Prevention Plan is a minimum requirement that THE CONTRACTOR and all subcontractors shall abide by. Revisions and modifications to the S.W.P.P.P. are acceptable only if they maintain levels of protection equal to or greater than originally specified.

1.5.2 The CONTRACTOR and all Subcontractors shall read and be thoroughly familiar with all of the requirements of the S.W.P.P.P. The CONTRACTOR shall be responsible for the performance of Subcontractors. The CONTRACTOR shall inspect and monitor all Subcontractors' work and storage areas for compliance with the S.W.P.P.P. prior to any anticipated rain.

1.5.3 Penalties: THE CONTRACTOR shall pay any fines and be liable for any other penalties that may be imposed by the regulatory agency for non-compliance with the S.W.P.P.P. during the course of Work. In the cases of violations, CONTRACTORS shall be responsible to complete any and all corrective measures, at his own expense, as may be directed by the regulatory agency.

1.6 MATERIALS

1.6.1 Provide all temporary and permanent storm water pollution prevention facilities, equipment, and materials as required by or as necessary to comply with the S.W.P.P.P.

1.6.2 Provide Erosion Control/Storm Water Pollution Prevention measures and Temporary Fencing per drawings.

1.7 IMPLEMENTATION

1.7.1 All measures required by the S.W.P.P.P. shall be implemented concurrent with the commencement of construction. Pollution prevention practices and devices shall be followed or installed as early in the construction schedule as possible with frequent upgrading of devices as construction progresses.

1.7.2 THE CONTRACTOR shall conduct an inspection of all erosion control and pollution prevention devices prior to any anticipated storm event to verify all S.W.P.P.P. measures are in place and to identify and mitigate any new potential pollution sources created or caused by the ongoing construction.

1.7.3 After storm events, the THE CONTRACTOR shall conduct an inspection of the Project site to verify the performance of the erosion control and pollution prevention devices in reducing pollutant loading of the discharged storm water associated with the construction activity.

1.7.4 THE CONTRACTOR and all subcontractors will be required to eliminate or reduce to the extent feasible the discharge of materials other than storm water to the storm drain system and/or receiving waters as dictated by the State General Permit and S.W.P.P.P.

1.8 REPORTING

1.8.1 THE CONTRACTOR shall prepare all inspection records for each inspection done prior to and just after all storm events as required by the S.W.P.P.P. with two copies forwarded to the DISTRICT.

1.8.2 THE CONTRACTOR shall prepare the overall certification based upon the inspection reports for DISTRICT'S use in certifying the Project site's compliance with the S.W.P.P.P. and the State's General Permit.

1.9 COMPLETION OF WORK

1.9.1 Clean-up shall be performed as each portion of the Work progresses. All refuse, excess material, and possible pollutants shall be disposed of in a legal manner off-site and all temporary and permanent S.W.P.P.P. devices shall be in place and maintained in good condition.

1.9.1.1 At completion of work, THE CONTRACTOR, ARCHITECT and DISTRICT shall inspect installed S.W.P.P.P. devices, and CONTRACTOR shall present the currently implemented S.W.P.P.P. with all backup records to the DISTRICT.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Section Includes: General requirements for delivery, storage, and handling of materials and equipment applicable to the product sections of this specification and necessary for the construction of the Project.

1.1.2 Related Sections:

1.1.2.1 Section 012513 – Product Substitution Procedures.

1.2 GENERAL

1.2.1 Material and Equipment incorporated into the Work:

1.2.1.1 Conform to applicable specification and standards.

1.2.1.2 Comply with size, make, type, and quality specified.

1.2.2 Manufactured and Fabricated Products:

1.2.2.1 Design, fabricate, and assemble in accordance with the best engineering and shop practices.

1.2.2.2 Manufacture like parts of duplicate units to standard sizes and gauges for interchangeability.

1.2.2.3 Two or more items of the same kind shall be identical, by the same manufacturer.

1.2.3 Reused Materials: Where the contract documents indicate that existing materials may be reused, such materials must be of like-new sound condition when reincorporated in the work.

1.2.3.1 Metals must be free of rust, corrosion, and dents, and must be restored to a like-new finish by cleaning, polishing, or refinishing, whichever is appropriate.

1.2.3.2 Materials to be reused shall be approved for reuse by the Inspector.

1.2.4 Supplementary materials not specifically described in each Section, but required for a complete and proper installation of the Work, shall be new, first quality of their respective kinds, and subject to review and acceptance by the District.

1.3 DELIVERY

1.3.1 Arrange deliveries of products in accordance with construction schedules and in ample time to facilitate inspection prior to installation. Notify the Inspector of Record, in writing, when items are delivered to the site, so he may inspect and verify quality and quantities delivered are as intended.

1.3.2 Coordinate deliveries to avoid conflict with work and conditions at site, taking into consideration:

1.3.2.1 Work of the Contractors, or District.

1.3.2.2 Limitations of storage space.

1.3.2.3 Availability of equipment and personnel for handling products.

1.3.2.4 District's use of premises.

1.3.3 Deliver products in undamaged condition in original containers or packaging and with identifying labels intact and legible.

1.3.4 Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment to permit easy accumulation of parts and to facilitate assembly.

1.3.5 Immediately on delivery, inspect shipment to ensure:

1.3.5.1 Product complies with requirements of Contract Documents and reviewed submittals.

1.3.5.2 Quantities are correct.

1.3.5.3 Containers and packages are intact and labels are legible.

1.3.5.4 Products are undamaged and properly protected.

1.3.6 The District reserves the right to observe delivered materials, to review the accompanying bills of lading, and to reject the following:

1.3.6.1 Materials not identifiable as accepted products of the accepted manufacturer.

1.3.6.2 Materials exhibiting shelf-lives in excess of those stipulated by the manufacturer.

1.3.6.3 Materials not bearing the appropriate label of Underwriters Laboratories (UL), where applicable.

1.3.6.4 Materials in opened or excessively damaged containers.

1.3.6.5 Materials exhibiting evidence of moisture, organic matter, or other adulterants.

1.3.7 In the event of damage or rejection by the District for stipulated cause, immediately make repairs and replacements necessary to the acceptance of the Architect at no additional cost to the District.

1.4 STORAGE

1.4.1 Payment will not be made by the District for materials stored off-site, until such time as the materials are incorporated into the Work

1.4.2 Store products immediately on delivery, store in accordance with manufacturer's instructions and protect until installed in the Work.

1.4.3 Store products subject to damage by elements in weather tight enclosures.

1.4.3.1 Maintain temperatures within limits recommended by manufacturer's instructions.

1.4.3.2 Provide humidity control for sensitive products, as required by the manufacturer.

1.4.3.3 Store unpacked products in a manner accessible for inspection.

1.4.4 Exterior Storage:

1.4.4.1 Provide substantial platforms, blocking, or skids to support fabricated products above ground and prevent soiling or staining.

1.4.4.1.1 Cover products subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.

1.4.4.2 Store loose granular materials on solid paved surfaces or provide plywood platforms to prevent mixing with foreign matter.

1.4.4.2.1 Provide surface drainage to prevent flow or ponding of rainwater.

1.4.4.2.2 Prevent mixing of refuse or chemically injurious materials or liquids.

1.5 MAINTENANCE OF STORAGE

1.5.1 Maintain periodic system of inspection of stored products on scheduled basis to assure that:

1.5.1.1 State of storage facilities is adequate to provide required conditions.

1.5.1.2 Required environmental conditions are maintained on a continuing basis.

1.5.1.3 Surfaces of products exposed to elements are not adversely affected.

1.5.2 Mechanical and electrical equipment which requires servicing during long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.

1.6 PROTECTION AFTER INSTALLATION

1.6.1 Provide protection of installed products to prevent damage from subsequent operations. Remove protection materials when no longer needed, prior to completion of work.

1.6.2 Control traffic to prevent damage to equipment and surfaces.

PART 2 – PRODUCTS
(Not Applicable)

PART 3 – EXECUTION
(Not Applicable)

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: General requirements for field engineering necessary to provide horizontal and vertical control, including:

1. Survey work required in execution of the project.

2. Civil Engineering and Land Surveying services specified or required to execute contractor's construction methods.

3. Coordination with testing laboratory or agency and Soils Engineer.

4. Contractor furnished assistance.

5. Verification of conditions.

6. Reporting procedures.

B. Requirements not in this section:

1. Specific test procedures performed in accordance with Section 014523 – Testing Laboratory and Inspection Services.

1.02 QUALIFICATIONS OF ENGINEER OR SURVEYOR

A. Qualifications: Registered Civil Engineer qualified to perform land surveying or licensed Land Surveyor acceptable to the Contractor and Owner. The Prime Contractor shall furnish to the Owner prior to start of work the name and license or registration number issued by the State of California, Board of Registration for Professional Engineers and Land Surveyors. Contractor shall provide notice to the Owner during the course of construction should the identification of the individual responsible for this work change from time to time and shall obtain approval of the Owner for the replacement.

B. All field engineering services furnished during the course of this project shall be under the direct supervision and control of the named individual Civil Engineer or Land Surveyor.

1.03 FIELD ENGINEERING REQUIREMENTS

A. Survey Reference Points:

1. Existing basic horizontal and vertical control points for the project are those designated on the drawings.

2. Locate and protect control points prior to starting site work, and preserve permanent reference points during construction. Identify and protect survey monuments on the site discovered during construction, which are not referenced on the project drawings. Tie out such monuments and notify Architect prior to allowing them to be disturbed.

3. Replace any permanent boundary markers disturbed during construction with new permanent monuments and file the required Record of Survey or Corner Record in accordance with applicable State and County laws, at no additional cost to the Owner.

1.04 PROJECT SURVEY REQUIREMENTS

A. Establish a minimum of two permanent horizontal and vertical control points on the site, remote from the “Building Pad Area” and referenced to data established by the survey control points.

1. Site Improvements:

a. Provide stakes for grading, fill, and topsoil placement.

b. Locate utility lines, including, but not limited to, storm drains, sewers, water mains, gas, electric, and telephone lines. Provide adequate horizontal control to locate the lines and provide vertical control in proportion to the slope of the line as required for accurate construction.

2. Provide curb stakes and elevations as required to construct paving and on and off-site concrete work.

a. Calculate and layout subgrade elevations and intermediate controls as required to provide smooth transitions between the spot elevations indicated on the plans.

b. From time to time, verify layouts of work by the same methods.

1.05 RECORDS

A. Maintain a complete, accurate log of control and survey work as it progresses.

1.06 SUBMITTALS

A. Submit name and address of Licensed Surveyor or Civil Engineer to Architect, including changes as they may occur from time to time.

B. On request of the Architect, submit documentation to verify accuracy of the field engineering work.

C. Project Record (As-Built) Drawings:

1. At the project completion, deliver to the Architect, final “as-built” drawings of the work, prepared on Bond Paper. Clearly indicate differences between original drawings and completed work within specified tolerances.

2. Show as-built locations by coordinates of utilities on–site with top of pipe elevations at major grade and alignment changes.

3. Completed as-built drawings shall be signed and certified as correct by the licensed Surveyor or Civil Engineer.

4. Furnish any required Engineering Survey information for all utility easements for any required document recording.

5. Submit certification of subgrade completion and building location on the building pads showing the actual specified elevation of the completed constructed subgrade, to the nearest five hundredth of a foot (0.05 foot).

PART 2 – PRODUCTS
(Not Applicable)

PART 3 – EXECUTION
(Not Applicable)

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION

1.1.1 Work included: This Section establishes general requirements pertaining to cutting (including excavating), fitting, and patching of the Work. Each THE CONTRACTOR shall do all cutting, fitting, or patching of Work as required to make its several parts come together properly and fit to receive or be received by work of other THE CONTRACTORS shown upon, or reasonably implied by, the Drawings and Specifications for the completed structure as ARCHITECT may direct. In addition, the THE CONTRACTOR shall do the following:

1.1.1.1 Uncover work to provide for installing, inspecting, or both, of ill-timed work;

1.1.1.2 Remove and replace work not conforming to requirements of the Contract Documents; and

1.1.1.3 Remove and replace defective work.

1.1.2 All costs caused by defective or ill-timed work shall be borne by THE CONTRACTOR.

1.1.3 The THE CONTRACTOR shall not endanger any work by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other THE CONTRACTOR except with consent of ARCHITECT.

1.1.4 Related work:

1.1.4.1 Documents affecting work of this Section include, but are not necessarily limited to, the Conditions of the Contract and Sections in Division 1 of these Specifications.

1.1.4.2 In addition to other requirements specified, upon the ARCHITECT'S request, uncover work to provide for inspection by the ARCHITECT of the covered work and remove samples of installed materials for testing.

1.2 QUALITY ASSURANCE

1.2.1 Use adequate numbers of skilled personnel who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 SUBMITTALS

1.3.1 Request for ARCHITECT's consent:

1.3.1.1 Prior to cutting which effects structural safety, submit written request to the ARCHITECT for permission to proceed with cutting.

1.3.1.2 Should conditions of the Work, or schedule, indicate a required change of materials or methods for cutting and patching, so notify the ARCHITECT and secure written permission.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 For replacement of items removed, use materials complying with pertinent Section of these Specifications.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

3.1.1 Inspection:

3.1.1.1 Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching, and backfilling.

3.1.1.2 After uncovering the work, inspect conditions affecting installation of the new work.

3.1.2 Discrepancies:

3.1.2.1 If uncovered conditions are not as anticipated, immediately notify the ARCHITECT, and secure needed directions.

3.1.2.2 Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION PRIOR TO CUTTING

3.2.1 Provide required protection including, but not necessary limited to, shoring, bracing, and support to maintain structural integrity of the Work.

3.2.2 Locate all utilities prior to cutting and/or excavation.

3.3 PERFORMANCE

3.3.1 Perform required excavating and backfilling as required under other pertinent Sections of these Specifications.

3.3.1.1 Perform cutting and demolition by methods that will prevent damage to other portions of the Work and provide proper surfaces to receive installation of repair and new work.

3.3.1.2 Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Section includes: Cleaning throughout the construction period and final project cleaning prior to the acceptance tour.

1.1.2 Related Work Described Elsewhere: In addition to standards specified herein, comply with requirements for cleaning as described in other sections of these Specifications.

1.2 QUALITY ASSURANCE

1.2.1 Inspection: Conduct daily inspection and more often if necessary, to verify that requirements of cleanliness are being met.

1.2.2 Codes and Standards: In addition to the requirements specified herein, comply with pertinent requirements of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

2.1.1 Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.2 COMPATIBILITY

2.2.1 Use cleaning materials and equipment that are compatible with the surfaces being cleaned, as recommended by the manufacturer of the material to be cleaned.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

3.1.1 General:

3.1.1.1 Retain stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.

3.1.1.2 Do not allow the accumulation of scrap, debris, waste materials, and other items not required for construction of this work. Debris shall be removed from the site and disposed of in a lawful manner. Disposal receipts of dump tickets shall be furnished to Architect upon request.

3.1.1.3 At least twice each month, and more often if necessary, remove scrap, debris, and waste material from the job site.

3.1.1.4 Provide adequate storage for items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

3.1.2 Site:

3.1.2.1 Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove items to the place designated for their storage. Combustible waste shall be removed from the site. Flammable waste shall be kept in sealed metal containers until removed from the site.

3.1.2.2 Weekly, and more often if necessary, inspect arrangements of materials stored on the site; restack, tidy, or otherwise service arrangements to meet the requirements specified above.

3.1.2.3 Maintain the site in a neat and orderly condition.

3.1.3 Structures:

3.1.3.1 Daily, and more often if necessary, inspect the structures and pick up scrap, debris, and waste material. Remove items to the place designated for their storage.

3.1.3.2 Daily, and more often if necessary, sweep interior spaces clean.

3.1.3.2.1 “Clean”, for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other materials capable of being removed by use of reasonable effort and a handheld broom, i.e., “broom-clean”.

3.1.3.3 As required preparatory to installation of succeeding materials, clean the structures of pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the required cleanliness.

3.1.3.4 Following the installation of finish floor materials, clean the finish floor daily, and more often if necessary, and while work is being performed in the space in which finish materials have been installed.

3.1.3.4.1 “Clean”, for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material which, in the opinion of the Architect, may be injurious to the finish floor material, i.e., “vacuum- clean”.

3.2 FINAL CLEANING

3.2.1 Definition: Except as otherwise specifically provided, “clean”, for the purpose of the Article, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials, i.e., “scrub and polish clean”.

3.2.2 General: Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste and conduct final progress cleaning as described above.

3.2.3 Site: Unless otherwise specifically directed by the Architect, water and broom clean paved areas on the site and public paved areas directly adjacent to the site. Remove resultant debris.

3.2.4 Structures:

3.2.4.1 Exterior: In areas affected by the work under this contract, visually inspect exterior surfaces and remove traces of soil, waste material, smudges, and other foreign matter. Remove traces of splashed material from adjacent surfaces. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior of the structure.

In the event of stubborn stains not removable with water, the Architect may require light sandblasting or other cleaning at no additional cost to the District.

3.2.4.2 Interior: In areas affected by the work under this contract, visually inspect interior surfaces and remove traces of soil, waste material, smudges, and other foreign matter. Remove traces of splashed materials from adjacent surfaces. Remove paint drippings, spots, stains, and dirt from finished surfaces. Use only the cleaning materials and equipment instructed by the manufacturer of the surface material.

3.2.4.3 Glass: Clean glass inside and outside.

3.2.4.4 Polished surfaces: On surfaces requiring the routine application or buffed polish, apply the polish recommended by the manufacturer of the material being polished. Glossy surfaces shall be cleaned and shined as intended by the manufacturer.

3.2.5 Timing: Schedule final cleaning as accepted by the Architect to enable the District to accept a completely clean project.

3.3 CLEANING DURING DISTRICT'S OCCUPANCY

3.3.1 Should the District occupy the work or any portion thereof prior to its completion by the Contractor and acceptance by the District, responsibilities for interim and final cleaning of the occupied spaces shall be determined by the Architect in accordance with the General Conditions of the Contract.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

1.1.1 Starting systems.

1.1.2 Demonstration and instructions.

1.1.3 Testing, adjusting, and balancing.

1.2 STARTING SYSTEMS

1.2.1 Coordinate schedule for start-up of various equipment and systems.

1.2.2 Notify D.S.A. approved Inspector and ARCHITECT prior to start-up of each item.

1.2.3 Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions that may cause damage.

1.2.4 Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

1.2.5 Verify wiring and support components for equipment are complete and tested.

1.2.6 Execute start-up under supervision of responsible manufacturer's representative and/or CONTRACTOR'S personnel in accordance with manufacturer’s instructions.

1.2.7 When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check equipment or system installation prior to start-up, and to supervise placing equipment or system operation.

1.2.8 Submit a written report to the ARCHITECT that equipment or system has been properly installed and is functioning correctly.

1.2.9 Notify and assist ARCHITECT and INSPECTOR for coordination of all utility hook-ups prior to hook-up.

1.3 DEMONSTRATION AND INSTRUCTIONS

1.3.1 Demonstrate operation and maintenance of Products to DISTRICT’S personnel within seven (7) calendar days of Substantial Completion, prior to occupancy.

1.3.2 Demonstrate Project equipment by a qualified manufacturer’s representative who is knowledgeable about the Project.

1.3.3 For equipment or systems requiring seasonal operation, perform demonstration for other seasons within six (6) months.

