PROJECT MANUAL FOR

MATILDA TORRES HIGH SCHOOL
TOROS STADIUM
RAILING EXTENSION

MADERA UNIFIED SCHOOL DISTRICT
MADERA, CA

PREPARED BY:

DARDEN ARCHITECTS, INC.
ARCHITECTURE•PLANNING•INTERIORS
6790 N. WEST AVENUE
FRESNO, CALIFORNIA 93711

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-118704 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/13/2021

LICENSED ARCHITECT
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Ren. 10-31-21
STATE OF CALIFORNIA

ARCHITECT:

REGISTERED PROFESSIONAL ENGINEER
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STRUCTURAL ENGINEER:

REGISTERED PROFESSIONAL ENGINEER
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MECHANICAL
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REGISTERED LANDSCAPE ARCHITECT
ROBERT L. BORO-C-1811
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LANDSCAPE ARCHITECT:

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CIVIL
STATE OF CALIFORNIA

CIVIL ENGINEER:

END OF SECTION

PROJECT MANUAL
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PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Supplementary Instructions to Bidders consisting of procedures and conditions for the use of documents of various types and formats for bidding of this project.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. Hard Copy Format: Documents printed on paper medium.

B. Electronic Image Format: Electronic Files consisting of Bid Documents in an image format such as PDF's, TIFF's and etc. These files are to be READ ONLY.

1.3 SUBMITTALS

A. Submit in accordance with the following:
   1. Bidder's Usage Agreement for Bid Documents:
      a. Hard Copy Format Form.
      b. Hard Copy and Electronic Image Format Form.
   2. Bidder's Usage Agreement for Partial Documents.
      a. Partial Bid Documents Form.

PART 2 - PRODUCTS
(NOT APPLICABLE)

PART 3 - EXECUTION

3.1 SCHEDULES:

A. BIDDER'S USAGE AGREEMENT FOR BID DOCUMENTS:
   1. HARD COPY FORMAT: When the Bid Documents are being issued in a printed medium, the HARD COPY FORMAT FORM shall be used.

a. This form shall be submitted and signed as a condition of receiving Bid Documents.

2. HARD COPY AND ELECTRONIC IMAGE FORMAT: When the Bid Documents are being issued electronically, the HARD COPY AND ELECTRONIC IMAGE FORMAT FORM shall be used.
   a. This form shall be submitted and signed as a condition of receiving Bid Documents.

B. BIDDER'S USAGE AGREEMENT FOR PARTIAL BID DOCUMENTS.
1. When the Bidder is requesting additional documents which are part of the Bid Documents, the PARTIAL BID DOCUMENTS FORM shall be used.
   a. This form shall be submitted and signed as a condition of receiving Partial Bid Documents.

BIDDER'S USAGE AGREEMENT FOR BID DOCUMENTS HARD COPY FORMAT
Project Name: _____
DA Project No.: _____
I, _____, as duly authorized agent of _____ ("Bidder") as prospective bidder on the above named project ("Project") is requesting a copy of the project BID DOCUMENTS (bidding requirements, contract requirements, specifications, contract drawings, resource drawings if any, and addenda to date).
Bidder's Usage Agreement:

C. Bidder is being provided copies of Bid Documents for the Project in a Hard Copy Format, acknowledges that Bid Documents are being provided as the official record set of documents issued for bidding. It is the Bidder's responsibility to review and obtain all information from the Bid Documents necessary for a complete and accurate bid. This request is subject to the following conditions, which the Bidder hereby agrees to abide by:

D. Bidder shall pay a refundable deposit for the Bid Documents in the amount of $_____ per set. In the event the Bidder is not the successful bidder, the bidder agrees to return all Bid Documents within 15 calendar days after the bid date. If the Bid Documents are not returned within 15 calendar days after the bid date, the Bidder will forfetit the deposit.

E. Bidder acknowledges that these Bid Documents will be re-issued as Construction Documents following the bid. The Bidder agrees to return all Bid Documents in "Good Condition" with all the sheets unmarked and in their original order. The returned Bid Documents will be reviewed and the condition of the Bid Documents will be determined. If the Bid Documents are determined to be in "Good Condition", the Bidder's Deposit will be returned.

F. In the event that the Bid Documents are returned and are not in "Good Condition", the Bidder understands that the Architect and Architect's Consultants will incur certain costs in replacement of missing items and to repair the Bid Documents to their original condition, in order to be issued as Construction Documents. The bidder agrees to pay the Design Team a service fee of $82.00 an hour (with a two-hour minimum of $164.00). The service fee will be deducted from the Bidder's deposit, and the remainder refunded to the Bidder.

G. Bidder understands and agrees the Bid Documents are instruments of Architect's and Architect's Consultants' **("Design Team")** professional service and are intended for one-time use by Bidder in the bidding of the Project. All information contained in the Bid Documents are and shall remain the property of the Design Team, who is deemed to be the author of the drawings and data, and the Design Team shall retain all common law, statutory law, and all other rights, including copyrights, with respect to Bidder.

H. The Bidder shall indemnify and hold harmless, the Design Team, its officers, directors, employees or subcontractors, to the fullest extent permitted by law, against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees and defense costs arising out of or resulting from Bidder or any other person or entity that gains information from the Bid Documents or copies any part of the Bid Documents, or uses the Bid Documents or copies any part of the Bid Documents, for purposes other than the bidding of this project, and will be liable to the Design Team for fees equal to the fees paid by the client pursuant to developing the documents for this project.

DARDEN ARCHITECTS, INC.

Number of Sets Requested:_____

_____ _____

Print Name (Bidder) Title

_____ _____

Signature Date

BIDDER'S USAGE AGREEMENT FOR BID DOCUMENTS HARD COPY AND ELECTRONIC IMAGE FORMAT

Project Name: _____

DA Project No.: _____

I, _____, as duly authorized agent of _____ ("Bidder") as prospective bidder on the above named project ("Project") is requesting a copy of the project BID DOCUMENTS (bidding requirements, contract requirements, specifications, contract drawings, resource drawings if any, and addenda to date).

Bidder's Usage Agreement:

I. Bidder is being provided copies of Bid Documents for the Project, which consists of two parts. One part of the Bid Documents is in the Hard Copy Format ("HCF") and the other part is in the Electronic Image Format ("EIF") on CD-ROM. Bidder acknowledges that HCF Documents and the EIF Documents are being provided as the official record set of documents issued for bidding. It is the Bidder's responsibility to review and obtain all information from both the HCF and the EIF documents necessary for a complete and accurate bid. This request is subject to the following conditions, which the Bidder hereby agrees to abide by:

J. Bidder shall pay a non-refundable deposit for the Bid Documents in the amount of $_____. In the event the Bidder is not the successful bidder, the bidder agrees to permanently dispose of the HCF and EIF on the Project CD-ROM.

K. Bidder acknowledges that neither the EIF documents nor the CD-ROM will be updated by the Design Team. The CD-ROM contains the original documents and will not be updated regardless of when Bidder obtains the CD-ROM. Any changes to the contract documents will be issued as a separate document.

L. Bidder is further warned that while the EIF information appears to be extremely accurate, this apparent accuracy is an artifact of the techniques used to generate it and is no way intended to imply actual accuracy. The Bidder acknowledges and takes full responsibility for the accuracy, correctness of measurements, areas, inventories derived, conclusions drawn, and information extracted from the EIF documents.

M. Bidder understands and agrees the HCF and EIF documents are instruments of Architect's and Architect's Consultants' **("Design Team")** professional service and are intended for one-time use by Bidder in the bidding of the Project. All HCF and EIF documents are and shall remain the property of the Design Team, who is deemed to be the author of the drawings and data, and the Design Team shall retain all common law, statutory law, and all other rights, including copyrights, with respect to Bidder.

N. The Bidder shall indemnify and hold harmless, the Design Team, its officers, directors, employees or subcontractors, to the fullest extent permitted by law, against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees and defense costs arising out of or resulting from Bidder or any other person or entity that gains information from the Bid Documents or copies any part of the Bid Documents, or uses the Bid Documents or copies any part of the Bid Documents, for purposes other than the bidding of this project, and will be liable to the Design Team for fees equal to the fees paid by the client pursuant to developing the documents for this project.

DARDEN ARCHITECTS, INC.

Description of the HCF Documents and the EIF Documents on CD-ROM, provided:

_____

Print Name (Bidder)	Title
Signature	Date

BIDDER'S USAGE AGREEMENT FOR PARTIAL BID DOCUMENTS
Project Name: _____
DA Project No.: _____
I, _____, as duly authorized agent of _____ ("Bidder") as prospective bidder on the above named project ("Project"). The Bidder acknowledge having received at least one (1) complete set of the Bid Documents for the subject project and all Addenda issued to date in either Hard Copy Format ("HCF") and/or an Electronic Image Format ("EIF").
Bidder's Usage Agreement:

O. The Bidder is requesting partial copies of the Bid Documents ("Partial Documents") in the format originally issued and that was prepared by the Architect and/or Architect's Consultants ("Design Team") on the subject Project, so that the information therein may be utilized in the Bidder's work on the same project. The Partial Documents are strictly intended for the Bidder's convenience and are not recognized as part of the official record set of Bid Documents issued for bidding. This request is subject to the following conditions, which the Bidder hereby agrees to abide by:

P. The Bidder shall pay for all costs in reproducing the requested Partial Documents directly to the Printers. In the event that the Bidder is not the successful bidder, the Bidder agrees to permanently dispose of the Partial Documents.

Q. The Bidder recognizes that the value of the Partial Documents far exceeds the cost of printing. The Bidder further agrees that the Bidder will make no other copies of the Partial Documents. Any copying, and/or reuse of the Partial Documents without written authorization of Darden Architects, Inc. is prohibited.

R. The Bidder understands that the accuracy of the information is an artifact of the techniques used to generate it and is in no way intended to imply actual accuracy. The Bidder agrees that by using these Partial Documents, the Bidder is in no way relieved of the responsibility to review and obtain all information from the complete set of the Bid Documents necessary for a complete and accurate bid.

S. The Bidder understands and agrees to that any documents provided are instruments of the professional service by the Design Team and are intended for one-time use solely in the bidding of this Project. They shall remain the property of the Architect or the Architect's Consultants, who is deemed to be the author of the documents and who shall retain all common law, statutory law, and all other rights, including copyrights, with respect to the Bidder.

T. The Bidder shall indemnify and hold harmless, the Design Team, its officers, directors, employees or subcontractors, to the fullest extent permitted by law, against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees and defense costs arising out of or resulting from Bidder or any other person or entity that gains information from the Partial Documents or copies the Partial Documents, or uses the Partial Documents or copies the Partial Documents, for purposes other than the bidding of this project, and will be liable to Design Team for fees equal to the fees paid by the client pursuant to developing the documents for this project.

U. In the event that the Bidder is a successful bidder, the Bidder agrees that all Bid Documents issued to the Bidder, and Partial Documents obtained by the Bidder, along with any other documents utilized by the Bidder in preparing the bid, will be included in the Escrow Bid Documents when required by the General Conditions. Any and all documents prepared and

issued by the Design Team, which are included as part of the Escrow Bid Documents, will be returned to Darden Architects, Inc. at the close of escrow.

DARDEN ARCHITECTS, INC.

Description of the requested documents:

_____
_____
_____
_____
_____
_____

_____	_____
Print Name, (Bidder)	Title
_____	_____
Signature	Dated

END OF SECTION

SECTION 011113 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Work included: Construction ~~of BASE BID and the Alternates Bids portions~~ of the work for Matilda Torres High School**,** Madera, California. BASE BID and Alternate Bids portions of the work is defined as all material, labor, equipment and services necessary to do all work shown on the drawings and called for in the Specifications.
   1. Refer to the Cover Sheet of the Drawings for a Project Description.

B. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.

C. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. The words "OWNER" and "DISTRICT" are synonymous and interchangeable, when used throughout this Project Manual.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES.
   1. Quality Assurance/Control Submittals:
      a. Certificates:
         1) Submit three (3) copies of certificates indicating compliance with the Asbestos Hazard Emergency Regulations Act.

1.4 WORK UNDER OTHER CONTRACTS

A. General Requirements:
   1. Work under separate contracts will occur throughout the duration of the project. The work being installed under separate contracts will occur around adjacent to the Contract project site including offsite work.
   2. Contractor shall be responsible for coordinating access to and from the site throughout

the duration of the project. Access points to and from the site may vary, based upon timing and duration of separate contracts.

3. Contractor shall cooperate and coordinate all work under this Contract with all work under separate contracts.
4. Should the Contractor damage and/or otherwise alter work installed under separate contracts, Contractor responsible for the correction repair of work installed under separate contracts.
5. Prior to the installation of the Work, coordinate the work installed or to be installed by separate contracts relative to own work.

B. Separate Contracts by Owner:
1. Owner Furnished Items, as defined in Specification Section – OWNER-FURNISHED ITEMS.

1.5 QUALITY ASSURANCE

A. Contractor's Duties:
1. Except as specifically noted, provide and pay for:
   a. Labor, material and equipment.
   b. Tools, construction equipment and machinery.
   c. Heat and utilities required for construction. See Specification Section - TEMPORARY FACILITIES AND CONTROLS.
   d. Other facilities and services necessary for proper execution and completion of Work.
2. Pay legally required sales, consumer and use taxes.
3. Secure and pay for all site specific as necessary for proper execution and completion of Work.
   a. Licenses.
   b. Permits and Fees.
   c. Government Fees .
   d. Royalties.
4. Give required notices.
5. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of Work.
   a. The Contractor shall certify in writing that no materials containing Asbestos are incorporated in the work, in accordance with the Asbestos Hazard Emergency Regulations Act.
6. Promptly submit written notice to Architect of observed variance.
7. Enforce strict discipline and good order among employees. Do not employ on Work:
   a. Unfit persons.
   b. Persons not skilled in assigned task.

1.6 PROJECT CONDITIONS OR SITE CONDITIONS

A. Future / Concurrent Contracts:
1. Coordinate all work that may be accepted as defined in Specification Section - ALTERNATES.

B. Work under other separate Contracts may occur concurrently with and/or adjacent to the work of this Contract.

C. This Contractor shall coordinate it's work with the work of these separate Contracts and shall cooperate with the Contractors of these separate Contracts as they occur.

D. This Contractor shall not use the Off-Site areas cited above, with the exception of the Site Access per Specification Section - TEMPORARY FACILITIES AND CONTROLS, and shall not interfere with the work in these areas.

E. Contractor Use of Premises:
   1. Confine operations at sites to areas permitted by:
      a. Laws
      b. Ordinances
      c. Permits
      d. Contract Documents
   2. Do not unreasonably encumber site with materials or equipment.
   3. Do not load structure with weight that will endanger structure.
   4. Assume full responsibility for protection and safekeeping of Contractor's and Owner's material stored on premises, and keep the site and building secure at all times.
   5. Obtain and pay for use of additional storage or Work areas needed for operations.
   6. Limit use of site for Work and storage.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 012113 – ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all allowance materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
   2. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by CHANGE ORDER.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

C. Allowances (Types):
   1. Lump-sum allowances.

1.2 DEFINITIONS

A. Lump-Sum Allowances:
   1. Allowance shall include cost to Contractor of specific products and materials ordered under allowance and shall include taxes, freight, and delivery to Project site.
   2. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.3 SYSTEM DESCRIPTION

A. Selection and Purchase:
   1. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
   2. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
   3. Purchase products and systems selected by Architect from the designated supplier.