1.3.4 Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with DISTRICT'S personnel in detail to explain all aspects of operation and maintenance.

1.3.5 Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times at equipment location.

1.3.6 Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.3.7 The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

PART 2 - PRODUCTS
(Not Applicable)

PART 3 - EXECUTION
(Not Applicable)

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

1.1.1 Close-out procedures

1.1.2 Final cleaning

1.1.3 Adjusting

1.1.4 Project record documents

1.1.5 Operation and maintenance data

1.1.6 Warranties

1.1.7 Spare parts and maintenance materials

1.1.8 Instructions to Personnel

1.2 CLOSE-OUT PROCEDURES

All close-out data to be submitted no later than 10 days after completion of construction schedule.

1.2.1 Partial Occupancy and substantial Completion - Each Contractor shall:

1.2.1.1 Conform to Part 1, Title 24, Section 4-336 CCR, Requirements for Verified Reports and Close-out Procedures.

1.2.1.2 In conjunction with the Project Inspector, prepare a list of items to be completed or corrected. List may be developed by areas, when approved by the ARCHITECT.

1.2.1.3 Within a reasonable time after receipt of the list, the ARCHITECT will inspect to determine status of completion.

1.2.1.4 Should the ARCHITECT determine that Work is not substantially complete:

1.2.1.4.1 The ARCHITECT will promptly notify the CONTRACTOR in writing, giving the reason for his determination.

1.2.1.4.2 CONTRACTOR shall remedy the deficiencies and notify the ARCHITECT when the Work is ready for re-inspection.

1.2.1.4.3 The ARCHITECT will re-inspect the Work.

1.2.1.5 When the ARCHITECT concur that work is substantially complete

1.2.1.5.1 The ARCHITECT will prepare a "Certificate of Substantial Completion" on AIA Form G704, accompanied by the CONTRACTOR's list of items to be completed or corrected as verified by the ARCHITECT.

1.2.1.5.2 The ARCHITECT will submit the Certificate to the DISTRICT and to the CONTRACTOR for their written acceptance of the responsibilities assigned to them in the Certificate.

1.2.2 Final Completion - Each Contractor shall:

1.2.2.1 Prepare and submit a notice that Work is ready for final inspection and acceptance.

1.2.2.2 Verify the Work is complete.

1.2.2.3 Certify that:

1.2.2.3.1 Work has been inspected by all governing agencies and is in compliance with Contract Documents,

1.2.2.3.2 Work has been inspected for compliance with the Contract Documents.

1.2.2.3.3 Work has been completed in accordance with the Contract Documents.

1.2.2.3.4 Equipment and systems have been tested as required and are operational.

1.2.2.3.5 Work is completed and ready for final inspection.

1.2.2.4 The ARCHITECT will make an inspection to verify status of completion.

1.2.2.5 Should the ARCHITECT determine the Work is incomplete or defective work.

1.2.2.5.1 The ARCHITECT will promptly notify the CONTRACTOR in writing, listing incomplete or defective Work.

1.2.2.5.2 CONTRACTOR shall remedy the deficiencies promptly and notify the ARCHITECT when ready for re-inspection.

1.2.2.6 When the ARCHITECT determines the Work is acceptable under the Contract Documents, he will request the CONTRACTOR to make close-out submittals.

1.2.3 Close-out submittals include, but are not necessarily limited to - Each Contractor shall:

1.2.3.1 Project Record Documents

1.2.3.2 Operation and maintenance data for items so listed in pertinent Sections these Specifications and for other items when so approved by the ARCHITECT.

1.2.3.3 Warranties

1.2.3.4 Keys and keying schedule.

1.2.3.5 Spare parts, materials, extra stock to be turned over to the DISTRICT.

1.2.3.6 Evidence of compliance with requirements of governmental agencies having jurisdiction, including, but not limited to:

1.2.3.6.1 Date of final inspection and list of persons in attendance.

1.2.3.6.2 List of any items that do not conform to the Contract Documents.

1.2.3.6.3 Certificates of Inspection.

1.2.3.6.4 Certificates of Occupancy.

1.2.3.7 Evidence of payment and release of liens, when requested by the DISTRICT.

1.2.3.8 List of SUBCONTRACTORs, service organizations and principal vendors including names, addresses and telephone numbers, when contacted for emergency service at all times, including nights and holidays.

1.2.3.9 Consent of final payment from surety company.

1.2.3.10 Statement of Project Completion, including punchlist items.

1.2.3.11 DSA Form 6.

1.2.4 Final Payment - Each Contractor shall:

1.2.4.1 Submit a Final Payment Request, showing all adjustments to the Contract Sum.

1.2.4.2 Retention will be released no sooner than 35 days after Notice of Completion has been filed with the District, and the District has complied with County recording requirements.

1.3 ADJUSTING - Each Contractor shall:

1.3.1 Adjust operating products and equipment to ensure smooth and unhindered operation.

1.4 SPARE PARTS AND MAINTENANCE MATERIALS - Each Contractor shall:

1.4.1 Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.

1.5 INSTRUCTIONS TO DISTRICT PERSONNEL

1.5.1 Instruct the DISTRICT personnel in proper operation and maintenance of all systems, equipment and similar items which were provided as part of the Work.

1.5.2 The CONTRACTOR shall provide a schedule to the DISTRICT for approval for each of the instruction periods required.

1.5.2.1 Organize the instruction sessions into group sizes and schedule the elapsed time for instruction in a manner to Provide complete coverage of the subject matter, prior to occupancy.

1.5.3 Instruction sessions will be held in a DISTRICT designated area on the project site and CONTRACTOR to coordinate date and time with ARCHITECT and DISTRICT.

1.5.4 Instructions shall be qualified by the product manufacturer in the subject matter presented at each session.

1.5.4.1 Submit names of instructors and qualifications to the ARCHITECT and DISTRICT for approval, 30 days prior to each scheduled session.

1.5.4.2 Substitution of instructors will not be Permitted without prior approval of ARCHITECT and DISTRICT.

PART 2 - PRODUCTS
(Not Applicable)

PART 3 - EXECUTION
(Not Applicable)

END OF SECTION

CERTIFICATE OF SUBSTANTIAL COMPLETION

AIA DOCUMENT G704

(Instructions on reverse side)

OWNER ☐
ARCHITECT ☐
CONTRACTOR ☐
FIELD ☐
OTHER ☐

PROJECT:
(Name and address)

PROJECT NO.:

CONTRACT FOR:
CONTRACT DATE:

TO OWNER:
(Name and address)

TO CONTRACTOR:
(Name and address)

DATE OF ISSUANCE:
PROJECT OR DESIGNATED PORTION SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion thereof designated above is hereby established as

which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

ARCHITECT _____ BY _____ DATE _____

The Contractor will complete or correct the Work on the list of items attached hereto within _____ days from the above date of Substantial Completion.

CONTRACTOR _____ BY _____ DATE _____

The Owner accepts the Work or designated portion thereof as substantially complete and will assume full possession thereof at _____ (time) on _____ (date).

OWNER _____ BY _____ DATE _____

The responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:
(Note—Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)

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PART 1 - GENERAL

1.1 SUMMARY

1.1.1 Section includes: Requirements for Record Documents.

1.1.2 Throughout progress of the work of the contract, maintain an accurate record of changes in the Contract Documents, as described below.

1.1.3 Upon completion of the work of this Contract, transfer the recorded changes to a set of Record Documents, as described herewith.

1.2 QUALITY ASSURANCE

1.2.1 General: Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as accepted in advance by the Architect.

1.2.2 Accuracy of Records: Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of drawings and other documents where such entry is required to properly show the change. Accuracy of records shall be such that future search for items shown in the Contract Documents may reasonably rely on information obtained from the accepted Record Documents.

1.2.3 Timing of Entries: Make entries within 24 hours after receipt of information.

1.3 PAYMENT WITHHELD

1.3.1 The Architect reserves the right to withhold certification of payment requests for failure on the part of the Contractor to maintain Record Drawings in conformance with this Section.

1.4 SUBMITTALS

1.4.1 General: The Architect's review of the current status of Record Documents will be a prerequisite to the Architect's review of requests for progress payment and request for final payment under the contract.

1.4.2 Progress Submittals: Prior to submitting each request for progress payment, secure the Architect's review of the Record Documents as currently maintained.

1.4.3 Final Submittal: Prior to submitting request for final payment, submit the final Record Documents to the Architect and secure his acceptance.

1.5 PRODUCT HANDLING

1.5.1 The Contractor shall markup and maintain a job set of Record Documents to be kept on site and protected from deterioration and from loss and damage until completion of the work and transfer of the recorded data to the final Record Documents.

The Contractor will also mark up the Architect's job set of drawings that are kept in the Architect's office on a daily basis as work is being installed.

1.5.2 In the event of loss of recorded data, use means necessary to again secure the data to the Architect's acceptance; such means shall include, if necessary in the opinion of the Architect, removal and replacement of concealing materials and, in such case, replacements shall be to the standards originally specified in the Contract Documents.

PART 2 - PRODUCTS

2.1 RECORD DOCUMENTS

2.1.1 Final Record Documents: The Contractor will transfer job set drawing markups to one (1) clean set on bond paper. Contractor will then submit this set to the Architect as the Final As-Built Drawing(s).

2.1.2 Before commencing backfilling of utilities or any other underground pipes, ducts, conduits, or structures, take photographs showing relationship of below ground utilities to structure(s) or other physical reference point. Provide three-ring binder containing 3-1/2 inches by 5 inches mounted and numbered prints of photos, plus the negatives, categorized by locations and indicating utilities shown. Provide a photo(s) of all connections, crossings, stubs, or other critical points. If the Contractor neglects to take such photographs, Contractor shall uncover, at the Contractor's expense, the area(s) so neglected in order to provide the requisite photos.

Provide a bond composite Utility Site Plan with the number of each photograph placed on the plan at the location the photo was taken from and a mark indicating which way the camera was pointed. All numbers and marks shall be in ink and shall be clear, legible, and neatly done. Photo binder and photo plan shall be considered part of the Record Documents.

PART 3 - EXECUTION

3.1 MAINTENANCE OF JOB SET

3.1.1 Identification: Upon receipt of the job set, identify each of the documents with a title "RECORD DOCUMENTS-JOB SET".

3.1.2 Preservation:

3.1.2.1 Considering the contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination and the conditions under which these activities will be performed, devise a suitable method for protecting the job set for the review of the Architect.

3.1.2.2 Use the job set for no purpose other than entry of new data and for review by the Architect, until start of transfer of data to final Record Documents.

3.1.2.3 Maintain the job set at the site of work as that site is designated by the Architect.

3.1.3 Making Entries on Drawings: Using an erasable colored pencil (not ink nor indelible pencil), clearly describe the change by note and by graphic line, as required. Date entries. Call attention to the entry by a “cloud” around the area or areas affected. In the event of overlapping changes, different colors may be used for each of the changes. In the event of superseding changes to any area of the drawing, erase only that portion of the preceding change that is affected by the subsequent change before entering the subsequent change.

3.1.4 Making Entries on Other Documents:

3.1.4.1 Where changes are caused by directives issued by the Architect, clearly indicate the change by note in ink, colored pencil, or rubber stamp, and reference Division of the State Architect approved addenda and change orders.

3.1.4.2 Where changes are caused by Contractor originated proposals reviewed by the Architect, including inadvertent errors by the Contractor that have been accepted by the Architect, clearly indicate the change by note in erasable colored pencil.

3.1.4.3 Make entries in the pertinent documents as reviewed by the Architect.

3.1.5 Conversion of Schematic Layouts:

3.1.5.1 In most cases on the Drawings, arrangement of conduits and circuits, piping, ducts, and other similar items, is shown schematically and is not intended to portray precise physical layout. Final physical arrangement shall be as determined by the Contractor, subject to the Architect’s review. However, design of future modifications of the facility may require accurate information as to the final physical arrangement of items and location of utilities which are shown only schematically on the Drawings.

3.1.5.2 Show on the job set of record Drawings, by dimension accurate to within 1 inch, the centerline of each run of items such as are described in the preceding paragraph above. Clearly identify the item by accurate note such as “cast-iron drain”, “galvanized water pipe”, etc. Show by symbol or note, the vertical location of the item (“under slab”, “in ceiling plenum”, “exposed”, etc.). Make identification sufficiently descriptive that it may be related reliably to the Specifications.

3.1.5.3 The Architect may waive the requirements for conversion of schematic layouts where, in the Architect’s judgment, such conversion serves no beneficial purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the Architect.

3.1.5.4 Timing of Entries: Be alert to changes in the work from how it is shown in the Contract Documents: Promptly, and in no case later than 24 hours after the change has occurred and been made known to the Contractor, make the entry or entries required.

3.1.6 Accuracy of Entries: Use means necessary, including proper instruments or tools for measurement, to determine actual locations of the installed items.

3.2 FINAL RECORD DOCUMENTS

General: The purpose of the final Record Documents is to provide factual information regarding the work, both concealed and visible, which will enable future modification of design to proceed without lengthy and expensive site measurement, investigation, and examination.

3.3 CHANGES SUBSEQUENT TO ACCEPTANCE

The contractor shall have no responsibility for recording changes in the work subsequent to acceptance of the work by the District, except for changes resulting from replacements, repairs, and alterations made by the Contractor as a part of his guarantee. No changes will be allowed without approval of the Division of the State Architect.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED:

1.1.1 Work includes the following:

1.1.1.1 Compilation of product data and related information appropriate for District's maintenance and operation of products furnished under the Contract.

1.1.1.2 Instruction of District's personnel in the maintenance of products and in the operation of equipment and systems.

1.2 RELATED WORK:

1.2.1 Related Work Specified Elsewhere:

1.2.1.1 Section 013300 – Submittal Procedures.

1.2.1.2 Section 017000 – Contract Closeout.

1.3 QUALITY ASSURANCE:

1.3.1 Preparation of data shall be done by personnel:

1.3.1.1 Trained and experienced in maintenance and operation of the described products.

1.3.1.2 Familiar with requirements of the Section specified.

1.3.1.3 Skilled in technical writing to the extent required to communicate essential data.

1.3.1.4 Skilled as draftsmen competent to prepare required drawings.

1.4 SUBMITTALS:

1.4.1 Comply with pertinent provisions of Section 013300.

1.4.2 Initial: Prior to the first Pay Application, submit a blank, tabbed binder in the proper format for review by Architect. Approved binder will be returned for collection of information during the course of construction.

1.4.3 Preliminary: Submit two (2) copies of a preliminary draft of the proposed Manual or Manuals to the ARCHITECT review and approval.

1.4.3.1 Show general arrangement, nature of contents in each portion, probable number of drawings and their size, and proposed method of binding and covering.

1.4.3.2 Secure the Architect's approval prior to proceeding.

1.4.4 Final: Complete the Manuals in strict accordance with the approved preliminary drafts and the Architect's review comments.

1.4.4.1 Submit three (3) copies of the final Manual to the Architect at least ten (10) days prior to final inspection or acceptance.

1.4.4.2 Video tape or DVD each indoctrination and instruction session (in-service) and submit three (3) copies of each trade. Videotapes shall be in VHS or DVD format.

1.4.5 Revisions:

1.4.5.1 Following the indoctrination and instruction of operating and maintenance personnel, review all proposed revisions of the Manual with the Architect.

1.4.5.2 Submit specified number of copies of approved data in final form ten (10) days after final inspection or acceptance.

PART 2 - PRODUCTS

2.1 FORMAT

2.1.1 Size: Minimum 4 inch, three-ring binders for 8-1/2 inches by 11 inches punched pages, and completely clear plastic covers for insertion of labels on spines and covers.

2.1.2 Provide identifying tabbed pages. Classify by Division and by Section. All tabbing shall be in numerical order.

2.1.3 Drawings:

2.1.3.1 Provide reinforced punched binder tab. Bind drawings with text.

2.1.3.2 Fan fold larger drawings to size of text pages, for easy foldout.

2.1.4 Cover: Identify each volume with typed or printed label. List:

2.1.4.1 Title of Project.

2.1.4.2 Identity of separate structures as applicable.

2.1.4.3 Identity of general subject matter covered in the manual.

2.1.5 Spine: Identify each volume with typed or printed label stating OPERATING AND MAINTENANCE INSTRUCTIONS, GUARANTIES AND SERVICE CONTRACTS, and the following information:

2.1.5.1 Title of Project.

2.1.5.2 Divisions and Sections included within volume.

2.1.5.3 Volume number (i.e. 1 of 4)

PART 3 - EXECUTION

3.1 CONTENT OF MANUAL:

3.1.1 Neatly typewritten table of contents for each volume, arranged in a systematic order.

3.1.1.1 Contractor, name of responsible principal, address, and telephone number.

3.1.1.2 A list of each product required to be included, indexed to the content of the volume.

3.1.1.3 List, with each product, the name, address, and telephone number of:

3.1.1.3.1 Subcontractor and/or installer.

3.1.1.3.2 Maintenance contractor, as appropriate.

3.1.1.3.3 Identify the area of responsibility of each.

3.1.1.3.4 Local source of supply for parts and replacement.

3.1.1.4 Identify each product by product name and other identifying symbols as set forth in the Contract Documents.

3.1.2 Product Data:

3.1.2.1 Include only those sheets that are pertinent to the specific product.

3.1.2.2 Annotate each sheet to:

3.1.2.2.1 Clearly identify the specific product or part installed.

3.1.2.2.2 Clearly identify the data applicable to the installation.

3.1.2.2.3 Delete references to inapplicable information.

3.1.3 Drawings:

3.1.3.1 Supplement product data with drawings as necessary to clearly illustrate:

3.1.3.1.1 Relations of component parts of equipment and systems.

3.1.3.1.2 Control and flow diagrams.

3.1.3.2 Coordinate drawings with information in Section 017700, Contract Closeout, with regard to Project Record Drawings to assure correct illustration of completed installation.

3.1.3.3 Project Record Drawings shall not be used as maintenance drawings.

3.1.4 Instructions: Written text, as required to supplement product data for the particular installation:

3.1.4.1 Organize in a consistent format under separate headings for different procedures.

3.1.4.2 Complete instructions regarding operation and maintenance of all equipment involved including lubrication, disassembly, and reassembly.

3.1.4.3 Complete nomenclature for all parts of equipment.

3.1.4.4 Complete nomenclature and part number of replaceable parts, name and address of nearest vendor, and other data pertinent to procurement procedures.