1.4 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Although not considered a CHANGE ORDER, submit proposals for purchase of products or systems included in allowances, in the form specified for a CHANGE ORDER.
   2. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
   3. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 QUALITY ASSURANCE

A. Meetings:
   1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
      a. Coordinate the work with other work being performed.
      b. Identify any potential problems, which may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
   2. Progress: Scheduled by the Contractor during the performance of the work.
      a. Review for proper installation of work progress.
      b. Identify any installation problems and acceptable corrective measures.
      c. Identify any measures to maintain or regain project schedule if necessary.
   3. Completion: Scheduled by the Contractor upon proper completion of the work.
      a. Inspect and identify any problems, which may impede issuance of warranties or guaranties.
      b. Maintaining installed work until the Notice of Substantial Completion has been filed.

1.6 SEQUENCING AND SCHEDULING

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 MAINTENANCE

A. Unused Materials:
   1. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
      a. If requested by Architect, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Architect, deliver unused material to Owner's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION

SECTION 012500 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Work that is substituted for Work specified in DIVISIONS 02 through 49 shall meet the requirements of this Section.
   2. Provide all material, labor, equipment and services necessary to completely install all approved substituted materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
   3. See the INSTRUCTIONS TO BIDDERS or the GENERAL CONDITIONS for any time limits set for the submittal of substitutions.
   4. Substitutions can be requested in two ways: a. "Prior to Bid Opening", and b. "After Award of the Contract":
      a. "Prior to Bid Opening": The Contractor or Bidder must insure that proposed substitutions of materials by the Contractor or Bidder are submitted to the Architect's office no later than fourteen (14) calendar days prior to the Bid Opening for review and possible approval of any equipment or materials thought to be equal to or better than those specified in the drawings or specifications. An Addendum will be issued no later than three (3) calendar days prior to Bid Opening including all equipment and materials deemed equivalent to those specified and approved by the Architect.
      b. "After Award of the Contract": In accordance with the provisions of Section 3400 of the California Public Contract Code, the Contractor awarded the Contract will be provided a period of thirty-five (35) calendar days after the award of the Contract for submission of data substantiating a request for a substitution of "an equal" item or items.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. Claimant: Bidder, Sub-Contractor, Contractor, Distributor, Supplier, Manufacturer or other entity that is submitting a claim for a substitution.

B. Substitutions: Substitutions are not a part of the Submittal Process described in Specification Section – SUBMITTAL PROCEDURES. Substitution Requests by a claimant must be reviewed and approved by the Architect before any submittal will be accepted. It is the

claimant's responsibility to provide clear and concise documentation to expedite the Architect's review. If the Substitution Request requires re-submission(s) due to the Claimant's inadequate documentation, no time extension will be allowed.

C. "Or Equal" / "Or Approved Equivalent": Claimant shall request a substitution in accordance with this Specification Section – SUBSTITUTION PROCEDURES.

D. The Project Manual employs the following methods of specifying products. Claimant shall conform to the directives below for this Project:
   1. Product, system or design specified only by reference standards:
      a. Select any product, system or design meeting reference standards.
   2. Product, system or design specified by naming several products, systems, designs and/or manufacturers:
      a. Select any product, system, design and/or manufacturer named.
   3. Product, system or design specified by naming several products, systems and/or manufacturers and reference standards:
      a. Products, systems, designs and/or manufacturer names indicate products, systems, designs and/or manufacturers that (in the Architect's opinion) meets the reference standards.
      b. Select any of the named manufacturer's products, systems or designs meeting the reference standards.
   4. Product, system or design specified by naming one or more products, systems, designs and stating "or equal to", "or approved equivalent" with the specified products, systems or designs:
      a. Select product, system or design specified, "or approved equivalent".
   5. Product, system or design specified by naming only one product, system or design:
      a. Select product, system or design specified, "or approved equivalent".
   6. Product, system or design specified by naming only one product, system or design and followed by the statement "DISTRICT STANDARD – NO SUBSTITUTIONS":
      a. Provide product, system or design specified. No substitutions allowed.

E. Cost to Claimant for review of Substitution Request:
   1. Each review of a Substitution Request by the Architect and/or it's Consultant(s) will be billed to the Claimant at an hourly rate of **$200.00** an hour, two hour minimum for each review, whether approved or rejected.
      a. Waiver of review fees:
         1) When the product has been discontinued or is unavailable.
            a) EXCEPTION: Where the claimant has failed to order in a timely manner and waits until the last minute, no consideration of the waiver of fees will be allowed; no time extensions will be allowed.
         2) When the Owner has requested a substitution.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - INSTRUCTIONS TO BIDDERS:

B. Content of Request:
   1. Check made payable to DARDEN ARCHITECTS, INC. for the minimum two hour review period for **$400.00**, non-refundable.
      a. When additional time is required to review a substitution request beyond the first

two hours, the Architect or its consultants will bill the claimant for the time expended in the review process.

2. Complete the attached **SUBSTITUTION REQUEST FORM** substantiating compliance of proposed substitution with Contract Documents. **NO OTHER FORMS WILL BE ACCEPTED.**
3. Attach to the SUBSTITUTION REQUEST FORM an itemized comparison of proposed substitution with product, system or design specified.
4. For products or systems, attach to the SUBSTITUTION REQUEST FORM:
   a. Product, system or design identification, including manufacturer's name and address.
5. Manufacturer's product information: MUST BE HIGHLIGHTED AND PROJECT SPECIFIC. SUBMITTALS NOT ADEQUATELY MARKED-UP ACCORDING TO PROJECT SPECIFICS WILL BE REJECTED:
   a. Literature including product, system or design description, performance and test data and reference standards.
   b. Samples.
   c. Warranties.
6. For construction methods, attach to the SUBSTITUTION REQUEST FORM:
   a. Detailed description of proposed methods.
   b. Drawings illustrating methods.

C. Submit three (3) copies of Substitution Request including all attached data.

1.4 QUALITY ASSURANCE

A. Qualifications:
1. Product, system or design qualifications:
   a. In making a request for substitution, Claimant certifies that:
      1) Claimant has personally investigated proposed product, system or design, and determined that it is equal or superior in all respects to that specified.
      2) Claimant shall provide the same guarantee or warranty for substitution as for product, system or design specified.
      3) Claimant shall coordinate installation of accepted substitution into the Project, making such changes as may be required for the Project to be complete in all respects.
      4) Claimant waives all claims for additional costs related to substitution which subsequently become apparent for integrating the substituted product, system or design into the Project.
      5) Claimant waives all claims for time extension(s) due to improper documentation requiring re-submission(s) of a Substitution Request Review.

B. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
   a. Products (and installation standards), systems or methods used for this Project shall comply with CARB standards in effect at the Project Site, and at the time of installation.

C. Acceptance of Substitutions:
1. Procedures:
   a. The Contract is based on products, systems or designs described in the Contract

Documents.

b. Architect will consider proposals submitted in accordance with time limits set within the Specification Section - INSTRUCTIONS TO BIDDERS.

c. Architect is solely responsible for judging the acceptance of substitutions.

1) Acceptance of a substitution does not waive the product manufacturer's responsibility for product liability. The Architect will judge (based on the substitution submission data) for function and use – product liability shall remain the responsibility of the product manufacturer.

d. Substitute products, systems or designs shall not be used unless the substitutions have been specifically approved for this Project by the Architect.

1) Substitute products, systems or designs that are related to structural, fire and life safety or access compliance shall not be used unless such substitution have been specifically approved for this Project by the Architect and the appropriate authority having jurisdiction.

2. Substitutions will not be considered if:

a. They are indicated or implied on product submittals in accordance with Specification Section - SUBMITTAL PROCEDURES. Substitutions are not Submittals, and must be reviewed and approved prior to being submitted as a Submittal.

b. Acceptance will require substantial revision of Contract Documents.

c. They are submitted after the date set for substitutions within this Contract, unless:

1) The specified or drawing item that has been verified to be discontinued or is otherwise unavailable.

2) The Owner proposes a cost savings for the product, system or method.

3) The Owner proposes early occupancy, and the proposed substitution allows for that convenience.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

A. Substitution Request Form:

1. See the form attached to the end of this section.
2. The attached form will be reproduced (and sequentially numbered by the Contractor after the award of the Contract) by the Claimant for any and all proposed substitutions.
3. **NO OTHER FORMS WILL BE ACCEPTED.**

(Attachment)

SUBSTITUTION REQUEST FORM

TO: DARDEN ARCHITECTS, INC.
6790 N. West Avenue
Fresno, CA 93711

_____ Check attached for minimum review $388.00.

CHECK APPROPRIATE LINE:

_____ Substitution Request Prior to Bid (During Bid Period)
_____ Product or System Substitution
_____ Design Change Substitution

_____ Substitution Request After Award of the Contract
_____ Product or System Substitution
_____ Design Change Substitution

The Contractor Awarded the Contract for this Project shall assign sequential Substitution Request # below.
Leave blank if submitted during the Bid Period.

SUBSTITUTION REQUEST #_____

WE HEREBY SUBMIT FOR YOUR CONSIDERATION THE FOLLOWING PRODUCT OR METHOD AS SUBSTITUTION FOR THE SPECIFIED OR DRAWING ITEM FOR THIS PROJECT:

PROJECT: _____

SPECIFIED ITEM: _____

_____	_____	_____	_____
Specification Section #	Page #	Paragraph #	Description

OR
DRAWING ITEM: _____

_____	_____	_____
Drawing #	Detail Cut #	Description

PROPOSED CREDIT IF ANY: _____

PROPOSED SUBSTITUTION:
_____
_____
_____
_____

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents to which the proposed substitution will require for its proper installation.

The undersigned claimant certifies: (Modifications by the claimant to the following list is cause for automatic rejection without further review)

1. The proposed substitution does not affect dimensions shown on drawings or code requirements indicated.
2. The undersigned claimant shall compensate the Architect at a rate of **$200.00** an hour, two hour minimum for each review (check for **$400.00** must be attached to this form), for investigation and comments whether or not the request is approved for changes required to the building design, including engineering design, detailing, and construction costs caused by the requested substitution. The Architect is herein defined as any of those firms or individuals listed by reference on the Drawings, including all Consultants identified herein.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. Attach information for a minimum of three projects where the substitution has been used locally within a 200 mile distance of this project, including names, addresses and telephone numbers of Owners who have accepted this product into their projects.
6. Attach all cost data with explanations if different from Specified or Drawing item. Include in that explanation a discussion on quality of proposed substitution and cost differential.
7. The undersigned claimant shall pay for any subsequent changes in incorporating the proposed substitution that were not apparent at the time of approval into the Work, including compensation to the Architect as described in item 2 above.

The undersigned Claimant(s) declares under penalty of perjury per the California Government Code Section 12650, et seq., that the claim of function, appearance and quality are equivalent or superior to the specified or drawing item, and further know and understand that submission for certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences.

SUBMITTED BY CLAIMANT:

Signature_____
Firm_____

Address_____
_____
Date_____
Telephone_____

ADDITIONAL CLAIMANT SIGNATURE REQUIRED:

The Contractor or Construction Manager if submitted after the Award:

Signature_____
Firm_____

DESIGN CONSULTANT USE ONLY:

___ Check Not Attached - Not Accepted
___ Accepted
___ Accepted as Noted
___ Not Accepted
___ Received Past Time Period Allowed by Public Contract Code #3400.

By _____Date _____
Remarks_____

END OF SECTION

SECTION 012973 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This section includes the administrative and procedural requirements necessary to prepare and process the following:
   1. Schedule of Values
      a. Schedule of Bid Values.
      b. Complete Schedule of Values.
   2. Unit Price Schedules.
   3. Application for Payment with Certification.

B. Related Requirements: The following Project Manual Sections contain requirements that relate to this section:
   1. Specification Section 011113-SUMMARY OF WORK.
   2. Specification Section 012113-ALLOWANCES
   3. Specification Section 012300-ALTERNATES.
   4. Specification Section 013216-CONSTRUCTION SCHEDULE.
   5. Specification Section 013300-SUBMITTAL PROCEEDURES.
   6. Specification Section 014100-REGULATORY REQUIREMENTS

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring and controlling the construction project. Activities included in a Schedule of Values and Payment Request consume cost for time and resources.

B. Activity Code: Identifies each activity so as to be organized, group and sorted into Sub-Schedules, Areas of Work, and Reports.

C. Allowances: Contract amounts allocated for specific activities of the project as identified in the contract documents.

D. Application for Payments: A statement furnished by the Contractor allocating portions of the Contract Sum to various portions of the Work stipulating the amount of work that has been completed to date.

E. Contingency: Contract amounts allocated for non-specific activities, to cover changes in the contract document work, unforeseen conditions and added scope of work to the project.

F. Major Scope: Significant portions of work identified as, but not limited to, Base Bid, Alternate Bids, and Construction Phases, and Funding Criteria.

G. Responsible Party: Entity that is responsible for performing the work of each activity as identified, but not limited to, General Contractor, and Sub-Contractor, second and tertiary tier Sub-Contractors, Manufacturers, Fabricators and Vendors.

H. Schedule of Values: A statement furnished by the Contractor allocating portions of the Contract Sum to various portions of the Work.

I. Scope Type: Segments of work identified as, but not limited to, Building ID, On-Site, and Off-Site.

J. Sub-Schedules: Separated activities identified as part of the same element of work and arranged to show correlation with related elements.

K. Unit Prices: A price per unit of measurement for materials, equipment, or services, or a portion of the Work that are applicable during the duration of the Work.

1.4 SUBMITTALS

A. General:
1. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES.

B. Format for Submittals: A tabular form type schedules.
1. Provide a working electronic copy of schedule file.
a. Provide schedule files on Compact Disc (CD) or Digital Versatile Disc (DVD) (WINDOWS Formatted Disks) in a form that can be reviewed and used by the Owner, and Architect.
2. Provide PDF electronic copy of schedule file.
3. Provide Two (2) paper copies of schedules.
a. Sheet size shall be of adequate size to clearly show the required information for the entire construction period.
b. All required documentation shall have the Submittal number posted in the upper-right hand corner of the page.

C. Assurance/Control Submittals:
1. Schedule of Values.
a. Schedule of Bid Values.
1) Submit within fourteen (14) days after the Award of Contract.
b. Complete Schedule of Values.
1) Submit at the earliest possible date, but no later than fifteen (15) days prior to the date scheduled for submittal of initial Application for Payment.
2. Application for Payment and Certification.
a. Application for Payment and Certification Forms.
1) Submit along with the Complete Schedule of Values submittal.
b. Initial Application for Payment.
1) Submit seven (7) days prior to due date.
c. Application for Payment for Progress of Work.
1) Submit by the twentieth (20th) day of the month unless otherwise agreed upon by the District.
d. Application for Payment at Substantial Completion.