3.1.5 Copy of each warranty, bond, and service contract issued.

3.1.5.1 Provide information sheet for District's personnel, giving:

3.1.5.1.1 Proper procedures in the event of failure or emergencies.

3.1.5.1.2 Instances that might affect the validity of warranties or bonds.

3.2 MANUAL FOR MATERIALS AND FINISHES:

3.2.1 Instructions for care and maintenance:

3.2.1.1 Manufacturer's recommendation for types of cleaning agents and methods.

3.2.1.2 Cautions against cleaning agents and methods that are detrimental to the product.

3.2.1.3 Recommended schedule for cleaning and maintenance.

3.3 MANUAL FOR EQUIPMENT AND SYSTEMS:

3.3.1 Content, for each unit of equipment and system, as appropriate:

3.3.1.1 Description of unit and component parts:

3.3.1.1.1 Function, normal operating characteristics, and limiting conditions.

3.3.1.1.2 Performance curves, engineering data, and tests.

3.3.1.1.3 Complete nomenclature and commercial number of all replaceable parts.

3.3.1.2 Operating procedures:

3.3.1.2.1 Start-up, break-in, routine, and normal operating instructions.

3.3.1.2.2 Regulation, control, stopping, shut-down, and emergency instructions.

3.3.1.2.3 Summer and winter operating instructions.

3.3.1.2.4 Special operating instructions.

3.3.1.3 Maintenance Procedures:

3.3.1.3.1 Routine operations.

3.3.1.3.2 Guide to "trouble-shooting".

3.3.1.3.3 Disassembly, repair, and reassemble instructions.

3.3.1.3.4 Alignment, adjusting, and checking.

3.3.1.4 Servicing and lubrication schedule: List of lubricants required.

3.3.1.5 Manufacturer's printed operating and maintenance instructions.

3.3.1.6 Description of sequence of operation by control manufacturer.

3.3.1.7 Original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

3.3.1.7.1 Predicted life of parts subject to wear.

3.3.1.7.2 Items recommended to be stocked as spare parts.

3.3.1.8 As-installed control diagrams by manufacturer of controls.

3.3.1.9 Each contractor's coordination drawings: As-built color coded piping diagrams.

3.3.1.10 Charts of valve tag numbers, with the location and function of each valve.

3.3.1.11 List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

3.3.1.12 Other data as required under pertinent sections of this Specification.

3.3.2 Content, for each electric and electronic system, as appropriate:

3.3.2.1 Description of system and component parts:

3.3.2.1.1 Function, normal operating characteristics, and limiting conditions.

3.3.2.1.2 Performance curves, engineering data, and tests.

3.3.2.1.3 Complete nomenclature and commercial number of replaceable parts.

3.3.2.2 Circuit directories of panel boards:

3.3.2.2.1 Electrical service.

3.3.2.2.2 Controls.

3.3.2.2.3 Communications.

3.3.2.3 As-built color coded wiring diagrams.

3.3.2.4 Operating procedures:

3.3.2.4.1 Routine and normal operating instructions.

3.3.2.4.2 Sequences operating instructions.

3.3.2.4.3 Special operating instructions.

3.3.2.5 Maintenance procedures:

3.3.2.5.1 Routine operations.

3.3.2.5.2 Guide to "trouble-shooting".

3.3.2.5.3 Disassembly, repair, and reassembly.

3.3.2.5.4 Adjustment and checking.

3.3.2.6 Manufacturer's printed operating and maintenance instructions.

3.3.2.7 List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

3.3.3 Prepare and include additional data when the need for such data becomes apparent during instruction of District personnel.

3.4 INSTRUCTION OF DISTRICT PERSONNEL:

3.4.1 Prior to final inspection or acceptance, fully instruct District designated operating and maintenance personnel in the operation, adjustment, and maintenance of all products, equipment, and systems, prior to occupancy.

3.4.1.1 Provide services of factory-trained instructors from the manufacturer of each major item of equipment or system.

3.4.1.2 Provide for each instruction session or “in-service”, a camcorder operator and VHS or DVD camcorder to video tape the session. Videotapes shall be clearly labeled as to project, subject, and date. Submit tapes in triplicate.

3.4.2 Operating and maintenance manual shall constitute the basis of instruction.

3.4.2.1 Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.

3.4.2.2 Where warrants for further instruction or additional instruction is required to instruct the District designated personnel, the Contractor shall provide such additional instruction to include service of factory trained instructors. The cost for additional instruction will be reviewed for each individual basis by the Architect.

END OF SECTION

PART 1 - GENERAL

1.1 WORK INCLUDED:

1.1.1 This Section specifies general requirements for written warranties, guaranties, and bonds required by the Contract Documents.

1.1.2 Submittal to and approval by the District of the warranties, guaranties, and bonds are prerequisites to final payment under the Contract.

1.2 RELATED WORK

1.2.1 Related work specified elsewhere:

1.2.1.1 Section 017000 – Contract Closeout

1.2.1.2 Section 017823 - Operation and Maintenance Data: Incorporation of warranties, guaranties, and bonds into instruction manuals.

1.2.2 Approval of the warranties, guaranties, and bonds by the Owner is a prerequisite to payment at Substantial Completion and agendizing for acceptance by the Governing Board of the Owner.

1.3 TIME PERIOD

Deliver all manufacturer’s warranties, guaranties, and bonds required by Contract Documents, with District named as beneficiary. For equipment and machinery, or components thereof, bearing a manufacturer's warranty or guaranty that extends for a longer time period than the Contractor's warranty and guaranty, deliver manufacturer's warranties or guaranties in same manner.

1.4 FORM

Written warranties and guaranties, except manufacturer's standard printed warranties and guaranties shall be submitted on the Contractor's, Subcontractor’s, material suppliers, or manufacturer’s own letterhead, addressed to District. Warranties and guaranties shall be submitted in duplicate and in the form shown on the following page, signed by all pertinent parties and by Contractor in every case, with modifications as approved by District to suit the conditions pertaining to the warranty or guaranty.

1.5 SUBMITTAL

1.5.1 The Contractor shall collect and assemble written warranties and guaranties from all subcontractors, material suppliers, and manufacturers into a bound booklet form and deliver the bound books to Architect for delivery to the District's attorney for final review and approval.

1.5.2 Submit required warranty/guaranty on letterhead of Contractor responsible for each type of Work in accordance with attached sample form.

END OF SECTION

* See Attached Form on next Page

WARRANTY / GUARANTY FORM

FOR_____WORK

We, the undersigned, do hereby warranty and guaranty that the parts of the work described above which we have furnished or installed for:

GLENOAKS ELEMENTARY SCHOOL – INTERIM PORTABLE CLASSROOM RELOCATION

are in accordance with the Contract Documents and that all said work as installed will fulfill or exceed all the Warranty and Guaranty requirements. We agree to repair or replace work installed by us, together with any other work which is displaced or damaged by so doing, that proves to be defective in workmanship, material, or operation within a period of _____ ( ) year(s) from the date Notice of Completion is registered with the **LOS ANGELES** County Recorder, ordinary wear and tear and unusual neglect or abuse excepted.

In the event of our failure to comply with the above-mentioned conditions within a reasonable time period determined by the Owner, after notification in writing, we, the undersigned, all collectively and separately, hereby authorize the Owner to have said defective work repaired and / or replaced and made good, and agree to pay to the Owner upon demand all moneys that the Owner may expend in making good said defective work, including all collection cost and reasonable attorney fees.

Date:_____
(Subcontractor, Sub-subcontractor, Manufacturer or Supplier)

By:_____

Title:_____

State License No.:_____

Local Representative: For maintenance, repair, or replacement service, contact:

Name:_____

Address:_____

Phone Number:_____

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specification sections which apply to work of this section as if printed herein.

1.1 SECTION INCLUDES: Description of requirements for materials, fabrications and installation of Miscellaneous Metal and accessory items as shown on drawings and necessary to complete the Miscellaneous Metal Work. Work to include but not be limited to the following:

1.1.1 Examine all other sections for work related to those sections which are required to be included as work of this Section.

1.1.2 Pipe railings, pipe sleeves, handrails, guardrails, and brackets.

1.1.3 Gratings at floor sinks, etc.

1.1.4 Steel roof access ladders and steel ladder up/over roof parapets.

1.1.5 Steel angle corner guards, pipe guards and rails.

1.1.6 Channel door frames.

1.1.7 Structural shapes not included in structural steel work.

1.1.8 Formed and bent plate 14 gauge and heavier.

1.1.9 Trash enclosure gates.

1.1.10 Steel trellis.

1.1.11 Metal canopy.

1.1.12 Stainless steel counters and stainless steel wire shelves.

1.1.13 Stainless steel wall panels and wainscot (20 ga.)

1.1.14 Steel angle guards at overhead roll-up doors and loading dock.

1.2 RELATED SECTIONS:

1.2.1 Divisions 22 and 26

1.3 REFERENCES AND STANDARDS:

1.3.1 ASTM A36 – Structural Steel.

1.3.2 ASTM A53 – Hot-Dipped, Zinc-Coated Welded and Seamless Steel Pipe.

1.3.3 ASTM A307 – Low-Carbon Steel Externally and Internally Threaded Fasteners.

1.3.4 ASTM A386 – Zinc-Coating (Hot-Dip) on Assembled Steel Products.

1.3.5 ASTM A501 – Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

1.3.6 AWS DI.1 – Structural Welding Code.

1.3.7 FS TT-P-31 Paint, Oil: Iron Oxide, Ready Mix, Red and Brown.

1.3.8 FS TT-P-641 Primer Coating, Zinc Dust-Zinc Oxide (for Galvanized Surfaces).

1.4 REGULATORY REQUIREMENTS:

1.4.1 Conform to Title 24, Part 2, California Code of Regulations

1.5 SUBMITTALS:

1.5.1 Provide shop drawings for all items listed and those therein omitted, that require Architect's review and coordination prior to fabrication and erection.

1.5.2 Submit manufacturer's product data and any samples as requested by the Architect to demonstrate size, texture, welds, factory finish, etc.

1.5.3 Submit shop drawings under provisions of Section 013300. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.

1.5.4 Include erection drawings, elevations, and details where applicable.

1.5.5 Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.

1.6 QUALITY ASSURANCE:

1.6.1 Use skilled workers who are thoroughly trained and experienced and who are completely familiar with the requirements and methods to perform the scope of work as specified under this Section.

1.7 DELIVERY, STORAGE AND HANDLING:

1.7.1 Use all means necessary to store, handle and protect the materials of this Section before, during, and after installation.

1.8 REQUIREMENTS:

1.8.1 Field Measurements: Secure field measurements required for fabrication and installation of work. Coordinate fabrication of supports for equipment with manufacturer's printed literature and structural engineering drawings. Measurements are Contractor's responsibility. Field alterations will not be permitted without approval of the Architect.

1.8.2 Dissimilar Metals: Where metals are in contact with concrete or other types of metals, paint contact faces of metal with heavy bituminous coating before installation.

1.8.3 Railings are to be designed to be in conformance with minimum California Building Code requirements, to resist a load of at least 200 pounds applied in any direction at any point to the top rail and also a vertical and horizontal thrust of 50 pounds per lineal foot applied to the top rail.

PART 2 – PRODUCTS:

2.1 GENERAL: Where two (2) or more identical articles or materials are required, provide products of same manufacturer. If specified materials are discontinued, furnish updated product at no additional cost.

2.2 ALL METALS must be free from any defects which would impair the strength, durability or appearance, and of the best commercial quality, for purposes intended and adequate to withstand strains and stresses to which they will be subjected. Protect metals from damage at the job, in transit, and until installed, inspected and approved.

2.3 MATERIALS:

2.3.1 Structural Steel Such as Rolled Shapes, Angles, Plates, Anchors, Clips, Etc.: Conform with ASTM A36. Standard weight block steel galvanized after fabrication.

2.3.2 Steel Tubing: ASTM A501 or 500 Grade B Seamless.

2.3.3 Architectural and Miscellaneous Steel: Mild steel.

2.3.4 Wrought Iron Bars: ASTM A207 or ASTMA 189.

2.3.5 Steel Pipe Other Than Structural Uses: Conform with ASTM A120, seamless.

2.3.6 Steel Sheet: High quality, low carbon, hot-rolled sheet with good welding and forming qualities. ASTM A446 Grade A.

2.3.7 Galvanized Sheets: Hot-dipped and tight coated steel sheet conforming to ASTM A525. Coating weight to be no less than 1.25 oz. per square foot.

2.3.8 Welded Materials: AWS-D.1; Type required for materials being welded.

2.3.9 Galvanized Rolled Shapes, Angles, Channels, Bolts, Etc.: Conform with ASTM A123.

2.3.10 Primer Paint:

2.3.10.1 General: Compatible with type and color of special or finish coatings described. in Section 099100. FS TT-P-31, Red: For shop application and field touch-up.

2.3.10.2 Touch-up Primer for galvanized surfaces: FS TT-P-641 or SSFC-20.

2.3.10.3 Cleaning Metals Prior to Priming:

2.3.10.3.1 Exterior Exposed Metals: SSPC-SP6 Commercial blast clean.

2.3.10.3.2 Interior Metals: SSPC-SP2 Hand tool clean or SSPC-SP3 Power tool clean.

2.3.10.4 Standard Shop Paint: Rust-inhibitive coating conforming to governing air pollution control requirements (AQMD).

2.3.10.4.1 Exterior Exposed Metals: High performance coating primer, to meet slip coefficient and creep requirements for classification as a Class B coating using ASTM A325 or A490 Bolt Specification, Appendix A, No. 90-97 Tneme-Zinc Primer, 2.5 – 3.5 dry mils, as manufactured by Tnemec Company, Compton, California, or equal (no known equal).

2.3.10.4.2 Interior metals: Regular metal primer, No. 10-99 V.O.C. compliant, as manufactured by Tnemec Company, Compton, California, or equal (no known equal).

2.3.11 Stainless Steel: ASTM Reference

2.3.12 Machine Bolts: Conform with ASTM A307.

2.3.13 Expansion Anchors: Not less than 3/8 inch diameter, threaded type for anchoring with the bolt head out, as indicated on drawings. Test by Owner's Testing Laboratory in accordance with criteria noted on drawings.

2.3.14 Hook Type Anchors: Not less than ½ inch diameter and length as required for minimum 7 inch embedment, with threaded nut and plain washer.

2.3.15 Welding Electrodes: Conform with A.W.S. Publication D1.1; use E-70XX series electrodes.

2.3.16 Stainless Steel Tube and Pipe: Conform with ASTM A554, ornamental grade, Type 302 or 304, Schedule 40, seamless with No. 4 finish.

2.3.17 Stainless Steel Shapes, Angles, Plates, Etc.: conform with ASTM A167, Type 302 or 304 with No. 4 OR rolled finish.

2.3.18 Metal Gratings, Trench Covers and Frames: Manufactured by Alhambra, Neenah or equal, cast iron heavy-duty traffic type, sizes and shapes as required.

2.3.19 Steel Pipe for Structural Uses: Conform with ASTM A53, Type S seamless, Grade B.

2.3.20 Cast Steel: Conform with ASTM A27.

2.3.21 Iron Castings: Conform with ASTM A48.

2.3.22 Malleable Iron Castings: Conform with ASTM A47.

2.3.23 Liquid Galvanizing Compound: "Drygalv", Fesco Inc., Los Angeles (213) 254-9131, "Galvicon", V. B. Anderson Co. (714) 547-6684; "Z.R.C. Cold Galvanizing Compound", Mechanical Distributors (213) 698-6655, or equal.

PART 3 – EXECUTION:

3.1 PREPARATION:

3.1.1 Obtain Architect approval prior to site cutting or making adjustments not scheduled.

3.1.2 Clean and strip site primed steel items to bare metal where site welding is scheduled.

3.1.3 Make provision for erection loads with temporary bracing. Keep work in alignment.

3.1.4 Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate Sections.

3.2 WELDING:

3.2.1 Except for modifications indicated on drawings and specified herein, AISC Code of Standard Practice for Steel Buildings, as amended to date, governs materials, fabrication and erection of work under this Section.

3.2.2 Make welds in accordance with best standard practice. Perform welding on unexposed sides to prevent pitting, discoloring, weld-halo and other surface imperfections. Thoroughly clean surfaces to be welded. Welds must show a uniform section and reasonable smoothness without distortion. No exposed spot welding permitted. Dress and finish exposed surfaces of welded joints to produce invisible connections. Furnish welding alloys in the same color and character as the surfaces of the metals joined.

3.3 WORKMANSHIP, FABRICATION AND ERECTION:

3.3.1 Insofar as possible, fit and shop assemble work ready for erection. Accurately make jointing and intersections in true planes, and with adequate fastenings. Make exposed joints even and smooth. Grind exposed weld joints smooth and flush.

3.3.2 Provide holes of proper size and in correct location for attachment of work of other trades. Cut, tap, and drill as required. Finished items must be free from kinks, twists, burrs and open joints. Damaged or distorted materials are not acceptable.

3.3.3 Provide work to be built in concrete or masonry of proper form required for anchorage, or provide with concealed anchors.

3.3.4 Form work true to detail, with clean, straight and sharply defined profiles. Close fit exposed joints and make where least conspicuous.

3.3.5 Install supporting members, fastenings, frames, hangers, bracing, brackets, bolts, angles, and the like as required to set and connect items of miscellaneous metal to concrete, steel or wood framing.

3.3.6 Countersink holes for exposed screwheads. Provide necessary lugs, brackets, and clips so work can be assembled and installed in a neat and suitable manner.

3.3.7 Conceal fastenings where possible. Unless otherwise indicated provide flathead or countersunk oval bolts and screwheads as best suited for the purpose.

3.3.8 Weld in place plates for mounting item(s) of finish hardware.

3.3.9 Provide bolts, anchors, inserts, and other miscellaneous steel and iron fastenings in forms before concrete is poured; or as to be built into masonry, as indicated on drawings, details or schedules, or as necessary to complete the work. Examine and check the Architectural, Structural, Mechanical and Electrical Drawings for number, type and locations of each items.

3.4 MISCELLANEOUS ITEMS:

3.4.1 Furnish, fabricate, and install miscellaneous angles, channels, bent plate, clips, anchors, and other miscellaneous metal work required and as indicated on drawings. Form as detailed or if not detailed, as required for location and purposes served, and in accordance with the applicable provisions specified herein. Furnish and install miscellaneous metal items not specifically mentioned herein, or in other sections, but which are customarily considered as part of the work, the same as if fully specified herein and detailed on drawings.

3.4.2 Furnish and install light steel structural items not noted on Structural Drawings or called for under “Structural Steel” Section but which are shown on the other drawings.

3.4.3 Furnish and install sleeves through masonry or concrete walls and footings. Fabricate of standard weight steel sections of size sufficient to allow ¼ inch clearance between the sleeve and item to be inserted.

3.4.4 Furnish and install anchors, brackets, and plates of suitable steel where required in connection with steel, masonry, wood and concrete construction.

3.4.5 Fabricate steel channel and angle frames for doors, duct openings, scuttles, mechanical equipment, louvers, and other frames as shown and detailed to exact size required and in accordance with approved shop drawing. Neatly join corners, weld and grind smooth. For securing to concrete or masonry, weld concealed anchors on the back. Secure bar stops to frames with countersunk

flathead screws or plug weld from the back. Prepare steel frames to receive the necessary hardware. Where mechanical equipment such as fans, blowers, etc., and sheet metal are shown or specified to be attached in steel frames, the drilling, tapping and attachment must be done by trade involved.

3.4.6 Furnish corner guards, bumpers, etc., of sizes and shapes indicated and with anchors welded to the backs and of sizes and spacing shown.

3.4.7 Pipe Guards and Bollards: Provide minimum 4 inch diameter extra-heavy duty steel pipe guard posts set in minimum 16 inch diameter by 48 inch deep concrete footings. Fill pipe solidly with concrete, “rounding-off” top or with a 3/16 inch steel plate cap continuously welded and edges ground smooth.

3.4.8 Provide hot-dipped galvanized steel and iron for exterior use.

3.5 FINISH:

3.5.1 Except where indicated, or specified to be galvanized, clean miscellaneous steel and iron of any grease, rust, mill scale, or other foreign matter, and give one shop coat of the specified primer. Do not prime material to be embedded in concrete.

3.5.2 After welding is completed, repair damage to the galvanizing by applying a liquid galvanizing compound in accordance with manufacturer’s instructions to provide a coating equal to original finish.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specifications sections which apply to work of this section as if printed herein.

1.1 SECTION INCLUDES: Description of requirements for material, fabrications and installation of sealants, caulking and associated accessories, except for those specified in other Sections, where indicated on Drawings, and where required to provide for a weather and watertight condition shall be furnished and installed under this section of the specifications.

1.1.1 Examine all other section for work related to those section which are required to be included as work of this section.

1.1.2 Caulking and sealants for exterior glazing of new storefront systems both steel and aluminum, reglazing existing steel and aluminum frames, doors, thresholds, casings, louver frames, access panels or as otherwise noted on the drawings.

1.1.3 Joints between dissimilar materials.

1.1.4 At Concrete Curbs at walk in freeze and walk in cooler box.

1.1.5 Around Stainless steel materials in the kitchens, around kitchen equipment, including back splashes, tops of all countertops and all work surfaces against walls.

1.1.6 At stainless steel Z flashing at FRP locations.

1.1.7 Adhesive product behind wood panels, trims, marlite, FRP panels plywood backboards, Corian, plastic laminates, vinyl tack board, etc.

1.1.8 Sealants and caulkings around any wall penetrations in restrooms or the exterior walls or the structure.

1.1.9 Sealants and caulking around all drinking fountains and restroom fixtures, mirrors, partitions, etc.

1.1.10 Fire Caulkings at al fire-rated wall penetrations.

1.1.11 Sealants and caulks at flashings, joints and gaps, etc., as required for a completely watertight structure.

1.2 RELATED SECTIONS

1.2.1 Section 033000 - Expansion joint filler for concrete work

1.2.2 Section 076000 - Sealants for Flashing and Sheet Metal Work

1.2.3 Section 078413 - Fire stop penetration materials

1.3 REFERENCES AND STANDARDS

1.3.1 Federal Specifications: TT.S-00154A – Sealing Compound: Silicone Rubber Based

1.3.2 ASTM – Test Method C-793-80, Effects of Accelerated Weathering on Elastomeric Joint Sealants

1.3.3 ASTM C920 – Standards for Elastomeric Joint Sealants.

1.4 SUBMITTALS

1.4.1 Manufacturer's Data: Submit list of materials proposed for use including complete data including color charts and manufacturer's specifications and installation instructions for each type of sealant, caulking compound and associated miscellaneous material required. Include published data, letter of certification, or certified test laboratory report indicating that each material complies with the requirements and is intended generally for the application shown. Include location of each material.

1.4.2 Samples: Submit standard color ranges of exposed materials for Architect's selection. Colors shall match adjacent painted or pre-finished surfaces.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

1.5.1 Materials shall be delivered to job in sealed containers with manufacturer's name, labels, project identification, and lot numbers where appropriate.

1.5.2 Store material out of weather in original containers or unopened packages as recommended by manufacturer.

1.5.3 Store at 80 degrees F or less in a cool, dry area. Handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants or other causes.

1.6 JOB AND ENVIRONMENTAL CONDITIONS

1.6.1 Job Conditions: The Sealant and Caulking Contractor shall acquaint himself with all conditions relating to the work of this Section.

1.6.2 Environmental Conditions: Do not proceed with installation of sealants under adverse weather conditions or when temperatures are below or above manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of High Early Bond strength.

1.6.3 Scheduling, Sequencing: Schedule application only after concrete has cured and joints are most likely to be normal size.

1.6.4 Maintain temperature and humidity recommended by the sealant manufacturer during and after installation. Do not proceed with installation of sealants under

adverse weather conditions, or when ambient and substrate temperatures are below or above manufacturer's recommended limitations for installation or below 40 degrees F. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength.

1.6.5 Do not install solvent curing sealants in enclosed building spaces.

1.6.6 Protection: Use all means necessary to protect caulking materials before, during and after installation to protect the installed work and material of all other trades.

1.6.7 Surface Conditions: Provide proper primers suited to conditions. Primers may be omitted upon certification by sealant manufacturer that they are not required. Where any doubt exists, prepare sample joints on actual materials as furnished for the job to determine the matter.

1.7 WARRANTY

1.7.1 Contractor shall submit two (2) copies of manufacturer's written 10-year warranty agreeing to replace joint sealers which fail to perform as airtight and watertight joints; or fail in joint adhesion/cohesion, abrasion resistance, weather resistance, thermal or moisture resistance, extrusion resistance, migration resistance, ultraviolet resistance, stain or color resistance, surface serviceability, general durability; or appear to deteriorate in any other manner comprising system life.

1.7.2 Coverage to include failure to adhere, seal, cohesion, and cure, leading to water leaks or air infiltration.

1.7.3 Guarantee: Contractor is to guarantee work against inherent or developed defects in material or installation, agreeing to repair or replace joint sealers, which fail, based on any of the detrimental effects specified above. Guarantee installed work to remain watertight for a period of two (2) years.

PART 2 – PRODUCTS

2.1 GENERAL: Where two (2) or more of the following products are required, provide products for each application of a single manufacturer. If specified products are discontinued, furnish updated materials at no additional cost.

2.2 MANUFACTURERS: Provide one of the following for each different product required:

2.2.1 Dow Corning Corporation

2.2.2 General Electric Company

2.2.3 Pecora Corporation

2.2.4 Rhodorsil

2.2.5 Schnee-Morehead Inc.

2.2.6 Sika

2.2.7 Sonneborn Building Products Division

2.2.8 Tremco, Inc.

2.3 MATERIALS:

2.3.1 General:

2.3.1.1 Colors: For exposed materials provide color as selected by Architect from manufacturer's standard colors. For concealed materials, provide the natural color which has the best overall performance characteristics.

2.3.1.2 Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by testing and field experience.

2.3.1.3 Size and Shape: As shown or, if not shown as recommended by the manufacturer for the type and condition of joints, and for the indicated joint performance or movement.

2.4 ELASTOMERIC SEALANTS: For elastomeric sealants, comply with ASTM C920 requirements, including those for Type, Grade, Class and Uses.

2.4.1 One-Part Non-Acid Curing Silicone: Type S; Grade NS; Class 25; Uses NT, M, G, A, and, as applicable to joint substrates indicated.

2.4.1.1 Location: Exterior and interior vertical joints in masonry, concrete.

2.4.1.2 Provide "Dow Corning 791 or 795" by Dow Corning Corporation, GE "Silpruf", Spectrum 2 or 3 by Tremco, Pecora 865 or 895, or equal by listed manufacturer.

2.4.2 One-Part Mildew Resistant Silicone: Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated.

2.4.2.1 Location: Formulated with fungicide for sealing interior joints with nonporous substrates around sinks, plumbing fixtures and between equipment or counters and walls.

2.4.2.2 Provide "Dow Corning 786" by Dow Corning Corporation, G.E. Sanitary 1700, Pecora 898, Tremco "Tremsil 200" white or clear, or equal by listed manufacturers.

2.4.3 Multi-Part Non-sag Urethane: Type M; Grade NS; Class 25; Uses NT, M, A, and, as applicable to joint substrates indicated.

2.4.3.1 Location: Outside and inside faces of exterior wall, door and window frames between wall and frame.

2.4.3.2 Provide "Dymeric240 or 511" by Tremco, Inc., "Dynatrol II" by Pecora Corporation, "Vulkem 922" by Mameco, or equal by listed manufacturers.

2.4.4 One-Part Nonsag Urethane: Type S; Grade NS; Class 25; Uses NT, M, A, and, as applicable to joints substrates.

2.4.4.1 Location: Metal flashings and reglet joints.

2.4.4.2 Provide "Dymonic" by Tremco, Inc., "Vulkem 921 or 931" by Tremco, "Dynatrol I-XL" by Pecora, or equal by listed manufacturers.

2.4.5 Two-Part Pourable Urethane: Type P; Grade NS; Class 25; Uses T, M, A, and, as applicable to joint substrates.

2.4.5.1 Location: Exterior sidewalks and all interior floor joints.

2.4.5.2 Provide "Vulkem 245" by Tremco, THC 900/901 by Tremco, Pecora Urexpan NR-200 or Pecora Dynatrol II-SG (Grade P) or Pecora Dynatred (Shore A or +40 - Grade NS), or equal by listed manufacturers.

2.5 LATEX SEALANTS:

2.5.1 Acrylic Emulsion: One part, nonsag, mildew resistant, acrylic emulsion sealant complying with ASTM C834, paintable, recommended by manufacturer for exposed interior applications.

2.5.1.1 Location: Use for all interior joints in field painted vertical and overhead joints not indicated otherwise.

2.5.1.2 Provide "AC-20" by Pecora Corporation, No. 834 by Tremco or equal by listed manufacturers.

2.6 FIRE RATED PARTITIONS: At 1 or 2 hr. fire-rated partition penetrations other than those specified in Section 078413, where rated wall assembly is broken at the drywall, use 3M "Fire-Barrier" CP 25N/S with rock wool filler or Tremco Fyre Shield with "Cera Blanket FS" as backing. Color to match adjacent surfaces, as required. Usages shall be in conformance with one or more approved U.L. System Numbers conforming to adjacent construction U.L. 148 or equal.

2.7 BOND BREAKER: Polyethylene tape or making tape as recommended by the sealant manufacturer.

2.8 SOLVENTS, CLEANING AGENTS: and other accessory materials shall be as recommended by the sealant manufacturer. They should not be used in enclosed non-ventilated spaces.

2.9 CAULKING: Where specifically called for on the Drawings, shall be “Plastoid” Type C, Pabco “White Hydroseal”, or approved equal conforming to Fed. Spec. TT-C-00598C.

2.10 JOINT CLEANER: Non-corrosive, non-staining type and compatible with joint forming materials.

2.11 CAULKING TAPE: Extruded Butyl Sealing Tape, Inco No. 7516 or pre-approved equal.

2.12 FIRE CAULKING: Fire Caulking shall be pre-approved sealant such as “3M Fire Caulking”, manufactured by 3M Products.

PART 3 – EXECUTION

3.1 SURFACE CONDITION: Verify that joint surfaces to receive caulking or sealant are sound, smooth, clean, dry and free of moisture, dirt, dust or other visible contaminants that could interfere with adhesion or bond of the sealant. Applications of non-visible coatings or contaminants to surfaces of rabbet area prior to application of sealant are subject to control by Architect in consultation with sealant manufacturer.

3.2 INSPECTION

3.2.1 Surface Acceptance: Examine all surfaces to be sealed or caulked for acceptance.

3.2.1.1 Joint dimensions shall be inspected and reviewed to verify that they are in conformance with specifications and manufacturer’s requirements and are acceptable to receive sealant and backup materials.

3.2.1.2 Joint shall be of sufficient width and depth to accommodate specified backup material or preformed joint filler and sealants, but in no case shall sealant application be less than ¼ inch wide and ¼ inch deep, except as recommended by the manufacturer or otherwise approved by the Architect.

3.2.2 Do not Seal or Caulk Joints until they are in compliance with requirements of the approved manufacturer or materials, the details as shown on the drawings and the specified requirements of other sections of the specifications.

3.2.3 Inspect all existing window and door frames to be reglazed and recaulked to determine any damage which prevents sealants effectiveness. Clean all existing frames as required prior to caulking installation. Commencement of work means acceptance of the existing conditions.

3.2.4 Use only that caulking material that is best suited to the installation and is so recommended by the caulking material manufacturer for that application.

3.3 APPLICATION

3.3.1 Back Up: Install backup material or joint filler of type and size specified at proper depth in joint to provide sealant dimensions as detailed or as recommended by

the manufacturer. Backup material shall be of suitable size and shape so that when compressed (25 to 50 percent), it will fit in joints as required. Sealant shall not be applied without backup material and, if necessity, bond breaker strip. When using backup or hose or rid stock, roll the material into the joint to avoid lengthwise stretching. Hose or rod stock shall not be twisted or braided.

3.3.1.1 Perform work in accordance with ASTM 2962 for Elastomeric and C790 for latex based sealants.

3.3.2 Bond Breaker: Use specified bond breaker strip between sealant and supporting type backup material. Bond breaker strip shall be used in all joints where sufficient room for backup does not exist or where required to prevent sealant bonding to undesirable surfaces.

3.3.3 Apply Masking Tape: Where required, in continuous strips in alignment with joint edge. Remove tape immediately after joints have been sealed and tooled as directed.

3.3.4 Prime surfaces to receive joint sealant with primer as recommended by sealant manufacturer. Do not apply primer to exposed finish surfaces.

3.3.5 Sealant: Do not use a sealant compound that has exceeded its shelf life or has become too jellied to be discharged in a continuous flow from the gun.

3.3.5.1 Apply sealant with a caulking gun, using proper nozzles. Use sufficient pressure to properly fill the joints with sealant to the back-up material.

3.3.5.2 After joints have been completely filled, they shall be neatly tooled to eliminate air pockets or voids and to provide a smooth, neat appearing finish in intimate contact with interfaces. After tooling, surface at sealant shall be free of ridges, wrinkles, sags, air pockets, and embedded impurities. When tooling white or light color sealants, use clean water, wet or dry tool or tooling solution recommended by sealant manufacturer.

3.3.5.3 Apply at recommended application temperatures.

3.3.5.4 Install sealant free of air pockets, bubbles, foreign matter, ridges or sags.

3.3.5.5 Tool joints concave.

3.3.6 Caulk all exterior joints and openings in the building envelope that are obscurable sources of air infiltration.

3.3.7 Measurable joint dimensions and size materials to achieve required width/depth ratios.

3.3.8 Sealant Schedules
3.3.8.1 Exterior

3.3.8.1.1 PM frames, metal doors, steel and aluminum windows, dissimilar materials, sheet metal flashings and constructions, cap flashings, gutters, downspouts, vents, louvers, etc.

3.3.8.1.2 Thresholds

3.3.8.1.3 At all other conditions indicated on the drawings.

3.3.8.2 Interior

3.3.8.2.1 Glass Glazing, Steel and Aluminum Frames, PM Frames and Metal Doors.

3.3.8.2.2 Base of FRP and ceramic tile walls in kitchens and restrooms.

3.3.8.2.3 At concrete curbs at all cooler boxes and freezer boxes.

3.3.8.2.4 At all restroom wall penetrations such as grab bars, towel bars, soap dishes, for moisture protection of structural elements.

3.3.8.2.5 At all other conditions indicated on the drawings.

3.3.8.2.6 At all drinking fountains, stainless steel countertops, back-splashes, and work top against walls.

3.3.8.2.7 Thresholds and stainless-steel flashings in all prep rooms and wets areas.

3.3.8.2.8 Dissimilar materials.

3.3.8.2.9 Thresholds and stainless-steel flashings in all prep rooms and wet areas.

3.4 PREPARATION OF SURFACES

3.4.1 General: Thoroughly clean all joints, removing all foreign matter such as dust, oil, grease, water, old sealants, paint, surface dirt, etc. Sealant must be applied to the base surface.

3.4.2 Porous Material such as concrete or masonry shall be cleaned where necessary by grinding, sand or water blast cleaning, mechanical abrading, acid washing, or a combination of these methods as required to provide a clean, sound base surface for sealant adhesion.

3.4.2.1 Laitance shall be removed by acid washing, grinding or mechanical abrading.

3.4.2.2 Form oils, release agents or chemical retardants shall be removed by sand or water blast cleaning.

3.4.2.3 Loose particle present or resulting from grinding, abrading or blast cleaning shall be removed by blowing out joints with compressed air (oil-free) prior to application of primer or sealant.

3.4.2.4 Sealants shall not be applied to masonry joints where water repellent or masonry preservative has been applied. Waterproofing treatments shall be applied after sealants and caulking when called for.

3.4.3 Nonporous Surfaces such as metal and glass shall be cleaned either mechanically or chemically. Protective coatings on metallic surfaces shall be removed by a solvent that leaves no residue. Solvent shall be used with clean white cloths or lint free paper towels and wiped dry with clean, dry white cloths or lint free paper towels. Do not allow solvent to air dry without wiping. Joint areas protected with masking tape or strippable films shall be cleaned as above after removal of tape or film.

3.4.4 Sealant Preparation: Do not modify the sealant by addition of liquids, solvents or powders. Mix multi-component Elastomeric sealants in accordance with manufacturer's printed instructions.

3.4.5 Perform preparation in accordance with sealant manufacturer's recommendations.

3.4.6 Protect surrounding areas from damage or disfiguration.

3.4.7 Do not caulk under weather conditions or sun conditions potentially harmful to the set and curing of the caulking material.

3.4.8 Joint Backing: In joints where depth of joint exceeds required depth of sealant, install joint backing to provide backing and uniform depth of sealant.

3.5 CLEAN-UP

3.5.1 Immediately clean adjacent surfaces free of sealant or soiling resulting from this work as work progresses. Use a solvent or cleaning agent as recommended by the sealant manufacturer. All finished work shall be left in a neat clean condition.

3.5.2 Remove masking tape immediately after tooling joints, leaving finished work in a neat and clean condition.

3.5.3 Upon completion of the work of this section, remove all resulting surplus materials, rubbish and debris from the premises.

3.5.4 Repair or replace defaced or disfigured work caused by this section.

3.6 PROTECTION AND CURE

3.6.1 Protect all sealants until cured.

3.6.2 Do not paint until cured. Do not paint silicone sealants at any time.

3.6.3 Cure sealants in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability.

3.6.4 Protect joint sealers during the construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at the time of Owner's acceptance.

END OF SECTION

NO SUBSTITUTION

PART 1 – GENERAL:

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specifications sections which apply to work of this section as if printed herein.

1.1 SUMMARY

1.1.1 Work includes complete preparation and finishing of all surfaces as indicated in the plans and specifications except surfaces specifically excluded.

1.1.2 Surfaces not to be painted unless otherwise specified:

1.1.2.1 Aluminum, Copper, Brass, Stainless Steel, Nickel or Chrome.

1.1.2.2 Finish hardware.

1.1.2.3 Acoustical ceilings.

1.1.2.4 Flooring.

1.1.2.5 Electrical fixtures and receptacles.

1.1.2.6 Exterior concrete pavements.

1.1.2.7 Toilet compartments and accessories.

1.1.2.8 All items with complete factory finish, except mechanical and electrical items as specified herein.

1.1.2.9 Code required labels, equipment identification and performance rating plates.

1.1.2.10 Items in mechanical rooms.

1.1.2.11 Other surfaces as indicated on the drawings.

1.1.3 Related work:

1.1.3.1 Section 321216 – Asphaltic Concrete Paving

1.2 SUBMITTALS

1.2.1 Submit six (6) copies of a complete list of all materials proposed for use in the work, including manufacturer's technical data, identified by manufacturer's name and product number.

1.2.2 Submit for approval three (3) 8-½" x 11" samples of each color and finish. For natural and stained finishes, provide samples on type and quality of wood used on the product. Identify each sample as to color, finish type, and texture. Color shall be as selected by the Architect.