1) Submit after Architect issues the Certificate of Substantial Completion.

e. Final Application for Payment.

1) Submit after competing Project Closeout requirements.

3. Schedule of Unit Price.

1.5 SYSTEM DESCRIPTON

A. General:

1. The Architect considers the project Schedule of Values requirements to be significant to both the Contractor and the Owner. The development, submittal, and acceptance of the Schedule of Values, (Bid and Complete), and subsequent development and maintenance of the Application for Payments must be given high priority.
   a. No payment will be made without the Architect's review and acceptance of the Schedule of Values.
   b. Progress payments may be withheld in whole or part should the Contractor fail to comply with the requirements of this section.
   c. No separate payment will be made to the Contractor for any of the requirements of this section. All such costs shall be part of the Contractor's planned project overhead costs included in its bid.

B. Performance Requirements:

1. Schedule of Bid Values: The Schedule of Bid Values shall be a breakdown of the Bid(s) submitted in the Bid Proposal and shall include all work that was bid on, regardless the scope of work awarded for construction. The breakdown shall be sufficient for the use by the Owner and Owner's Consultants to evaluate and determine cost of major scopes of work and the value of other owner agreements that are associated with the dollar value of the bid proposal.
   a. Refer to Specification Section – SUMMARY OF WORK.
   b. Refer to Specification Section – ALLOWANCES.
   c. Refer to Specification Section – ALTERNATES.
2. Complete Schedule of Values: Breakdown of the Contract Sum by specific line-item values, based on the individual activities in the Baseline Project Construction Schedules and to be the basis for the development of the Application for Payment.
   a. Refer to Specification Section – CONSTRUCTION SCHEDULES.
3. Application for Payments: Shall be derived from Baseline Project Construction Schedule utilizing the costs in the Complete Schedule of Values, and from subsequent Project Construction Schedule Updates, reflecting the Work performed as of planned and actual dates.
   a. Refer to Specification Section – CONSTRUCTION SCHEDULES.
4. Unit Prices: If the Scope of Work or estimated quantities of Work by the Contract Documents is increased or decreased, Unit Prices are added to or deducted from the Contract Sum by appropriate modification.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. The Contractor must have the capacity and capability of supporting the project by producing schedule-related data within two (2) days of request by the Architect, or Owner.

B. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Coordination:
1. Coordinate preparation of the Schedule of Bid Values with the submitted Bid Proposal and reflect the major scope of work breakdown described in Specification Section – SUMMARY OF WORK and Specification Section – ALTERNATES.
2. Coordinate preparation of the Complete Schedule of Values with the preparation of the Baseline Project Construction Schedule. Refer to Specification Section – CONSTRUCTION SCHEDULES.
3. Correlate line items in the Complete Schedule of Values with other required administrative forms and schedules, including, but not limited to, the following:
a. Application for Payment forms with continuation sheets.
b. Submittals Schedule.
c. Items required to be indicated as separate activities in the Baseline Project Construction Schedule.

B. Project Information:
1. Identification: Include the following Project Identification on all Schedule of Values and Application for Payment.
a. Project Name and Location.
b. Name of Owner and Address.
c. Name of Architect and Address.
d. Architect's Project Number.
e. Contractor's Name and Address.
f. Submittal Date.

2.2 SCHEDULE OF BID VALUES

A. Format:
1. Arrange the Schedule of Bid Values in tabular form.
a. Provide and identify separate columns to indicate the following ;
1) SPECIFICATION SECTION.
2) DESCRIPTION.
3) RESPONSIBLE PARTY.
4) MAJOR SCOPE.
5) DOLLAR VALUE.
6) PERCENTAGE OF THE CONTRACT SUM.
b. Provide and identify separate line-items to indicate the following;
1) Activity.
2) Contract Conditions.
3) Allowance(s).
4) Contingency (ies).
5) Grand Totals.

B. Content:
1. SPECIFICATION SECTION: Use the specification section number in the Project Manual Table of Contents to identify and establish each line-item.
2. DESCRIPTION: Provide a description of the work for each line-item associated with the specification section and responsible party.
3. RESPONSIBLE PARTY: Identify the responsible party for performing the work of each line-item associated with the specification section and description.MAJOR SCOPE: Designate Major scope of work as identified and itemized in BID PROPOSAL.
   a. Provide separate columns for each Major Scope of Work identified.
4. DOLLAR VALUE: Sub-Total of the cost for each activity line-item, with the amounts rounded to the nearest dollar.
   a. Assign a dollar value for each line-item to each Major Scope of the project excluding General Conditions, General Requirements and General Contractor's Overhead and Profit.
5. PERCENTAGE OF THE CONTRACT SUM: Dollar Value as a percentage of the Contract Sum to the nearest one-hundredth percent, adjusted to total one hundred percent.
6. Activity: Provide at least one activity item-line for the work in each Specification Section.
   a. Provide separate activity line items for each Contractor or Subcontractor providing work under the same specification section.
7. Contract Conditions:
   a. Identify and provide separate activity line-item for cost items that are directly related to Division 01 - GENERAL REQUIREMENTS.
   b. Identify and provide separate activity line-item for cost items that are directly related to Division 00 - CONDITIONS OF THE CONTRACT.
8. Allowances: Identify and provide separate activity line-item for each Allowance that is assigned for specific work in any specification section. Dollar value to exclude General Contractor's Overhead and Profit.
9. Contingencies: If required, identify and provide separate activity line-item for each Contingency that is not assigned to specific work in any specification section. Dollar value to exclude General Contractor's Overhead and Profit.
   a. If required, provide separate line items for Owner Contingency and Contractor Contingency.
10. Grand Total: Summation of dollar value for each column equal to the Bids received.

2.3 COMPLETE SCHEDULE OF VALUES

A. Format:
1. Provide a comprehensive, fully developed, detailed Complete Schedule of Values in tabular form.
   a. Provide and identify the following separate columns to indicate the following for each item listed;
      1) SPECIFICATION SECTION.
      2) ACTIVITY CODE.
      3) DESCRIPTION.
      4) RESPONSIBLE PARTY.
      5) MAJOR SCOPE.
      6) SCOPE TYPE.
      7) DOLLAR VALUE.

b. Provide and identify separate line-items to indicate the following;
   1) Activity.
   2) Sub-Schedules.
   3) Contract Conditions.
   4) Allowance(s).
   5) Purchase Contracts (if applicable).
   6) Contingency (ies).
   7) Grand Totals.