1.3 QUALITY ASSURANCE

1.3.1 Work, equipment and materials must conform to applicable Federal, State, and Local laws and regulations, including compliance with all air quality regulations applicable to the project location. Current manufacturer's material safety data sheets for all materials in use and/or stored at the project site must be on the site at all times.

1.3.2 Prepare sample wall areas as directed by the Architect. These areas will represent the standard of work for the project when approved.

1.4 DELIVERY, STORAGE AND HANDLING

1.4.1 All materials shall be of the brand and quality specified and shall be delivered at the project site in clean, original, unopened, labeled containers bearing the manufacturer's name, type of paint and instructions for mixing and/or reducing.

1.4.2 Store materials as designated. Storage area shall be kept clean and neat at all times. All damage to storage area and surrounding areas shall be cleaned and repaired to new condition.

1.4.3 Rags, waste and combustible rubbish shall be stored in approved metal containers and removed daily from site. Take all necessary precautions to prevent fire.

1.4.4 Provide one gallon of paint for each type/color of paint used for extra stock.

1.5 PROJECT SITE CONDITIONS

1.5.1 Measure moisture content of surfaces using an electronic moisture meter. Do not apply materials unless moisture contents are below the following maximums:

1.5.1.1 Plaster – 8 percent

1.5.1.2. Gypsum Board – 12 percent

1.5.1.3 Masonry, Concrete and Concrete Block – 12 percent

1.5.1.4 Wood – 15 percent

1.5.2 Ensure surface temperature fall within recommendations of the material manufacturer.

1.5.3 Do not apply materials during fog, rain or mist, or when inclement weather is expected within the dry time specified by the manufacturer.

1.6 SEQUENCING AND SCHEDULING

1.6.1 Backpriming of all wood items to be set against concrete, masonry or plaster shall be performed, scheduled and coordinated to avoid delays in installation.

1.6.2 Priming of walls scheduled to receive wall covering shall be performed and scheduled to facilitate dry time prior to wall covering installation.

1.7 MAINTENANCE

1.7.1 Provide Owner with unopened, clearly labeled containers of each type and color of finish material installed for maintenance use. Quantities provided shall be a minimum of 2 percent of quantities actually applied, but not less than 1 gallon each.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

2.1.1 Materials necessary to complete the painting and finishing schedule as specified herein are taken from the stock list of the Architectural finishes of Vista Paint Corporation (no substitution), and are standards for kind, quality and function.

2.2 MATERIALS

2.2.1 All materials shall conform with specified standards of quality and shall be of fresh stock, unused, free of defects and imperfections. Where two (2) or more identical or compatible materials are required, they shall be of the same manufacture.

2.2.2 Materials shall be ready-mixed except field catalyzed coatings. Field tinting of materials will not be permitted.

2.2.3 Materials shall have good flowing and brushing characteristics and dry or cure free from streaks or sags.

2.2.4 Paint accessory materials such as putty, spackle, thinners, reducers and shellacs shall be of the highest quality and fully compatible with the specified materials.

PART 3 – EXECUTION

3.1 EXAMINATION

3.1.1 Thoroughly examine surfaces scheduled to be painted prior to commencement of work. Report in writing to the Architect any condition that may potentially affect proper application and appearance. Do not commence until such defects in have been corrected.

3.1.2 Where directed by the Architect, correct defects in surfaces which may adversely affect work of this section.

3.2 PROTECTION

3.2.1 Protect unpainted surfaces, lawns, shrubbery and adjacent surfaces against paint and damage. Repair damage resulting from inadequate protection.

3.2.2 Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or splatter from foul surfaces not being painted.

3.2.3 Remove electrical plates, surfaces hardware and related fittings prior to commencement of work. Carefully store, clean and replace these items on completion of work in each area.

3.2.4 Protect all surfaces, equipment and fixtures from damage resulting from use of fixed, movable and hanging scaffolding, planking and staging. Repair damage resulting from inadequate protection.

3.3 PREPARATION

3.3.1 Concrete surfaces shall be dry, clean and free from efflorescence, encrustations and other foreign matter. Any glazed surface shall be slightly roughened or etched. Curing compounds, bond breakers, release agents and other coatings shall be removed with a light sandblast or high pressure power wash.

3.3.2 Remove dirt, loose mortar, scale, powder and other foreign matter from concrete block surfaces which are to be painted or treated with a clear sealer.

3.3.3 Remove mildew from affected surfaces with a solution of Tri-Sodium Phosphate and bleach.

3.3.4 Rinse with clean water and allow to dry completely.

3.3.5 Remove all oils and contamination from galvanized and aluminum surfaces scheduled to be painted by washing with mineral spirits.

3.3.6 Remove grease, rust, scale, dirt, and dust from ferrous metal surfaces. Prime coating shall be performed not less than 30 minutes, not more than 3 hours after preparation.

3.3.7 Sand and scrape shop primed metal to remove loose primer and rust. Touch up bare, abraded and damaged areas with 910 Red Oxide Primer. Feather edges to make touch up patches inconspicuous.

3.3.8 Remove dust, grit and foreign matter from wood surfaces. Sand surfaces and dust clean. Spot coat knots, pitch streaks and sappy section with 4200 Terminator II when surfaces are to be painted. Fill nail holes, cracks and other defects after priming and spot prime repairs when fully cured.

3.3.9 Plaster surfaces shall be dry and free from efflorescence, encrustations and foreign matter. Fill cracks, holes and imperfections, smoothing repairs to match adjacent texture. Allow repairs to fully cure before priming.

3.3.10 Gypsum drywall shall be dusted clean and free from encrustations and other foreign matter.

3.3.11 Existing surfaces to be recoated shall be thoroughly cleaned and deglossed by sanding or other means prior to priming and painting. Patched and bare areas shall be spot primed with the same paint as specified for new work.

3.3.12 Preparation of other surfaces shall be performed following specific recommendations of the coating manufacturer.

3.4 APPLICATION

3.4.1 All work shall be executed in strict accordance with manufacturer's printed directions for materials used. Use application equipment and techniques best suited for substrate and type of material being applied.

3.4.2 All materials shall be applied smoothly without runs, sags, skips, holidays or other defects.

3.4.3 Enamels and varnishes shall be lightly sanded between coats, dusted and wiped clean before recoating.

3.4.4 Back prime all wood to be set against concrete, masonry or plaster.

3.4.5 Allow each coat to dry completely before applying succeeding coat.

3.4.6 Each coat of paint is to be slightly darker than preceding coat unless otherwise approved by the Architect.

3.4.7 Number of coats specified are minimum that shall be applied. Additional coats shall be applied when undercoats, strains, cloudy or mottled conditions or other defects appear in the finish, until the paint film is of a uniform finish, color and appearance.

3.5 INSPECTION

3.5.1 All work shall be subject to approval by the Architect. Work not in compliance with specifications shall be properly and promptly corrected.

3.6 PROTECTION

3.6.1 Provide "Wet Paint" signs, barricades and other items required to protect newly finished surfaces. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.

3.6.2 At the completion of work of other trades, touch-up and repair all damaged and defaced surfaces.

3.7 FINISHING SCHEDULE – **EXTERIOR**

CONCRETE – PLASTER – STUCCO

FLAT:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	3000	Acribond (100% Acrylic Solid Bodied Stain)
Third Coat	3000	Acribond (100% Acrylic Solid Bodied Stain)
First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	2000	Duratone (100% Acrylic)
Third Coat	2000	Duratone (100% Acrylic)
First Coat	4600	Uniprime II (100% Acrylic Primer)

Second Coat	1000	Duraglide (Vinyl Acrylic)
Third Coat	1000	Duraglide (Vinyl Acrylic)
First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	500	Solotex Multi-Mil Acrylic Elastomeric
Third Coat	500	Solotex Multi-Mil Acrylic Elastomeric
	OR	
Second Coat	1900	Weather Master Acrylic Elastomeric
Third Coat	1900	Weather Master Acrylic Elastomeric
	OR	
Second Coat	1800	100% Acrylic Med Build Texture Coat
Third Coat	1800	100% Acrylic Med Build Texture Coat

EGGSHELL:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8300	Carefree Eggshell (100% Acrylic)
Third Coat	8300	Carefree Eggshell (100% Acrylic)

SEMI-GLOSS:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)

GLOSS:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)

MASONRY – BLOCK – BRICK- SPLIT FACE

FLAT:

First Coat	4600	Uniprime II (100% Acrylic Primer)
	OR	
	018	100% Acrylic Heavy Duty Block Filler
Second Coat	3000	Acribond (100% Acrylic Solid Bodied Stain)
Third Coat	3000	Acribond (100% Acrylic Solid Bodied Stain)
	OR	
First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	2000	Duratone (100% Acrylic)
Third Coat	2000	Duratone (100% Acrylic)

MASONRY – BLOCK – BRICK- SPLIT FACE -CONT.

FLAT:

First Coat	4600	Uniprime II (100% Acrylic Primer)
	OR	
	018	100% Acrylic Heavy Duty Block Filler
Second Coat	1000	Duraglide (Vinyl Acrylic)
Third Coat	1000	Duraglide (Vinyl Acrylic)
First Coat	4600	Uniprime II (100% Acrylic Primer)
	OR	

	018	100% Acrylic Heavy Duty Block Filler
Second Coat	500	Solotex Multi-Mil Acrylic Elastomeric
Third Coat	500	Solotex Multi-Mil Acrylic Elastomeric
	OR	
Second Coat	1900	Weather Master Acrylic Elastomeric
Third Coat	1900	Weather Master Acrylic Elastomeric

EGGSHELL:

First Coat	4600	Uniprime II (100% Acrylic Primer)
	OR	
First Coat	018	100% Acrylic Heavy Duty Block Filler
Second Coat	8300	Carefree Eggshell (100% Acrylic)
Third Coat	8300	Carefree Eggshell (100% Acrylic)

SEMI-GLOSS:

First Coat	4600	Uniprime II (100% Acrylic Primer)
	OR	
	018	100% Acrylic Heavy Duty Block Filler
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)

GLOSS:

First Coat	4600	Uniprime II (100% Acrylic Primer)
	OR	
	018	100% Acrylic Heavy Duty Block Filler
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)

WOOD: SMOOTH – ROUGH SAWN – HARDBOARD - SIDING

FLAT:

First Coat	4200	Terminator II Acrylic Epoxy-Ester Primer
Second Coat	2000	Duratone (100% Acrylic)
Third Coat	2000	Duratone (100% Acrylic)
First Coat	4200	Terminator II Acrylic Epoxy-Ester Primer
Second Coat	3000	Acribond (Acrylic Stain)
Third Coat	3000	Acribond (Acrylic Stain)

WOOD: SMOOTH – ROUGH SAWN – HARDBOARD – SIDING -CONT.

EGGSHELL:

First Coat	4200	Terminator II Acrylic Epoxy-Ester Primer
Second Coat	8300	Eggshell (100% Acrylic)
Third Coat	8300	Eggshell (100% Acrylic)

SEMI-GLOSS:

First Coat	4200	Terminator II Acrylic Epoxy-Ester Primer
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)

Third Coat	8400	Carefree Semi-Gloss (100%) Acrylic)
	OR	
First Coat	6600	AquaLac Undercoater
Second Coat	9400	Aqua Fusion SG (Waterbased Alkyd Emulsion)
Third Coat	9400	Aqua Fusion SG (Waterbased Alkyd Emulsion)

GLOSS:

First Coat	4200	Terminator II Acrylic Epoxy-Ester Primer
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
	OR	
First Coat	6600	AquaLac Undercoater
Second Coat	9500	Aqua Fusion Gloss (Waterbased Alkyd Emulsion)
Third Coat	9500	Aqua Fusion Gloss (Waterbased Alkyd Emulsion)

WOOD: STAINED

Acrylic (Solid Bodied):		
One Coat	3000	Acribond (100% Acrylic)
	OR	
(Solid Bodied):		
One Coat		Olympic Solid Bodied Stain Distributed by Vista Paint Corporation
(Semi-Transparent):		
One Coat		Olympic Solid Bodied Stain Distributed by Vista Paint Corporation

METAL: FERROUS – IRON – STEEL

FLAT:

First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	2000	Duratone (100% Acrylic)

EGGSHELL:

First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8300	Carefree Eggshell (100% Acrylic)
	OR	
First Coat	9610	Protec Metal Prime Red Oxide
Second Coat	9700	Protec Waterbased Alkyd Emulsion Satin Finish
Third Coat	9700	Protec Waterbased Alkyd Emulsion Satin

		Finish
SEMI-GLOSS:		
First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
	OR	
First Coat	9610	Protec Metal Prime Red Oxide
Second Coat	9800	Protec Waterbased Alkyd Emulsion SG
Third Coat	9800	Protec Waterbased Alkyd Emulsion SG
GLOSS:		
First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8500	Carefree Gloss (100% Acrylic)
	OR	
First Coat	9610	Protec Metal Prime Red Oxide
Second Coat	9900	Protec Waterbased Alkyd Emulsion Gloss Finish
Third Coat	9900	Protec Waterbased Alkyd Emulsion Gloss Finish

METAL: NON-FERROUS – GALVANIZED – ALUMINUM

FLAT:		
First Coat	4800	Metal Pro White Primer
Second Coat	2000	Duratone
Third Coat	2000	Duratone
EGGSHELL:		
First Coat	4800	Metal Pro White Primer
Second Coat	8300	Carefree Eggshell (100% Acrylic)
Third Coat	8300	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	4800	Metal Pro White Primer
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)

METAL: NON-FERROUS – GALVANIZED – ALUMINUM

GLOSS:		
First Coat	4800	Metal Pro White Primer
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss 100% Acrylic)

3.8 FINISHING SCHEDULE – **INTERIOR**

CONCRETE – PLASTER – MASONRY

FLAT:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8100	Carefree Flat (100% Acrylic)
Third Coat	8100	Carefree Flat (100% Acrylic)

(Low VOC / Low Odor)

First Coat	6000	Earth Coat Primer (100% Acrylic Primer)
Second Coat	6100	Earth Coat Flat (100% Acrylic)
Third Coat	6100	Earth Coat Flat (100% Acrylic)

LOW SHEEN:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8200	Carefree Velva Sheen (100% Acrylic)
Third Coat	8200	Carefree Velva Sheen (100% Acrylic)

EGGSHELL:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8300	Carefree Eggshell (100% Acrylic)
Third Coat	8300	Carefree Eggshell (100% Acrylic)

(Low VOC / Low Odor)

First Coat	6000	Carefree Earth Coat Primer
Second Coat	6300	Earth Coat Eggshell (100% Acrylic)
Third Coat	6300	Earth Coat Eggshell (100% Acrylic)

SEMI-GLOSS:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)

(Low VOC / Low Odor)

First Coat	6000	Earth Coat Primer (100% Acrylic Primer)
Second Coat	6400	Earth Coat Semi-Gloss (100% Acrylic)
Third Coat	6400	Earth Coat Semi-Gloss (100% Acrylic)
	OR	
Second Coat	9800	Protec Waterbased Alkyd Emulsion SG Finish
Third Coat	9800	Protec Waterbased Alkyd Emulsion SG Finish

GLOSS:

First Coat	4600	Uniprime II (100% Acrylic Primer)
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
	OR	
First Coat	4900	Prime Coat II
Second Coat	9500	Aqua Fusion Water-based Alkyd Emulsion

Third Coat	9500	Aqua Fusion Water-based Alkyd Emulsion
WOOD:		
FLAT:		
First Coat	6600	Aqua Lac- Quick Dry Undercoater
	OR	
	188	Acrylic Primer Prep Coat
Second Coat	8100	Carefree Flat (100% Acrylic)
Third Coat	8100	Carefree Flat
LOWSHEEN:		
First Coat	6600	Aqua Lac- Quick Dry Undercoater
	OR	
	188	Acrylic Primer Prep Coat
Second Coat	8200	Carefree Flat (100% Acrylic)
Third Coat	8200	Carefree Flat (100% Acrylic)
EGGSHELL:		
First Coat	6600	Aqua Lac- Quick Dry Undercoater
	OR	
	188	Acrylic Primer Prep Coat
Second Coat	8300	Carefree Eggshell (100% Acrylic)
Third Coat	8300	Carefree Eggshell (100% Acrylic)
SEMI-GLOSS:		
First Coat	6600	Aqua Lac- Quick Dry Undercoater
	OR	
	188	Acrylic Primer Prep Coat
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)
GLOSS:		
First Coat	6600	Aqua Lac- Quick Dry Undercoater
	OR	
	188	Acrylic Primer Prep Coat
Second Coat	8500	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8500	Carefree Semi-Gloss (100% Acrylic)
	OR	
First Coat	6600	Aqua Lac- Quick Dry Undercoater
Second Coat	9500	Aqua Fusion Water-based Alkyd Emulsion
Third Coat	9500	Aqua Fusion Water-based Alkyd Emulsion
	OR	
First Coat	6600	Aqua Lac- Quick Dry Undercoater
Second Coat	9900	Aqua Fusion Water-based Alkyd Emulsion
Third Coat	9500	Aqua Fusion Water-based Alkyd Emulsion

DRYWALL:

FLAT:

First Coat	1100	Hi-Build PVA High Solids Sealer
Second Coat	8100	Carefree Flat (100% Acrylic)
Third Coat	8100	Carefree Flat (100% Acrylic)

Low VOC / Low Odor)

First Coat	6000	Earth Coat Primer (100% Acrylic Primer)
Second Coat	6100	Earth Coat Flat (100% Acrylic)
Third Coat	6100	Earth Coat Flat (100% Acrylic)

LOW SHEEN:

First Coat	1100	Hi-Build PVA High Solids Sealer
Second Coat	8200	Carefree Velva Sheen (100% Acrylic)
Third Coat	8200	Carefree Velva Sheen (100% Acrylic)

(Low VOC / Low Odor)

First Coat	6000	Earth Coat Primer (100% Acrylic Primer)
Second Coat	6200	Earth Coat Eggshell (100% Acrylic)
Third Coat	6200	Earth Coat Eggshell (100% Acrylic)

EGGSHELL:

First Coat	1100	Hi-Build PVA High Solids Sealer
Second Coat	8300	Carefree Eggshell (100% Acrylic)
Third Coat	8300	Carefree Eggshell (100% Acrylic)

(Low VOC / Low Odor)

First Coat	6000	Earth Coat Primer (100% Acrylic Primer)
Second Coat	6300	Earth Coat Eggshell (100% Acrylic)
Third Coat	6300	Earth Coat Eggshell (100% Acrylic)

SEMI GLOSS:

First Coat	1100	Hi-Build PVA High Solids Sealer
Second Coat	8400	Carefree Gloss (100% Acrylic)
Third Coat	8400	Carefree Gloss (100% Acrylic)

(Low VOC / Low Odor)

First Coat	6000	Earth Coat Primer (100% Acrylic Primer)
Second Coat	6400	Earth Coat Eggshell (100% Acrylic)
Third Coat	6400	Earth Coat Eggshell (100% Acrylic)

GLOSS:

First Coat	1100	Hi-Build PVA High Solids Sealer
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
	OR	
First Coat	6600	AquaLac (100% Acrylic)
Second Coat	9500	Aqua Fusion WB Alkyd Emulsion
Third Coat	9500	Aqua Fusion WB Alkyd Emulsion

ACOUSTIC CEILINGS

FLAT:

One Coat	013	Acoustic Kote (Vinyl Flat)