B. Content:
1. SPECIFICATION SECTIONS: As described in the Schedule of Bid Values.
2. ACTIVITY CODE: Provide the Activity Identification Code for each line-item indicated as separate activities in the Baseline Project Construction Schedule.
3. DESCRIPTION: As described in the Schedule of Bid Values
4. RESPONSIBLE PARTIES: As described in the Schedule of Bid Values.
5. MAJOR SCOPE: As described in the Schedule of Bid Values.
6. SCOPE TYPE: Identify each line-item that is associated with a segment of work.
7. DOLLAR VALUE: As described in the Schedule of Bid Values.
8. Activity: As described in the Schedule of Bid Values and the following;
   a. Expand to include entities, which is responsible for performing the work of each activity, identified as, but not limited to, General Contractor, and Sub-Contractor, second and tertiary tier Sub-Contractors, Manufacturers, Fabricators and Vendors.
   b. Expand to include separate activity line-items for cost items that are directly related to Division 01 - GENERAL REQUIREMENTS and are direct cost of actual work-in-place. Such items shall be, but not limited to, the following;
      1) Submittals,
      2) Field Engineering
      3) Operation and Maintenance Manuals.
      4) Demonstration and Training.
9. Sub-Schedules:
   a. Major Scope of Work: Provide Sub-Schedules for line-items that are associated with each designated major scope of work as identified in Bid Proposal, and defined in Specification Section – SUMMARY OF WORK and **Specification Section – ALTERNATES**, that requires itemization of each line-item value.
   b. Scope Type: Provide Sub-Schedules for line-items that are associated with each specific scope type.
      1) Building Costs: Detailed cost breakdown of all cost items that are directly related to the Project per Building.
         a) When the Project Building(s) is of sufficient size to warrant, break the building costs down into areas of work compatible with the Contractor's Means and Methods for construction sequences.
         b) Building areas may consist of floor and roof levels and partial floor and roof levels.
      2) Project Site Costs: Detailed cost breakdown of all cost items that are directly related to the Project Site.
         a) When the Project Site is of sufficient size to warrant, break the site costs down into areas of work compatible with the Contractor's Means and Methods for construction sequences.
10. Contract Conditions: As defined in the Schedule of Bid Values and the following;
    a. Expand to include separate activity line-items for cost items that are directly related to Division 01 - GENERAL REQUIREMENTS and are not direct cost of actual

work-in-place. Such items shall be, but not limited to, the following;

1) Temporary Facilities.
2) Field Supervision.
3) Project Identification Sign.
4) Project Closeout Requirements.
   a) Punch List Activities, and Project Record Documents.

b. Expand to include separate activity line-item for cost items that are directly related to Division 00 - CONDITIONS OF THE CONTRACT REQUIREMENTS and are not direct cost of actual work-in-place. Such items shall be, but not limited to, the following;

1) On-Site Facilities and Supervision.
2) General Contractor's Overhead and Profit.
3) Performance and Labor and Material Bonds.

11. Allowances: As defined in the Schedule of Bid Values.
12. Purchase Contracts: Provide separate line-item in the Schedule of Values for each Purchase Contract, showing the value of the Purchase Contract.
13. Contingencies: As defined in the Schedule of Bid Values.
14. Grand Total: As defined in the Schedule of Bid Values.

2.4 UNIT PRICES

A. Unit Prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead and profit.

1. Breakdown prices into:
   a. Delivered cost of products(s) including tax.
   b. Total installed cost excluding overhead and profit.
   c. Add Contractor's and subcontractor's overhead and profit costs after subtotal and provide a final total.

B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of Unit Prices. Methods of measurement and payment for Unit Prices are specified in those sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established Unit Prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to the Contractor.

D. List of Unit Prices: A schedule of Unit Prices is included in PART 3. Specification Sections referenced in the schedule contain requirements for materials described under each Unit Price.

2.5 PROPOSITION 39 UNIT COSTS:

A. Unit Costs shall include all necessary labor, material, and other information for energy related mechanical and lighting costs.

1. Contract shall provide the unit make, model, quantities and additional information regarding HVAC, Boilers, Pumps, EMS and Light Fixtures.

B. List of Unit Costs: A schedule of Unit Costs is included in PART 3 and attached are sample forms.

PART 3 - EXECUTION

3.1 APPLICATION AND CERTIFICATION FOR PAYMENT

A. General Requirements:
1. Coordination: Coordinate the preparation of the Application for Payment with the preparation of the Complete Schedule of Values and Project Construction Schedule.
   a. Entries shall match data on the Complete Schedule of Values and Project Construction Schedule and Project Schedule Updates, if revisions were made.
2. Application and Certification for Payment Forms: Use forms accepted by the Architect and Owner for Applications for Payment.
   a. Form shall be based on AIA Document G702 Application and Certification for Payment and AIA Document G703 Continuation Sheets.
   b. Submit form for acceptance with initial submittal of Complete Schedule of Values.
3. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of the Contractor. Project Inspector or Architect will return incomplete applications without action.
   a. Use signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt. One copy shall include Waivers of Lien and similar attachments if required.
4. Identification: Include the following Project Identification on all Application for Payment:
   a. Project Name and Location.
   b. Owner Name.
   c. Architect's Project Number.
   d. Contractor Name and Address.
   e. Application Number.
   f. Application Date.
   g. Period To:

B. Format.
1. Provide a comprehensive, fully developed, detailed Application for Payment with Continuation Sheets in tabular form.
   a. Provide and identify the following separate columns to indicate the following for each item listed;
      1) ACTIVITY CODE.
      2) DESCRIPTION.
      3) SCHEDULED DOLLAR VALUE.
      4) WORK COMPLETED.
         a) FROM PREVIOUS APPLICATION.
         b) THIS PERIOD.
      5) TOTAL COMPLETED.
      6) PERCENTAGE OF COMPLETION.
      7) BALANCE TO FINISH.
      8) RETAINAGE.
   b. Provide and identify separate line-items to indicate the following the following;
      1) Activity.
      2) Sub-Schedules.

3) Contract Conditions.
4) Allowance(s).
5) Purchase Contracts (if applicable).
6) Contingency (ies).
7) Grand Totals.
8) Change Orders.

C. Content:
1. ACTIVITY CODE: Provide the Activity Identification Code for each line-item of Work as indicated as separate activities in the Project Construction Schedule
2. DESCRIPTION OF WORK: Provide the same description as indicated in the Schedule of Values for each line item.
3. SCHEDULED DOLLAR VALUE: Provide the same amount as indicated in the Schedule of Values for each line item.
4. WORK COMPLETED: with the following sub-columns.
   a. FROM PREVIOUS APPLICATION, include Dollar Value for work completed in previous Application for Payment, whether or not payment has been received.
   b. THIS PERIOD, include only the Dollar Value for work completed at the time of Application for Payment.
5. TOTAL COMPLETED: The sum Dollar Value of Work Completed and Materials Presently Stored.
6. PERCENTAGE OF COMPLETION: The percentage value of the total Work Completed and the Stored to Date divided by the Scheduled Value.
7. BALANCE TO FINISH: The dollar value of the Scheduled Value minus the Total Completed.
8. RETAINAGE: The dollar value of the percentage of retention per contract agreement.
9. Activity:
   a. Use the Complete Schedule of Values and Baseline Project Schedule as a guide to establish activity line-items for the Application for Payment.
   b. Include separate activity line-items when a work activity is separated into stages and requires separate payments for each stage.
   c. Provide separate line-items for each part of the Work where separate payments will be requested including, but not limited to, submittals, materials, equipment, fabrication and installation.
   d. Provide separate line items for materials stored but not yet installed, where separate payments will be requested.
10. Sub-Schedules: As described in the Complete Schedule of Values.
11. Contract Conditions: As described in the Complete Schedule of Values.
12. Allowances: As described in the Complete Schedule of Values.
13. Purchase Contracts: As described in the Complete Schedule of Values
    a. Indicate Owner payments or deposits, if any, and balance to be paid by the Contractor
14. Contingencies: As described in the Complete Schedule of Values.
15. Grand Totals: As described in the Complete Schedule of Values.
16. Change Orders:
    a. Include amounts of approved Change Orders or Construction Change Directives issued before the last day of construction period covered by application.

D. Supplemental Information:
1. Materials Stored: Include in Application for Payment the amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed.

a. Differentiate between items stored on-site and items stored off-site.
b. Provide certificate of insurance or Bonded Warehousing, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
c. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
d. Provide summary documentation for stored materials indicating the following:
1) Materials previously stored and included in previous Applications for Payment.
2) Work completed for this Application utilizing previously stored materials.
3) Additional materials stored with this Application.
4) Total materials remaining stored, including materials with this Application.

2. Waivers of Mechanic's Lien: With each Application for Payment, submit Waivers of Mechanic's Liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
a. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
b. When an Application shows completion of an item, submit conditional final or full waivers.
c. Owner reserves the right to designate which entities involved in the Work must submit waivers.
d. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
e. Waiver Forms: Submit waivers of lien on forms executed in a manner acceptable to Owner.

E. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for payment include the following:
1. List of Subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Products List (preliminary if not final).
5. Schedule of Unit Prices.
6. Submittal Schedule (preliminary if not final).
7. List of Contractor's Staff Assignments.
8. List of Contractor's Principal Consultants.
9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
10. Initial Progress Report.
11. Report of Preconstruction Conference.

F. Application for Payment for Progress of Work:
1. Each Application for Payment shall be consistent with previous applications and payments as certified by the Project Inspector, Architect, and paid for by the Owner.
2. Payment Applications shall be submitted to the Architect by the date established by the Owner. The maximum period of time covered by each Application for Payment is for one month.
3. Payments Applications shall be updated to reflect any revised activity in the Project Schedule Updates.

G. Application for Payment at Substantial Completion: After the issuing of the Certificate of

Substantial Completion, submit an Application for Payment showing 100 percent completion for portions of the Work claimed as substantially complete.

1. Include documentation supporting the claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

H. Final Application for Payment: Submit Final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement accounting for final changes to the Contract Sum.
4. "Contractor's Affidavit of Payment of Debts and Claims".
5. "Contractor's Affidavit of Release of Liens".
6. "Consent of Surety to Final Payment".
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

3.2 SCHEDULE OF UNIT PRICES

A. Specification Section - CAST-IN-PLACE CONCRETE:

1. Concrete slabs per thickness per square foot.
2. Concrete foundations per cubic yard.
3. Concrete walls per cubic yard.

B. Specification Section - PLUMBING:

1. Utility trenching, pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.

C. Specification Section - ELECTRICAL:

1. Utility trenching, sleeve pipe or conduit pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.

D. Specification Section - COMMUNICATIONS:

1. Utility trenching, sleeve pipe or conduit pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.

E. Specification Section - ELECTRONIC SAFETY AND SECURITY:

1. Utility trenching, sleeve pipe or conduit pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.

F. Specification Section - EARTHWORK:

1. Scarification and compaction of existing soil per cubic yard.
2. Excavation and compacted placement of existing suitable site soil for non-engineered fill per cubic yard.
3. Delivery and compacted placement of import soil per cubic yard.

4. Delivery and compacted placement of import soil for grading per cubic yard.
5. Rough grading per square foot.
6. Finish grading per square foot.

G. Specification Section - STORM DRAINAGE:
1. Delivery and installation of catch basins per individual catch basin size.
2. Trenching, pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.
3. Miscellaneous storm drainage items per item.

END OF SECdoneTION

SECTION 013113 – CONTRACTOR'S "PROJECT MANAGEMENT" AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely manage and coordinate the Project as necessary to construct and complete the Project as indicated by the Contract Documents.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DESCRIPTION:

A. Manage and Coordinate scheduling, submittals, and work of the various sections of the Project Manual to assure efficient and orderly sequence of installation of construction elements with provisions for accommodating items to be installed later.
   1. Coordinate sequence of Work to accommodate Owner Occupancy as specified in the Conditions of the Contract in Division 00 and the General Requirements in Division 01.
   2. The Contractor shall set up control procedures so that "approved schedules" are adhered to. Contractor's responsibility is to correctly notify Owner's Representative of anticipated and actual time delays.
   3. Contractor's job superintendent shall be on site at all times that the Work is in progress. Superintendent shall not perform other functions such as trade work or parts pick-up.
   4. Interruption of Services:
      a. Adequate advance written notice (a minimum of fourteen (14) days) shall be given to the Owner's Representative when interruptions of utility services, or interference with the use of existing building and roads are anticipated.
      b. Any interruption of utility services shall be made by the Contractor with the Owner's Representative in attendance. Contractor shall not interrupt any utility services without the Owner's Representative present.
   5. Planned utility service shutdowns shall be accomplished during periods of minimum usage.
      a. In some cases, this may require work outside of normal (7:00 am to 5:00 pm) work hours, at no additional cost to the Owner.
      b. The Contractor shall program its work so that service will be restored in the minimum possible time, and shall cooperate with the Owner's Representative in reducing shutdowns of utility system.

c. Adequate advance written notice (a minimum of fourteen (14) days) shall be given to the Owner's representative before interruptions to utility services and other interference to the use of, or access to existing buildings and facilities.
d. Required access ways shall be kept open at all times; the use of one way traffic and detours shall be held to a minimum.

6. Coordinate the Work and do not delegate the responsibility for coordination to any sub-contractor.
7. Anticipate the interrelationship of all sub-contractors, and their relationships to one another.
8. Resolve differences or disputes between sub-contractors concerning coordination, interference, or extent of Work.

1.3 SUBMITTALS

A. Schedule and coordinate submittals specified in Specification Section - SUBMITTAL PROCEDURES, and in Specification Section - PROJECT CLOSEOUT.
1. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
2. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.
3. Coordination Drawings:
a. Site Utility Coordination Drawings.
b. Vertical Alignment Coordination Drawings.
c. Facility Services Coordination Drawings.

1.4 QUALITY ASSURANCE

A. Coordination of Space:
1. Coordinate use of Project space and sequence of installation of mechanical work, and electrical work, which is indicated diagrammatically on the Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space.
a. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
2. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction.
a. Coordinate locations of fixtures and outlets with finished elements.
3. Site Utility Coordination Drawings:
a. Provide 1"=20' scaled and dimensioned Utility Coordination Drawing showing all existing and proposed underground and surface utility improvements including gas, domestic water, fire water, chilled water, hot water, irrigation, storm sewer, sanitary sewer, electrical power, and communications. No site improvements shall be installed prior to Architect's and Owner's review of coordination drawing. Architect's and Owner's review is only for general conformance with the Contract Documents.
4. Vertical Alignment Coordination Drawings:
a. Provide scaled coordination drawings signed by the relevant subcontractors and approved by the District Representative prior to installation of systems that need to

be aligned vertically.

b. Systems include:
   1) Foundation systems.
   2) Building slab systems.
   3) Structural steel systems.
   4) Wall systems:
      a) Framing systems.
      b) CMU wall systems.
   5) Roof framing systems.
   6) Structural diaphram systems.

c. The Contractor shall determine how the 'edge of deck' and 'edge of concrete' will be coordinated between the trades, so that the metal framing can be installed without tolerance deviations. Metal Framing fixes for tolerance deviations are the responsibility of the Contractor.

5. Facility Services Coordination Drawings:
   a. Provide scaled coordination drawings signed by relevant subcontractors and approved by District Representative prior to installation of facility services systems.
   b. Coordination of consolidated installation remains the responsibility of the Contractor; individual shop drawings minimums are described in other sections.
      1) Facility Systems included, minimum:
         a) Mechanical, HVAC, Plumbing, Fire Sprinklers.
         b) Structural systems.
         c) Ceiling systems.
         d) Major Electrical systems.
         e) Major Low-voltage systems, communications, audio-video systems.
      2) Drawing Views, minimum:
         a) Plan views, scaled and dimensioned.
         b) Section views, scaled and dimensioned.
      3) Drawings shall include, minimum:
         a) Depict actual elevations and linear dimensions.
         b) Routing changes, transitions, major offsets.
         c) Deck and structural attachments necessary for installation.
      4) Drawings shall be signed off by affected trades, including:
         a) HVAC.
         b) Plumbing.
         c) Fire Sprinkler.
         d) Electrical.
         e) Framing.
         f) Ceiling Installation.
         g) Data.
         h) Low Voltage.
      5) The signed off Shop Drawings shall be submitted to the District's Representative for review and approval prior to commencement of installation.
      6) Provide reviewed Shop Drawings to each Subcontractor having Work in the area.
   c. Definition of Drawings: Drawings are diagrammatic, showing the general arrangement of systems. Not all offsets, adjustments, and transitions, and

accessories required for an operational system can be expected to be shown.