WOOD: PIGMENTED LACQUER

LACQUER FLAT:

First Coat	NAW 1320	Lacquer Undercoat Valspar
Second Coat	NAW 1321	Flat -Valspar
Third Coat	NAW 1321	Flat -Valspar

LACQUER SATIN:

First Coat	NAW 1320	Lacquer Undercoat -Valspar
Second Coat	NAW 1312	Satin -Valspar
Third Coat	NAW 1312	Satin -Valspar

LACQUER SEMI-GLOSS:

First Coat	NAW 1320	Lacquer Undercoat -Valspar
Second Coat	NAW 1326	Semi-Gloss -Valspar
Third Coat	NAW 1326	Semi-Gloss -Valspar

LACQUER GLOSS:

First Coat	NAW 1320	Lacquer Undercoat -Valspar
Second Coat	NAW 1329	Gloss -Valspar
Third Coat	NAW 1329	Gloss -Valspar

WOOD: CLEAR LACQUER

LACQUER FLAT:

First Coat	0250 VWS Series	Wiping Satin
Second Coat	NAS 1820	Water White Sanding Sealer
Third Coat	NAF 1821	Mar Resistant Flat
Fourth Coat	NAF 1821	Mar Resistant Flat

LACQUER SATIN:

First Coat	0250 VWS Series	Wiping Satin
Second Coat	VWS 1820	Water White Sanding Sealer
Third Coat	WS 1821	Mar Resistant Satin
Fourth Coat	NAF 1821	Mar Resistant Satin

LACQUER SEMI-GLOSS:

First Coat	0250 VWS Series	Wiping Satin
Second Coat	WS 1820	Water White Sanding Sealer
Third Coat	NAF 1826	Mar Resistant Semi-Gloss
Fourth Coat	NAF 1826	Mar Resistant Semi-Gloss

LACQUER GLOSS:

First Coat	0250 VWS Series	Wiping Stain
Second Coat	WS 1820	Water White Sanding Sealer
Third Coat	NAC 1829	Mar Resistant Gloss
Fourth Coat	NAC 1829	Mar Resistant Gloss

METAL: FERROUS – IRON – STEEL

FLAT:

First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8100	Carefree Flat (100% Acrylic)

LOW SHEEN:

First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8200	Carefree Velva Sheen (100% Acrylic)

EGGSHELL:

First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8300	Carefree Eggshell (100% Acrylic)

SEMI-GLOSS:

First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)

GLOSS:

First Coat	4800	Metal Pro White Primer
Second Coat	4800	Metal Pro White Primer
Third Coat	8500	Carefree Gloss (100% Acrylic)
	OR	
First Coat	4800	Metal Pro White Primer
Second Coat	9900	Protec Waterbased Alkyd Emulsion
Third Coat	9900	Protec Waterbased Alkyd Emulsion

METAL: NON-FERROUS – GALVANIZED – ALUMINUM

FLAT:

First Coat	4800	Metal Pro White Primer
Second Coat	8100	Carefree Flat (100% Acrylic)
Third Coat	8100	Carefree Flat (100% Acrylic)

LOW SHEEN:

First Coat	4800	Metal Pro White Primer
Second Coat	8200	Carefree Velva Sheen (100% Acrylic)
Third Coat	8200	Carefree Velva Sheen (100% Acrylic)

EGGSHELL:

First Coat	4800	Metal Pro White Primer
Second Coat	8300	Carefree Eggshell (100% Acrylic)
Third Coat	8300	Carefree Eggshell (100% Acrylic)

SEMI-GLOSS:

First Coat	4800	Metal Pro White Primer
Second Coat	8400	Carefree Semi-Gloss (100% Acrylic)
Third Coat	8400	Carefree Semi-Gloss (100% Acrylic)

GLOSS:

First Coat	4800	Metal Pro White Primer
Second Coat	8500	Carefree Gloss (100% Acrylic)
Third Coat	8500	Carefree Gloss (100% Acrylic)
	OR	
First Coat	4800	Metal Pro White Primer
Second Coat	9900	Protec Water-Based Industrial
Third Coat	9900	Protec Water-Based Industrial

END SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specifications sections which apply to work of this section as if printed herein.

The following are minimum requirements and shall govern, except that all local, state and/or federal codes and ordinances shall govern when their requirements are in excess hereof.

1.1 SECTION INCLUDES: Description of requirements for materials, fabrications, and installation Site Clearing and Demolition and associated accessory items including, but not necessarily limited to, the following:

1.1.1 Work includes clearing and grubbing of the site, including the removal of debris, vegetation, foreign objects, existing asphaltic, rock outcrops, rocks, removal and or relocation of underground utilities from the site as shown on the documents, and or as indicated on the drawings.

1.1.2 Grading, stripping and stock piling of topsoil.

1.2 RELATED WORK:

1.2.1 Section 015723 – Storm Water Pollution Prevention Plan

1.2.2 Section 312200 – Earthwork: Dust suppression and project conditions

1.2.3 Cap and identify utilities where required.

1.2.4 Remove and/or relocate underground utilities as shown or required on the civil, offsite drawings, plumbing, electrical drawings and architectural drawings.

1.3 QUALITY ASSURANCE:

1.3.1 Comply with applicable portions of 2019 CBC (CCR Title 24, Part 2), Chapter 33.

1.3.2 Comply with applicable portions of 2019 CFC (CCR Title 24, Part 9), Chapter 14.

1.3.3 Where the requirements of applicable codes and regulations conflict with the requirements of this Specification, comply with the more stringent provisions.

1.3.4 Obtain and pay for any permits, bonds, licenses, etc., required for Site Clearing and Removal Work to include all truck hauling bonds or permits.

1.3.5 All clearing and removal work shall be accomplished in strict accordance with all local and state building codes, requirements, and regulations, including but not limited to noise abatement, dust control, classification of disposal materials, haul route conditions, etc. and coordination with the adjacent developers with their offsite improvements and schedules of operations.

1.4 JOB CONDITIONS:

1.4.1 An attempt has been made to show all existing structures, utilities, drives, pavements, curbs, walks, etc., in their approximate location on the survey and/or on the drawings. However, others that are not shown may exist and may be found upon visiting the site or during the clearing, demolition and removal work. It will be the responsibility of this Contractor to accurately locate all existing facilities and to determine their extent. If such facilities obstruct the progress of the work and are not indicated to be removed or relocated, they shall be removed or relocated only as directed by the Owner and/or Architect.

1.4.1.1 Report any existing site element not shown on the drawings to the Civil Engineer of Record and Architect so that the proper dispensation of the element may be made.

1.4.2 The Contractor shall review the plans and provide calculations to determine the extent of the import or export requirements for the job and pay all associated costs to include: Haul route fees or bonds, any plans/documents as required by the local authority for approved haul route and disposal.

1.4.3 Natural features, existing structures, existing landscaping, existing utilities, etc., which are indicated to remain on the drawings and specifications shall be protected and shall not be defaced or damaged in any manner. Provide protective barriers, markers, fencing to protect any existing natural or manmade features and the Contractor shall maintain such device(s) for the duration of the project or as directed by the Architect to remove such protective device(s).

1.4.4 Restore to their present conditions any pavement in the public right-of-way that is disturbed by the work under this section. All pavement restoration work in public rights-of-way shall be performed to the full satisfaction of the governmental agencies having local jurisdiction. See Sections 321216 and 321600 for all pavement requirements.

1.4.5 Conform to the requirements of Sections 312300 and 312316.13.

1.5 ENVIRONMENTAL REQUIREMENTS:

1.5.1 Noise producing activities shall be held to a minimum. Internal combustion engines and compressors, etc., shall be equipped with mufflers to reduce noise to a minimum. Comply with all noise abatement ordinances.

1.5.2 Keep all areas within the clearing and removal area sufficiently dampened to prevent dust from rising due to clearing or removal operations. Comply with all anti-pollutions' ordinances. All dust prevention control and anti-pollution control shall be done on a daily basis and/or as directed by the **ARCHITECT.**

1.5.2.1 This Contractor shall see to it that trucks leaving the site shall not do so in such a manner that debris, vegetation, mud, and earth will not be deposited on adjacent street pavements. ***Any debris, vegetation, mud, or earth deposited on street pavements shall be promptly removed by this Contractor on a continuous basis and/or as directed by the ARCHITECT***

1.5.3 This Contractor shall notify Local or State Environmental Agencies prior to the removal of any underground storage tanks and their related piping.

1.5.3.1 This Contractor shall remove all related items as required by environmental authorities, and shall test surrounding soils as required.

1.5.4 All clearing and removal operations shall be performed in a manner such as to prevent any wash-off of soils from the site into streams and/or storm drainage systems. Appropriate sedimentation ponds, dikes, silt fences, collars, and filter media shall be employed to ensure compliance with these requirements. Where a specific statute governs these procedures, such statute shall be complied with in its entirety. Such soil prevention, wash-off of soil to any existing, new storm drainage system(s), ponds, dikes, to offsite drainage shall be in conformance to Section 015723 -Storm Water Pollution Plan Control.

1.6 DRAINAGE MAINTENANCE:

1.6.1 During the entire course of clearing and removal operations, all existing drainage ways, both into and from the project area shall be rerouted as required and/or maintained in a functional condition and in accordance to Section 015723 and as directed by the ARCHITECT.

1.6.2 At all times during the clearing and removal operations, the exposed areas of subgrade shall be maintained in a condition compatible with positive drainage of the work area. Failure to maintain such drainage shall be considered adequate cause for the District Representative to order temporary suspension of the work.

1.6.3 If it should become necessary to stop work for indefinite periods, take every precaution to prevent damage or deterioration of the work already performed. Provide suitable and functional drainage by installing ditches, filter drains, temporary cut-off lines, etc., and erect temporary protective structures where necessary. All embankments shall be back bladed and suitably sealed to protect against adverse weather conditions.

PART 2 – PRODUCTS:

2.1 PROTECTION:

2.1.1 It shall be the Contractor’s full responsibility to furnish and maintain all temporary barricades, warning lights, and other types of protection and prevent accidental injury to the general public and all personnel on the project.

2.1.2 All existing improvements and all existing active utility lines to remain (whether above or below ground) within the new construction area shall be properly and adequately protected from damage during the entire construction period. It shall be the responsibility of the Contractor to restore to their original condition any of these existing items that are damaged or disturbed in any way.

2.1.3 Protect all existing structures, utilities, and landscaping indicated to remain on the drawings.

2.1.3.1 All trees, shrubs, and other items, indicated to remain shall be protected during the entire progress of the work. This includes protection of the root system. The trees shall be fenced if they are located in or near an area being used for material storage or subject to damage by traffic during construction. Low

hanging branches and unsound or unsightly branches on trees or shrubs designated to remain shall be removed. All trimmings shall be done by skilled workmen and in accordance with good tree surgery practices.

2.1.4 Any damage done or caused by any prime or sub-Contractor to existing structures, pipe lines, utilities, landscaping, etc., indicated to remain shall be repaired by him and at his expense in a manner acceptable to the Owner of the damaged property. Any prime or sub-Contractor shall report any existing damage prior to the beginning of their work.

2.1.5 All temporary shoring, bracing, etc., and maintenance there to required for the completion of clearing and removal work shall be provided by the Contractor whose work requires protection.

2.1.5.1 This Contractor shall work in concert per local and state codes to ensure the provision of adequate bracing, shoring, temporary cross over for pedestrian and vehicular traffic, including guard rails, lamps, warning signs and flags as required by agencies having jurisdiction as directed by the Owner. Remove same when necessity for protection ceases.

2.1.5.2 The Contractor shall work in concert with the adjacent developer(s) to ensure any additional provisions are implemented to ensure safety and coordination of all offsite work.

2.2 MATERIALS:

2.2.1 All materials used to backfill excavations, trenches, holes, pits, etc., caused by utility, underground structure or underground storage tank removal shall meet the requirements for fill material and compaction indicated in Sections 312200, 312219, and 321216.

PART 3 – EXECUTION:

3.1 EXAMINATION:

3.1.1 Visit the site and offsite areas so that a full understanding of the difficulties and restrictions attending complete clearing of the site and removal of underground tanks and utilities is obtained. Verify the location of all pertinent items.

3.1.2 Verify with sewer department, water department, gas company, electric company, etc., that all existing utilities, services, and overhead lines have deactivated and abandoned prior to beginning removal work. Notify affected utility department or company prior to beginning removal work.

3.2 PREPARATION:

3.2.1 Cut drainage swales and provide temporary grading to carry storm water away from clearing area. No storm water will be permitted to stand in open excavations.

3.2.2 Provide, erect, and maintain temporary barriers and security devices as required. Protect all existing landscaping, structures, utilities, and site elements that are not to be demolished.

3.2.3 Notify all affected utility companies and local authorities and agencies prior to beginning the work.

3.2.4 Identify and tag all existing trees and other landscaping designated to remain.

3.2.5 Identify and locate a permanent stockpile area for topsoil. Verify with District Representative and see plans and/or Landscape Architect's plans for fill soil stockpile area. Coordinate with Landscape Contractor.

3.2.6 Identify and locate a waste area for temporary storage of removed materials and a permanent topsoil stockpile area. Stockpile area shall be approved by the ARCHITECT and/or Landscape Architect.

3.2.6.1 No materials may be buried or burned on the site as a means of disposal.

3.3 GRUBBING AND CLEARING:

3.3.1 From the entire site and area of work, remove all trees, rocks, boulders, and vegetation to ground level where the new building and all site work are to be located, regardless if shown or not shown on the drawings.

3.3.2 Scarify ground to remove debris, boulders, rocks, vegetation, and roots to 12 inches below grade, and remove all deep root systems, stumps, root-balls, and any major root systems.

3.3.3 Remove and legally dispose of debris. When and as directed by the Architect and/or Landscape Architect, stockpile selected stripped soil materials and rocks/boulders for subsequent use in landscaping work.

3.3.4 No less frequently than continuously each day, treat exposed ground areas for dust control. At windy conditions as deemed necessary by the Inspector and Construction Manager, provide dust control to suit the Inspector and ARCHITECTS's satisfaction.

3.4 OFFSITE WORK:

3.4.1 Clean haul roads on and off site to a distance of three miles from the site or as directed by the Architect, Resident Inspector, ARCHITECTS and/or per local ordinance.

3.4.2 "Clean" herein refers to properly remove dirt clods, flocks, tree branches, and other items which may fall off the hauling equipment or be "tracked" off the site.

3.4.3 Notify all affected utility companies and local authorities and agencies prior to beginning the work.

3.4.4 Identify and tag all existing trees and other landscaping designated to remain.

3.4.5 Identify and locate a permanent stockpile area for topsoil. Verify with District Representative and see plans for fill soil stockpile area. Coordinate with Landscape Contractor.

3.4.5.1 **No materials may be buried or burned on the site as a means of disposal**.

3.5 PERFORMANCE:

3.5.1 This Contractor shall be responsible for all clearing, grubbing, removing and disposing of trash and debris and for clearing and stockpiling all topsoil which are with the designated limits of the property, easements and roadway, unless otherwise indicated on the Drawings.

3.5.2 Prior to rough grading, storage of construction materials or the installation of any temporary construction facilities, strip areas per plans to be occupied by site improvements.

3.5.2.1 Stockpile soil in previously designated areas or as directed by the District Representative. Sticks, stones, roots, weeds, grass, clods and rubbish shall be removed from the topsoil prior to stockpiling. If excess soil exists, it shall be disposed off-site.

3.5.2.2 Only soil meeting the requirements of Section 329000 – Landscape Grading shall be stockpiled. All non-conforming soil shall be removed from the site.

3.5.2.3 No topsoil may be used as structural fill under any building or paved areas.

3.5.3 This Contractor shall be responsible for removal of sidewalks, pavements, curbs, curbs and gutters, foundations, exterior slabs and sidewalks indicated to be removed on plans except for work covered under Landscape scope of work.

3.5.4 This Contractor shall be responsible for removal of all underground utilities, underground structures, etc., according to plans.

3.5.5 Protect any existing structures, utilities and all appurtenances to remain. Prevent movement or settling. Provide bracing and shoring as required.

3.5.6 Cease cleaning and removal operations immediately if any existing structure or utility appears in danger. Notify the District Representative and Civil Engineer of Record. Do not resume operations until directed.

3.5.7 All broken construction material, trash, and debris, tree slash, sidewalks, curbs, etc., will be considered “waste” and shall be removed from the site. “Waste” material shall be removed from the site as soon as possible and shall not be allowed to accumulate. Short-term storage of removed material shall be restricted to previously designated “waste” areas or as directed by the District Representative.

3.5.7.1 No burning or burying of “waste” material will be permitted.

3.5.8 Continuously dampen all clearing and removal areas to prevent dust from rising during the operation. Provide hoses and/or water trucks as required.

3.6 FIELD QUALITY CONTROL:

3.6.1 This Contractor shall retain an independent inspection firm or contact local officials and inspectors at locations where local building codes require special inspections.

3.7 CLEAN UP:

3.7.1 Material designated for removal shall become the property of this Contractor, and any salvage value there from will accrue to this Contractor.

3.7.2 Remove from the site and make legal disposition of all waste and debris. No waste or debris shall be burned or buried on the site as a means of disposal.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specification sections which apply to work of this section as if printed herein.

1.1 SUMMARY

1.1.1 Provide materials, labor and equipment necessary for the completion of finish grading as indicated on the Drawings and specified herein.

1.1.2 Related Sections:

1.1.2.1 Section 312200 - Earthwork.

1.1.2.2 Section 312300 - Excavation and Backfill for Utilities.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Refer to Section 312200 – Earthwork, for material for fill and planting areas.

PART 3 - EXECUTION

3.1 PREPARATION FOR FINISH GRADING

3.1.1 The entire area within the limits of grading as indicated on the Drawings shall be considered to the lines, grades, elevations, slopes, and cross sections indicated on the Drawings. When the grading has been completed, the areas shall be rolled smooth with a steel tandem roller or equal.

Should low spots develop during the rolling operation, such spots shall be filled and re-rolled smooth. Slopes, banks, and drainage depressions shall present a neat, uniform appearance on completion of the Work.

3.1.2 Fine grade to bring areas to required lines and grades. The subgrade elevation within the building area for slabs on grade (without a base course) shall be within 0.05 inch along a 10-foot straight edge.

3.1.3 Slope finish grades to drain surface water away from buildings, walks, paving, and other structures. Generally, grade with uniform slope between points where elevations are given, or between such points and existing grades. Excavate and grade swales to provide drainage away from and around buildings.

3.1.4 Areas to Receive Paving or Surfacing: Review plans and details for each area. See plans for paving and base course thickness. Review Drawings for sitework details.

3.1.5 Areas to Receive Topsoil and/or Planting: Where not otherwise indicated, areas outside of building shall be given uniform slopes between points for which finish grades are shown, or between such points and existing established grade, except that vertical curves or roundings shall be provided at abrupt changes in slope.

3.1.6 Rocks or cobbles larger than 1 inch in diameter shall not be placed in the upper 12 inches of planting area fill, and rocks or cobbles larger than 3/4 inch shall not appear on the finish graded surface. Structural fill and asphalt or concrete unless otherwise specified within the soil's reports.

3.1.7 Surplus or Imported Material:

3.1.7.1 Surplus material not needed for filling shall be removed from the site in a legal manner.

3.1.7.2 Provide additional earth material as required. Imported material shall be tested and imported from an approved source at no additional cost to Owner. Approved by the Architect and/or Owner.

3.1.7.3 All earth products to the site shall meet or exceed E.P.A. and State of California regulations for clean fill. Proof of compliance is the responsibility of the Contractor.

3.1.8 Preparation for Fills:

3.1.8.1 Prior to placing fills, the existing surface shall be scarified and recompacted to at least 90 percent dry density per the ASTM D-1557 procedure.

3.2 FIELD QUALITY CONTROL

3.2.1 Compaction of soils performed on this project shall be in accordance with section 312200 – Earthwork.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specification sections which apply to work of this section as if printed herein.

1.1 SUMMARY

1.1.1 Section includes: Excavation and backfill for utilities and storm drains as indicated on the Drawings and specified herein.

1.2 REFERENCE STANDARDS

1.2.1 2019 CBC (CCR Title 24, Part 2), Chapter 18A.

1.2.2 CAL-OSHA requirements.

1.3 PERFORMANCE REQUIREMENTS

1.3.1 Be fully responsible to furnish and maintain temporary barricades, warning lights, and other types of protection and to prevent accidental injury to the general public and personnel employed on the project.

1.3.2 Provide adequate cribbing, sheating, and shoring as necessary to safely retain the earth sides of excavation and trenches from caving and other damage resulting from excavating and trenches from caving and other damage resulting from excavating, together with suitable forms of protection against property damage and bodily injury to personnel employed on the work and the general public. The Contractor shall be responsible for the design, for installation, and maintenance of required cribbing and shoring.

1.3.3 Protect new and existing utilities from damage during the course of installation, and repair work so damaged at no additional cost to the Owner.

1.4 PERMITS

1.4.1 Obtain permits, fees, or bonds required for the work performed under this section. Owner will pay the cost for permanent construction permits. Bonds and encroachment permits shall be paid by the Contractor.

1.5 TESTING AND INSPECTION

1.5.1 Contractor shall be responsible for notifying the Testing Laboratory in advance, so that he/she may be present to perform his services as needed.

1.5.2 The Testing Laboratory shall submit compaction reports to the Architect, and shall notify the Architect immediately of test failures.

1.6 QUALITY ASSURANCE

1.6.1 Bedding Material:

1.6.1.1 Bedding sand shall be Class A, screened fill sand, with a maximum particle size of ¼ inch, and shall be free of expansive material and organic matter. Material shall have a sand equivalent of not less than 30 per ASTM D2419.

1.6.1.2 Bedding crushed rock shall be clean crushed stone free of organic matter and shall conform to the following gradation:

US Standard Sieve Size	Percent Passing by Weight
25mm (1”)	100
19mm (3/4”)	90-100
12.5mm (1/2”)	30-60
9.5mm (3/8”)	0-20
4.75mm (No. 4)	0-5
2.36mm (No.8)	---

1.6.1.3 Bedding material for utility lines and storm drains outside the property lines shall be as required by the agency having jurisdiction.

1.6.2 Backfill material for storm drain and utility lines shall be non-expansive granular material, such as clean sand, and shall be placed in a minimum thickness of 6 inches for bedding and backfilled to 12 inches above the top of pipe.

1.6.3 Additional earth material required to complete the work shall be provided by the Contractor at his expense.

1.6.4 All earth products to the site shall meet or exceed United States Environmental Protection Agency (US EPA) and State of California Regulations for clean fill. Proof of compliance is the responsibility of the Contractor.

1.6.5 Imported earth shall be of granular nature with sufficient binder to form a firm, stable, unyielding subgrade. Adobe or clay soils will not be acceptable. Earth imported shall be relatively non-expansive with an expansion index of less than 35, be clean and free from rubbish and debris and rock larger than 3 inches in maximum dimensions, not have sulfate content greater than 1,000 parts per million. Imported fill material shall have an electrical resistivity box procedure shown in ASTM G57. Imported material to be used in areas to receive planting shall be of such quality as to support plant life.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.1 PREPARATION

3.1.1 Underground Utilities: Carefully lay out the route of each underground utility prior to trenching. Coordinate the work of various trades to avoid conflicts.

3.1.2 Clearances: Maintain required horizontal and vertical clearances from structural footings for utility trenches running parallel to footings, as detailed on Structural Drawings. In the event of conflict, the Architect shall be notified.

3.2 TRENCHING

3.2.1 Excavate trenches for utilities to the required lines, trades and elevations indicated on the drawings and as specified. Hand trim changes in direction and bottoms of trenches. Accurately shape and thoroughly compact trench bottom to required grade. Keep trenches clean until installed work has been approved.

3.2.2 Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.

3.2.2.1 Clearance: 8 inches on each side of pipe or conduit.

3.2.3 Trench Bottoms: Excavate trenches 6 inches deeper than bottom of pipe elevation to allow for bedding course. Hand excavate for bell of pipe.

3.4 BEDDING

3.4.1 Place and compact 6-inch bedding course on trench bottoms. Shape bedding course to provide continuous support for bells, joints and barrels of pipes and for joints, fittings, and bodies of conduits.

3.4.1.1 Provide crushed rock bedding for sanitary and storm sewer piping.

3.4.1.2 Provide sand bedding for water and fire line piping.

3.4.2 Place and compact initial backfill of crushed rock or sand bedding, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system. This area shall be mechanically compacted to achieve 90% relative compaction per ASTM D-1557.

3.4.3 Utility trenches located within the zone of structural footing influence require special backfill consisting of 2-sack sand/cement slurry. The zone of influence to a distance of 10 feet beyond footings is the zone below a 2(H):1(V) downward plane starting 9 inches above the bottom outer edge of the structural footing.

3.4.4 Backfill with approved native or import soils as specified in 312200 Earthwork.

3.4.5 Spread, water, and mix backfill to obtain optimum moisture content. Compact by mechanical means in 6-inch lifts to a minimum relative density of 90 percent in accordance with ASTM D-1557.

3.4.6 Continue backfilling as required to secure final grade elevations.

3.4.7 Backfill existing utilities which may be uncovered during course of construction in the same manner as specified herein for new utilities.

3.4.8 Coordinate backfilling with Representative of Owner's Testing Laboratory.

3.5 CLEANUP

3.5.1 Transport unsuitable material to a legal off-site disposal area.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specification sections which apply to work of this section as if printed herein.

1.1 SECTION INCLUDES: Description of requirements for installation of Trenching as shown on drawings and necessary to complete the Trenching Work. Work to include but not be limited to the following:

1.1.1 Excavate trenches for utilities and services not specified in other sections.

1.1.2 Compacted bedding.

1.1.3 Backfilling and compaction.

1.2 RELATED SECTIONS:

1.2.1 Section 014523 – Tests and Inspection.

1.2.2 Section 015000 – Construction Facilities and Temporary Controls.

1.2.3 Section 312200 – Earthwork.

1.2.4 Section 312300 – Excavating, Backfilling and Compacting for Utilities.

1.2.5 Division 22 – Mechanical Work.

1.2.6 Division 26 – Electrical Work.

1.3 REFERENCES AND STANDARDS:

1.3.1 ASTM C136 – Method for Sieve Analysis of Fine and Course Aggregates.

1.3.2 ASTM 01556 – Test Method for Density of Soil in Place by the Sand – Cone Method.

1.3.3 ASTM 01557 – Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures using 10 lb (4.54 kg) Rammer and 18-inch (457 mm) Drop.

1.3.4 ASTM 02922-81 – Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.3.5 ASTM 03017-78 – Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.3.6 Green Book – Standard Specifications for Public Works Construction, latest edition, as adopted by jurisdictional authority, including amendments.

1.4 PUBLIC AGENCY STANDARDS:

1.4.1 Perform all earthwork and related structures and devices indicated as public agency standards in accordance with the standard plans and specifications of that agency.

1.4.2 Where earthwork is constructed in public streets or rights of way, construct in accordance with the standard plans and specifications of the authority having jurisdictions and in the presence of a representative of that agency.

1.4.3 Secure and pay for all necessary permits for work performed under conditions which exist in 1.4.2 above. The Owner will pay for associated inspection fees.

1.4.4 Upon completion of the work, provide the Architect with written certification of acceptance of work by the governing agency having jurisdiction.

PART 2 – PRODUCTS:

2.1 BACKFILL MATERIALS:

2.1.1 Type C – Class 100-E-100 per Table 201-1.1.2 (Green Book) slurry mix as approved by Owner and Geotechnical Engineer.

2.1.2 Type D – Select Backfill: On Site or imported non-expansive soils complying with Section 312300.

2.2 BEDDING MATERIALS:

2.2.1 Type A – Crushed Gravel: Angular, natural stone; free of shale, clay, friable material, sand, debris; graded within the following limits:

Sieve Size	Percent Passing
3/4 inch	95 to 100
No. 4	0 to 10
No. 100	0

2.2.2 Type B – Sand: Natural river or bank sand; free of silt, clay, loam, friable or soluble materials, or organic matter; maximum particle size and volume of 1/2 inch and 18 percent respectively, with minimum Sand Equivalent value of 30 per California Test Method 217.

2.2.3 Type E – Concrete Encasement: Class 480-C-2000 per Table 201-1.1.2 (Green Book), as approved by Owner and Geotechnical Engineer.

2.3 ACCESSORIES:

2.3.1 Detection tape: Provide plastic tape with metallic stripping suitable for locating underground piping and conduits. Provide pre-printed label identifying conduit pipe type, alternating with word “CAUTION”.

2.4 DESIGN CRITERIA:

2.4.1 General:

2.4.1.1 All improvements shall be constructed per the referenced standards, the contract documents, and as specified in this section.

2.4.1.2 Where criteria shown on drawings or specified in this specification exceed that of the referenced standards, the more stringent criteria shall apply

2.4.2 Provide other bedding and backfill materials as described and specified in Section 312300 and Divisions 22 and 26.

PART 3 – EXECUTION:

3.1 INSPECTION, LAYOUT AND PREPARATION:

3.1.1 Prior to installation of the work of this Section, Carefully inspect and verify that installed work of all other trades is complete to the point where this installation may properly commence.

3.1.2 Layout all work, establish grades, locate existing underground utilities, set markers and stakes, setup and maintain barricades and protection facilities; all prior to beginning actual earthwork operations. All efforts to identify and protect existing utilities must be taken by the Contractor. Consult with on-site personnel for knowledge of existing utilities. Review as-built plans available from the Architect or Owner (not a part of the documents). Infer from existing on-site boxes, valves, sprinkler heads, etc. provide utility runs.

3.1.3 Verify that specified items may be installed in accordance with the approved design.

3.1.4 In event of discrepancy, immediately notify Architect**. Do not proceed in discrepant areas until discrepancies have been fully resolved**.

3.1.5 Not all existing utilities are shown in plans or known. The Contractor is to anticipate trenching operations will uncover conditions requiring slower-than-normal procedures and be prepared to trench accordingly.

3.2 DEMOLITION, DISPOSAL AND DISPOSITION OF UNDESIRABLE MAN-MADE FEATURES:

3.2.1 Existing asphaltic paving in areas of new work shall be removed from site or may be broken up into pieces less than 3 inches in maximum dimension and incorporated into sub-grades of paved areas.

3.2.2 All other obstructions such as concrete paving, abandoned utility lines, septic tanks, concrete foundations, and the like shall be removed from site. Excavations resulting from these removal activities should be cleaned of all loose materials, dish shaped, and widened as necessary to permit access for compaction equipment. Areas exposed by any required over-excavation should

be scarified to a depth of 8 inches, moisture-conditioned to near optimum moisture content, and re-compacted to at least 90 percent of the maximum dry density as determined by ANSI/ASTM Test Method D1557.

3.3 EXCAVATION:

3.3.1 Excavate subsoil required for underground piping to point of connection.

3.3.2 Cut trenches sufficiently wide to enable installation of utilities and allow inspection.

3.3.3 Excavation shall not interfere with normal 45 degree bearing splay of foundations.

3.3.4 Hand trim excavation for bell and spigot pipe joints. Remove loose matter.

3.3.5 Carefully excavate around existing utilities to avoid unnecessary damage. The Contractor shall anticipate and perform hand work on modernization sites to a reasonable extent without additional claims or cost.

3.3.6 Remove lumped subsoil, boulders, and rock up to 3 inches.

3.3.7 Stockpile excavated material in area designated on site and remove excess material not being used from site.

3.4 BEDDING:

3.4.1 Support pipe and conduit during placement and compaction of bedding fill.

3.5 PLACING, SPREADING AND COMPACTING BACKFILL MATERIAL:

3.5.1 Selected fill material shall be placed in layers which, when compacted shall not exceed 6 inches in thickness. Each layer shall be spread evenly and thoroughly mixed to insure uniformity. **Do not backfill over porous, wet, frozen or spongy subgrade surfaces**. Employ a placement method that does not disturb or damage foundation walls, perimeter drainage, foundation damp-proofing, waterproofing or protective cover.

3.5.2 When moisture content of fill material is below that required to achieve specified density, add water until proper moisture content is achieved. When moisture content is above that required, aerate by blading or other methods until moisture content is satisfactory.

3.5.3 After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to 90 percent of maximum dry density while at required moisture content. Compact each layer over its entire area until desired density has been obtained.

3.5.4 Recompaction of fill in trenches: Where trenches must be excavated in fill, backfill with material excavated. Place in 6-inch layers and compact each layer to provide densities as specified in Article 3.5.3 above. No jetting shall be allowed in any backfill.

3.5.5 Control of Compaction: All backfill operations shall be conducted under supervision of District Inspector. Field density test may be made to check compaction of fill material. If densities are not satisfactory, Contractor will be required to change equipment or procedure or both, as required to obtain specified densities. Notify Inspector and Architect at least 24 hours in advance of any operation.

3.6 FINAL SUBGRADE PREPARATION:

3.6.1 Upper 6 inches of all final subgrades supporting pavement sections that will sustain automotive traffic shall be brought to uniform moisture content and shall be uniformly compacted to not less than 95 percent of ANSI ASTM D1557 maximum dry density, regardless of whether final subgrade elevation is attained by filling, excavation, or is left at existing grade.

3.6.2 Upper surface of all other final sub-grades, 90 percent, unless otherwise noted.

3.7 ERRORS AND SOFT OR UNSUITABLE FOUNDATIONS:

3.7.1 Where Contractor over-excavates through error, resulting excavation shall be recompacted as engineered fill at Contractor's expense. Where additional work is required by reason of soft or unsuitable natural ground or existing engineered fill, cost of additional excavation and filling will be borne by Owner.

3.8 SURPLUS MATERIAL:

3.8.1 Excavated material not required for grading or backfill is to be removed from site.

3.8.2 Filling operation shall be continued as specified above, until fill has been brought to existing slopes and grades.

3.9 REPAIRS TO EXISTING MATERIALS

3.9.1 Repair existing landscaped areas to as new condition. Replant trees, shrubs or groundcover with existing materials if not damaged or with new materials if required. Replace damaged lawn areas with sod, no seeding will be permitted.

3.9.2 Replace demolished pavement with new compatible matching materials. Concrete walks to be removed to nearest expansion joint and entire panel replaced. Asphalt to be cut neatly and replaced with new materials.

3.9.3 Any existing materials removed or damaged due to trenching to be returned to new condition.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specification sections which apply to work of this section as if printed herein.

1.1 WORK INCLUDED:

1.1.1 Work includes asphaltic concrete paving. Provide minimum 3 inches of asphalt paving over 6 inches of aggregate base unless noted otherwise on the drawings.

1.2 RELATED WORK:

1.2.1 Related Work Specified Elsewhere:

1.2.1.1 Section 311000 - Site Clearing: Removal of existing asphaltic concrete paving.

1.2.1.2 Section 312200 - Earthwork: Preparation and compaction of subgrade.

1.3 QUALITY ASSURANCE:

1.3.1 Qualifications of Asphalt Concrete Producer: Bulk asphaltic concrete producer regularly engaged in production of hot-mix, hot-laid asphalt concrete.

1.3.2 Regulatory Requirements:

1.3.2.1 In addition to complying with the applicable codes and regulations of governmental agencies having jurisdiction, comply with the applicable requirements of CALTRANS Standard Specifications for Public Works Construction.

1.3.2.2 Where the provisions of applicable codes, regulations and standards conflict with the requirements of this specifications, comply with the more stringent provisions.

1.3.3 Source Quality Control:

1.3.3.1 Tests: Materials for which physical characteristics have been stipulated shall have had such characteristics independently confirmed by laboratory tests employing industry-recognized procedures. Both the laboratory performing the tests and the test methods employed will be subject to the approval of the Architect.

1.3.3.2 Certification: Furnish certification, in written form, from the asphaltic concrete producer, confirming the conformance of the following with the requirements of this specification:

1.3.3.2.1 Materials proposed for incorporation into the Work.

1.3.3.2.2 Asphaltic concrete mix design formulae.

1.4 SUBMITTALS:

1.4.1 Product Data: For proprietary products, submit complete manufacturer's description literature and specifications in accordance with the provisions of Section 013300.

1.4.1.1 Materials List: Submit complete lists of materials proposed for use, giving the manufacturer's name, catalog number, and catalog cut for each item where applicable.

1.4.1.2 Manufacturer's Recommendations: Submit the manufacturer's current recommended methods of installation, including relevant limitations, safety and environmental cautions, and application rates.

1.4.2 Test Reports: When and as directed by the Architect and/or Owner, submit certified laboratory test reports confirming physical characteristics of materials used in the performance of the Work of this Section.

1.4.3 Mixes: Submit asphaltic concrete mix design formulae.

1.5 PROJECT CONDITIONS:

1.5.1 Weather Limitations:

1.5.1.1 Apply bituminous prime and tack coats only when the ambient temperature in the shade is above 50 degrees F.

1.5.1.2 Do not apply when the base surface is wet or contains an excess of moisture which would prevent uniform distribution and the required penetration.

1.5.1.3 Construct asphalt concrete surface course only when atmospheric temperature is above 40 degrees F, when the underlying base is dry, and when weather is not rainy.

1.5.2 Grade Control: Establish and maintain the required lines and grades, including crown and cross-slope, for each course during construction operations.

1.5.3 Traffic Control: Maintain vehicular and pedestrian traffic during paving operations, as required for other construction activities.

PART 2 - PRODUCTS

2.1 AGGREGATES: Use materials and gradations that have performed satisfactorily in previous installations.

2.1.1 Base Course Aggregate: Class 2 Aggregate Base mineral aggregate, 3/4 inch maximum size, as specified in CALTRANS Standard Specifications

2.1.1.1 Recycled asphalt paving may be used as base course aggregate, subject to complying with CALTRANS Standard Specifications.

2.1.2 Asphalt Aggregate: Type B Aggregate, as specified in CALTRANS Standard Specifications.

2.1.2.1 3/4-inch maximum size for base course.

2.1.2.2 1/2-inch maximum size for surface course.

2.2 ASPHALT MATERIALS

2.2.1 Asphalt Cement: Steam Refined, penetration-graded material. PG 64-10 conforming to CALTRANS Standard Specifications.

2.2.2 Prime Coat: Asphalt prime coat conforming to CALTRANS Standard Specifications.

2.2.3 Tack Coat: Asphalt tack coat conforming to CALTRANS Standard Specifications.

2.2.4 Seal Coat: Emulsified asphalt with a minimum 2 percent – 3 percent latex or copolymer added with 2-4 lbs of grade No. 30 silica sand added per gallon and mechanically agitated.

2.3 ASPHALT MIXES

2.3.1 Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and designed according to procedures in AI's "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types."

2.3.1.1 Comply with CALTRANS Standard Specifications.

2.3.1.2 Provide mixes complying with the composition, grading, and tolerance requirements of ASTM D 3515 for the following nominal, maximum aggregate sizes:

2.3.1.2.1 Surface Course: 1/2 inch maximum.

2.3.1.2.2 Base Course: 3/4 inch maximum

2.4 CRACK SEALER

2.4.1 Rubberized joint sealant complying with Federal Standards ASTM D5329 Parking Lot Crack Sealer.

2.5 PAVEMENT MARKING PAINT:

2.5.1 Latex, water-base emulsion, ready-mixed, complying with FS TT-P-1952.

2.5.2 Color: As indicated.

2.6 ASPHALT-AGGREGATE MIXTURES:

2.6.1 Job-mix Criteria:

2.6.1.1 Provide job-mix formulas for each required asphalt-aggregate mixture.

2.6.1.2 Establish a single percentage of aggregate passing each required sieve size, a single percentage of asphalt cement to be added to aggregate, and a single temperature at which asphalt concrete is to be produced.

2.6.1.3 Comply with the mix requirements of Caltrans Standard Specifications.

2.6.1.4 Maintain material quantities within allowable tolerances of the governing standards.

2.7 CONCRETE HEADERS:

2.7.1 Provide 8-inches wide by 12-inches deep 3000 PSI concrete mow strip with a medium broom finish running perpendicular to the lineal length of the concrete mow strip and provide 3/4” radius to exposed edges. Top of concrete mow strip shall be flush to adjacent hardscape surfaces. At softscape surfaces, landscape surfaces and planter areas the top of the concrete header shall be maximum 1-inch above the softscape/landscape/planter surfaces. Provide 1-inch deep with 1/4" radius tooled joints at a maximum spacing at 10-foot on center.

2.8 WEED KILLER:

2.8.1 Provide a dry, free-flowing, dust-free chemical compound containing not less than 30 percent sodium chlorate, or a chlorate-borate compound. Product shall be non-flammable, not creating a fire hazard when applied in accordance with the manufacturer's recommendations, soluble in water, and capable of being spread dry or in solution.

2.8.2 Acceptable Products:

2.8.2.1 “OV5T” Herbicide, DUOO3048, DuPont, call 1-800-441-7515.

PART 3 - EXECUTION

3.1 PREPARATION:

3.1.1 Aggregate Base Course:

3.1.1.1 Check subgrade for conformity with elevations and section immediately before placing aggregate base material.

3.1.1.2 Place aggregate base material in compacted layers not more than 4 inches thick. Compaction shall be obtained by use of an approved power roller weighing not less than 10 tons.

3.1.1.3 Spread, shape, and compact all aggregate base material deposited on the subgrade during the same day.

3.1.1.4 Compact aggregate base course material to not less than 95 percent of maximum density: ASTM D 1557, Method D.

3.1.1.5 Test density of compacted aggregate base course: ASTM D 2167.

3.1.1.6 Conduct one (1) test for each 2,500 square yards of in-place material, but in no case no less than one daily for each layer.

3.1.1.7 Treat all sub-base with weed killer in accordance with manufacturer's instructions. Take extreme precaution to confine weed poison to area covered with asphaltic concrete, and provide all necessary protection to prevent injury or damage to life or property.

3.1.2 Prime Coat:

3.1.2.1 Uniformly apply at rate of 0.20 to 0.25 gallons per square yard over compacted and cleaned sub-base surface.

3.1.2.2 Apply enough material to penetrate and seal, but not flood the surface.

3.1.2.3 Allow to cure and dry as long as required to attain penetration and evaporation of volatile, and in no case less than 24 hours unless otherwise acceptable to the Architect.

3.1.2.4 Blot excess asphalt with just enough sand to prevent pick-up under traffic. Remove loose sand before paving.

3.1.3 Tack Coat:

3.1.3.1 Dilute material with equal parts of water and apply to contact surfaces of previously constructed asphalt concrete or Portland cement concrete and similar surfaces.

3.1.3.2 Apply at rate of 0.05 to 0.15 gallons per square yard of surface.

3.1.3.3 Apply tack coat by brush to contact surfaces of curbs, gutters, manholes, and other structures projecting into or abutting asphalt concrete pavement.

3.1.3.4 Allow surfaces to dry until material is at condition of tackiness to receive pavement.

3.2 PREPARING THE MIXTURE:

3.2.1 Comply with ASTM D 995 for material storage, control, and mixing, and for plant equipment and operation.

3.2.2 Heating:

3.2.2.1 Heat the asphalt cement at the mixing plant to viscosity at which it can be uniformly distributed throughout mixture.

3.2.2.2 Use lowest possible temperature to suit temperature-viscosity characteristics of asphalt.

3.2.2.3 Do not exceed 350 degrees F.

3.2.3 Aggregate:

3.2.3.1 Deliver dry aggregate to mixer at recommended temperature to suit penetration grade and viscosity characteristics of asphalt cement, ambient temperature, and workability of mixture.

3.2.3.2 Accurately weigh or measure dry aggregates and weigh or meter asphalt cement to comply with job-mix formula requirements.

3.2.4 Joints:

3.2.4.1 Carefully make joints between old and new pavements, or between successive days' work, to ensure a continuous bond between adjoining work.

3.2.4.2 Clean contact surfaces free of sand, dirt, or other objectionable material and apply tack coat.

3.3 COMPACTING THE MIX:

3.3.1 Provide sufficient power rollers to obtain the required pavement density. Minimum 10-ton power roller.

3.3.2 Begin rolling operations as soon after placing when the mixture will bear weight of roller without excessive displacement.

3.3.3 Do not permit heavy equipment, including rollers to stand on finished surface before it has thoroughly cooled or set.

3.3.4 Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.

3.3.5 Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of transverse and longitudinal joints and outside edge.

3.3.6 Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot and in condition for compaction. Continue second rolling until mixture has been thoroughly compacted.

3.3.7 Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained specified density.

3.3.8 Patching:

3.3.8.1 Remove and replace defective areas.

3.3.8.2 Cut-out and fill with fresh, hot asphalt concrete.

3.3.8.3 Compact by rolling to specified surface density and smoothness.

3.3.8.4 Remove deficient areas for full depth of course.

3.3.8.5 Cut sides perpendicular and parallel to direction of traffic with edges vertical.

3.3.8.6 Apply tack coat to exposed surfaces before placing new asphalt concrete mixture.

3.4 FIELD QUALITY CONTROL:

3.4.1 General: In addition to other specified conditions, comply with following minimum requirements:

3.4.1.1 Test in-place asphalt concrete courses for compliance with requirements for density, thickness and surface smoothness.

3.4.1.2 Provide final surfaces of uniform texture, conforming to required grades and cross-sections.

3.4.2 Thickness: In-place compacted thicknesses shall conform to the dimensions shown on the Drawings. Variation from indicated thicknesses shall not exceed plus or minus 1/2 inch. If thickness is not shown: minimum thickness shall be 3 inches of asphalt paving over 4 inches of granular base at parking areas, vehicle drives and paved playground areas. Provide 4 inches of asphalt paving over 4 inches of granular base at bus drop-off areas and fire lanes. Actual structural sections shall be determined after an “R” value test has been conducted by a qualified geotechnical engineer on the prepared sub-base material and or as indicated in the soils report..

3.4.3 Surface Smoothness:

3.4.3.1 Test finished surface of each asphalt concrete course for smoothness, using a 10-foot straightedge applied parallel to and at right angles to centerline of paved areas.

3.4.3.2 Surfaces will not be acceptable if exceeding the following:

3.4.3.2.1 Base Course: 1/4 inch in 10 feet.

3.4.3.2.2 Surface Course: 3/16 inch in 10 feet.

3.4.4 Asphalt Concrete Intersection to Concrete Control:

3.4.4.1 All asphalt concrete paved areas that butt to or intersect to all concrete, concrete gutters, concrete swales and concrete walkways, the asphalt concrete shall be a minimum ¼ inch to maximum ½ inches above the adjacent concrete surface after applying finish rolling. In no case shall the asphalt concrete paving, after final rolling, at the intersection of any concrete surfaces, shall be below the finish concrete paved surface(s) unless specifically detailed on the drawings.

3.5 FLOOD TEST:

3.5.1 Flood Test: Before applying a seal coat or striping, a water test shall be made in the presence of the Inspector of Record. The flooding shall be done by water tank truck. All depressions, where water ponds to a depth of more than 1/8 inch shall be filled or the slope shall be corrected to provide proper drainage. The edges of the fill shall be feathered and smoothed so that the joint between the fill and the original surface is invisible. All corrected work of the asphalt concrete paving shall be of the same mix design.

3.6 SEAL COAT:

3.6.1 After completing the flood test and after receiving approvals from the Owner, all new A.C. pavements (minimum 30 calendar days after Owner approvals) shall receive ASPHALTIC CONCRETE PAVING SEAL COATING PER SPECIFICATION SECTION 321236. Sealer shall contain no clay or other deleterious substances.

3.6.2 Place the entire contents of each drum sealer in a plaster or pug mill type mixer thoroughly. Where less than 50 gallons of sealer are used, mixing may be done in a mortar box. During mixing, the sealer may be diluted with water to produce a uniform, free flowing consistency, but in no case shall it be diluted with more than one (1) part of water to four (4) parts of sealer

3.6.3 Areas to receive sealer shall be swept clean and before application, lightly sprayed with water, leaving it cool and damp, but without free water.

3.6.4 Apply sealer by pouring from a can or a wheeled container in continuous parallel lines and spreading immediately with rubber-faced squeegees or with long-handled hair brooms. The squeegee or broom shall be pulled at an angle from the line of spread to continually roll the material toward the operator and not to overflow or spill over its forward edge away from the operator.

Each coat of sealer shall be thoroughly dry before the succeeding coat is applied.

3.6.5 Make two (2) or more applications using at least 35 gallons of sealer (before dilution) per 1,000 square feet of area.

3.6.6 The finished surface seal, when dry and thoroughly set, shall be smooth, tough, waterproof, resilient, of uniform black color and free from coarse textured areas, lap marks, ridges and other surface irregularities. **Should any defects appear in the finished surface, apply as many additional coats of sealer as may be required to produce the specified finished surface at no additional cost.** Protect from traffic during all operations and until the sealer is thoroughly set and cured and does not pick-up under foot or wheeled traffic.

3.7 ADJUSTING AND CLEANING:

3.7.1 Cleaning: After completion of paving operations, clean surfaces of excess or spilled asphalt materials or marking paint to the satisfaction of the Architect.

3.8 PROTECTION:

3.8.1 After final rolling, do not permit vehicular traffic on asphalt concrete pavement until it has cooled and hardened, and in no case sooner than 6 hours.

3.8.2 Provide barricades and warning devices as required to protect pavement and the general public.

END OF SECTION

PART 1 - GENERAL

All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specifications sections which apply to work of this section as if printed herein.

1.1 REFERENCES:

Requirements in Addenda, Conditions and Division 1 collectively apply to this work.

1.2 DESCRIPTION:

1.2.1 Principal Work Items are:

1.2.1.1 Painted lines, lettering, and symbols at parking areas.

1.2.1.2 Painted stripes at exterior stairs, to conform to Accessibility Requirements.

1.2.1.3 Painted lines, lettering, symbols at concrete areas.

1.2.2 Related Work Specified Elsewhere:

1.2.2.1 Section 321216 – Asphaltic Concrete Paving

1.2.2.2 Section 321600 – Concrete Curbs, Gutters, Walks and Pavements

1.2.2.3 Section 099100 - Painting

1.3 SUBSTITUTIONS:

Only written approval of Architect will permit substitutions for materials specified.

1.4 QUALITY ASSURANCE:

1.4.1 Product Manufacturer: Company specializing in manufacturing traffic surface paint products with 10 years experience.

1.4.2 Applicator: Company specializing in commercial pavement painting with five (5) years experience.

1.4.3 Submit product data and symbol/letter styles under provisions of Section 013300.

1.4.4 Provide field samples for all lettering, symbols used for coating color, thickness of application, dimensioning, width of stroke and design.

1.5 JOB CONDITIONS:

1.5.1 Environmental Requirements: Paint only in dry weather, on dry clean surfaces, when temperature is above 50 degrees F.

1.5.2 Sequencing, Scheduling: Coordinate with paving and concrete work. Verify that paint type is compatible with asphalt paving surfaces and seal coats as well as concrete surfaces.

1.5.3 Protection: Do not apply pavement markings for seven (7) days after application of asphalt surfaces that are seal coat. For concrete surfacing, a minimum seven (7) days prior to application. After application, protect from traffic and pedestrian traffic until thoroughly dry.

1.6 ACCESSIBILITY CODE GUIDELINES:

1.6.1 **Pavement markings:**

- Accessible parking spaces serving a particular building or facility shall be located, and dispersed if serving more than one accessible entrance, on the shortest accessible route to an entrance or to multiple accessible entrances. ***CBC Sections 11B-208.3.1***
- Accessible parking spaces in a parking facility not serving a particular building or facility shall be located on the shortest accessible route to an accessible pedestrian entrance of the parking facility. ***CBC Sections 11B-208.3.1***
- Minimum number of required accessible parking spaces shall be provided in accordance with ***CBC Table 11B-208.2*** for each parking facility provided.
- For every six or fraction of six accessible parking spaces, at least one shall be an accessible van parking space. ***CBC Section 11B-208.2.4***
- Accessible parking spaces and access aisles shall comply with ***CBC Section 11B-502*** and shall be dimensioned to the centerline of the marked lines as follows:
    - Parking spaces and access aisles shall be marked according to ***CBC Figures 11B-502.2, 11B-502.3, and 11B-502.3.3***. Their surfaces shall comply with ***CBC Section 11B-302*** and shall be at the same level with slopes not steeper than 1:48 in any direction. ***CBC Section 11B-502.4***
    - Parking spaces shall be 9'x18' minimum and van parking spaces shall be 12'x18' minimum with an adjacent access aisle of 5'x18' minimum. Access aisles shall be placed on either side of the parking spaces except be located on the passenger side for van parking spaces. Van parking spaces shall be permitted to be 9'x18' minimum where the access aisle is 8'x18' minimum.
    - Access aisles shall be marked by a blue painted borderline around their perimeter. The area within the blue borderlines shall be marked with hatched lines a maximum of 36" on center in a color contrasting with that of the aisle surface, preferably blue or white. Access aisle markings may extend beyond the minimum required length. ***CBC Section 11B-502.3.3***
    - Access aisles (parking spaces as well – similar application) shall not overlap the vehicular way. ***CBC Section 11B-502.3.4***
    - A vertical clearance of 8'-2" minimum shall be provided for accessible parking spaces, access aisles, and vehicular routes serving them. ***CBC Section 11B-502.5***
- At least one passenger loading zone shall be provided in every continuous 100 linear feet of loading zone space, or fraction thereof, complying with ***CBC Sections***

- ***11B-209 and 11B-503*** as follows:
    - Vehicle pull-up spaces shall be 8'x20' minimum. Access aisles shall be 5'x20' minimum and shall be adjacent and parallel to the vehicular

pull-up spaces. They shall be at the same level with slopes not steeper than 1:48 in any direction. ***CBC Section 11B-503.4***

- Access aisles for passenger drop-off and loading zone shall be marked with a painted borderline around their perimeter. The area within the borderlines shall be marked with hatched lines a maximum of 36" on center in a color contrasting with that of the aisle surface. ***CBC Section 11B-503.3***
- A vertical clearance of 9'-6" minimum shall be provided for vehicle pull-up spaces, access aisles, and a vehicular route serving them connecting a vehicular entrance and a vehicular exit. ***CBC Section 11B-503.5***

- Bus loading zones and bus stops shall comply with ***CBC Sections 11B-209 and 11B-810.2*** as follows:
  - Boarding and alighting areas shall be of 8' x 5' minimum, with 8' measured perpendicular to the curb or vehicle roadway edge, and with 5' measured parallel to the vehicle roadway. Slopes in 8' direction shall be 1:48 maximum. Slopes in 5' direction shall be the same as that of the roadway, to the maximum extent practicable. ***CBC Figure 11B-810.2.2***
  - Bus shelters shall provide a minimum 30" x 48" clear floor or ground space (36" x 48" or 36" x 60" as applicable in an alcove), with slopes not steeper than 1:48 in any direction, entirely within the shelter complying with ***CBC Section 11B-305***.
  - Bus shelters shall be connected by an accessible route complying with ***CBC Section 11B-402*** to a boarding and alighting area complying with ***CBC Section 11B-810.2***. ***CBC Figure 11B-810.3***

PART 2 – PRODUCTS

2.1 MATERIALS:

2.1.1 Traffic Paint:

2.1.1.1 Type: Water base, roadway traffic lane marking type; colors as selected.

2.1.1.2 Acceptable Manufacturers:

2.1.1.2.1 Dunn-Edwards, Vin-L-Stripe No. W-801, vinyl epoxy as a standard of quality.

2.1.1.2.2 J.E. Bauer latex base Formula No. 1030A9 White, No. 1056A9 Yellow, No. 1865A9 Blue, No. 1118A9, Green, and No. 1854A9.

2.1.1.2.3 Sinclair No. 160 Vinyl Traffic Line Paint, water base.

2.1.1.2.4 Pervo Paint Company.

PART 3 – EXECUTION

3.1 INSPECTION:

Inspection: Surfaces to be striped shall be clean and dry, and surface sealer thoroughly dry.

3.2 PREPARATION:

Layout: Accurately measure and layout work. Use stencils for all work; snap lines for straight work.

3.3 APPLICATION:

3.3.1 General: Apply minimum of two (2) coats, at the rate of 400 SF maximum per gallon per coat.

3.3.2 Painted Lines, Lettering, and Symbols at Parking Areas:

3.3.2.1 Parking Stall Lines: 3-inch-wide, minimum, color white.

3.3.2.2 Disabled Stall, Stripes and Letters: As indicated. Paint and federal color shall comply with Federal No. 15090, Federal Standard 595c, and Checklist No. 02762.

3.3.2.3 Parking spaces for the disabled shall be marked according to CBC Section 11B-502.2, 11B502.3 and 11B-502.3.3. Tactile warning lines shall be in conformance to CBC Section 11B-502.2, 11B502.3 and 11B-502.3.3.

3.3.2.4 Color: White, for all work except blue at Disabled parking stalls, stripped areas and red to indicate No Parking.

3.3.2.5 Traffic Directional Arrows: Paint directional traffic flow arrows in all aisles, lanes, and at parking lot entrances and exits. See plans for dimensions of arrows and additional locations. If not dimensioned follow Cal-Trans Latest Addition “Payment Marking Arrows Standard Plan RSP-A24A.

3.3.2.6 Red Painted Curbs: Paint entire top and face of curb red with the words (4 Inches High) "NO PARKING." Spaced at 10-foot intervals where Red painted curbs are called-out on the Site Plan(s).

END OF SECTION