1) Contractor shall provide fittings, equipment, valves, offsets, accessories, etc., as required to meet project conditions at no additional cost to the District.
2) Contractor shall have responsibility for fitting of materials and equipment to other parts of the equipment and structure, and to make adjustments as necessary or required to resolve space problems, preserve service room, and avoid architectural and structural elements and the Work of other trades.
3) Contractor may be required to identify certain areas to relocate installations within the spaces depicted on the Drawings, e.g., ductwork and/or piping may be shifted within the space shown to accommodate other systems. Such functional relocations shall not be deemed a change to the requirements of the Contract. In the event a major re-routing of a system appears necessary, Contractor shall prepare and submit for approval, Shop Drawings of the proposed rearrangement.

d. Resolve differences or disputes between subcontractors and materials suppliers concerning coordination, interface, or extent of work.

1) The Architect and their Consultants are not required to coordinate work between subcontractors and will not do so.
2) Any changes required that affect the design intent shall be presented to and approved by the Architect of Record.
3) The Contractor's decisions, if consistent with the Contract Documents, shall be final.

B. Coordination of Project Closeout:

1. Coordinate completion and cleanup of work of separate sections in preparation for Owner occupancy.
2. After Owner occupancy of premises, coordinate access to site by various sections for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.
3. Assemble and coordinate closeout submittals specified in Specification Section - PROJECT CLOSEOUT.

C. Regulatory Requirements:

1. In accordance with Specification Section - REGULATORY REQUIREMENTS.

D. Meetings:

1. Hold coordination meetings and pre-installation meetings with requisite personnel to assure coordination of Work.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 013216 -- CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Project Construction Schedules.
   2. Cost Loaded Schedule Data.
   3. Coordination Schedules.
   4. Schedule Modifications.
   5. Time Extensions.

B. Related Requirements:
   1. Specification Section 011113-SUMMARY OF WORK.
   2. Specification Section 014100-REGULATORY REQUIREMENTS
   3. Specification Section 014523-TESTING AND INSPECTION SERVICES.

1.3 DEFINITIONS

A. The following definitions or terms apply to this specification section:
   1. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
      a. Critical Activity is an activity on the critical path that must start and finish on the planned early start and finish times.
      b. Predecessor activity is an activity that precedes another scheduled activity.
      c. Successor Activity: An activity that follows another scheduled activity.
   2. Activity Code: Identifies each activity so as to be organized, group and sorted into Sub-Schedules, Reports and Major Areas of Work.
   3. Construction Schedule: A logical analysis listing the project¢s milestones, activities, and deliverables with planned dates for performing the scheduled activities and milestones.
   4. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of the costs for all activities must equal the total of the total Contract Sum, unless otherwise approved by the Architect.
   5. Critical Path: The longest continuous chain of activities through the schedule that establishes the minimum overall project duration.
   6. Critical Path Method (CPM): A method of planning and scheduling of a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the

project.

7. Event: The starting or ending point of an activity.
8. Float: The measure of leeway in starting and completing an activity.
   a. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is jointly owned, expiring Project resource available to both parties as needed to meet the schedule milestones and Contract completion date.
   b. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
   c. Total float is the measure of leeway in starting of or completing an activity without adversely affecting the planned Project completion date.
9. Fragmentary Network (Fragnet): A sequence of new activities that are proposed to be added to the existing schedule, identifying the predecessors to the new activities and demonstrate the impacts to successor activities.
10. Inclement Weather: Temperature, Precipitation, Fog, and Muddy Site conditions that may impede the progress of the Project construction on critical activities for more than fifty percent (50%) of the Contractor¢s scheduled work day.
11. Milestone: A key or critical point in time for reference or measurement.
12. Mud Days: The amount of excessive muddy site conditions which prohibit access to and around the Project site, access to buildings and impedes the progress of the Project construction on critical activities as a result of Unusually Severe Weather.
13. NOAA: National Oceanic and Atmospheric Administration.
14. Responsibility Code: Designation of the Contractor or Subcontractor or Trade responsible for each identified activity.
15. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity scheduled.
16. Unusually Severe Weather: The amount of excessive Inclement Weather that is greater than the anticipated number of Inclement Weather days for any given month.
17. WBS: Work Breakdown Structure

1.4 SUBMITTALS

A. General:
   1. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES.

B. Format for Submittals: A time-scaled Critical Path Method (CPM) network analysis diagram schedule.
   1. Provide a native electronic copy of the schedule in XER format, utilizing scheduling software Primavera P6 latest version specifically designed to manage construction scheduling and approved by the Architect and Owner.
      a. Provide schedule files in a form that can reviewed and used by the Owner, and Architect.
   2. Provide PDF electronic copy of schedule graphics and reports
   3. Provide **four (4)** paper copies of schedules.
      a. Sheet size shall be of adequate size to clearly show the required information for the entire construction period.
   4. All required documentation shall clearly indicate the type of schedule (Initial, Preliminary, Base, Update), date and shall have the Submittal number posted in the upper-right hand corner of the page.

C. Assurance/Control Submittals:
   1. Scheduling Qualifications:

a. Contractor's qualifications;
   1) Submit within **seven (7)** days after the Award of Contract.
b. Scheduler qualifications;
   1) Submit within **seven (7)** days after the Notice to Proceed.

2. Project Construction Schedules:
   a. Initial Project Schedule (IPS);
      1) Submit within **fourteen (14)** days after the Award of Contract.
   b. Preliminary Project Schedule (PPS)
      1) Submit within **twenty one (21)** days after the Notice to Proceed date.
   c. Baseline Project Schedule (BPS);
      1) Submit within **sixty (60)** days after the Notice to Proceed date.
   d. Cost Load Schedule Data;
      1) Submit within **seventy (70)** days after the Notice to Proceed date.
   e. Sub-Schedules;
      1) Submit as requested by Architect or Owner.
3. Coordination Schedules:
   a. Short Interval Schedules (SIS);
      1) Submit at the regularly scheduled meetings.
   b. Monthly Schedule Updates (MSU);
      1) Submit **seven (7)** days prior to the designated regularly scheduled monthly Progress Meeting for Schedule Review.
      2) Submit the agreed upon MSU one week prior to monthly progress payments.
4. Schedule Modifications:
   a. Change in Sequence;
      1) Submit as needed at a regularly scheduled Progress Meeting.
   b. Recovery Schedule;
      1) Submit as needed at a regularly scheduled Progress Meeting.
   c. Alterations to Schedule;
      1) Submit as needed at a regularly scheduled Progress Meeting
5. Time Extension:
   a. Notice of Delay;
      1) Submit within **fourteen (14)** days after a delay event, and/or with a Change Order Request (COR) that is in response to a CCD, RFP, or other documents issued by the Architect.
   b. Request for Time Extension;
      1) Submit with **seven (7)** days after a delay event.
   c. Inclement Weather;
      1) Submit within **twenty-four (24)** hours after an event.

1.5 SYSTEM DESCRIPTION

A. General:
1. The Architect considers the project schedule requirements to be of significant importance to both the Contractor and the Owner. The development, submittal, acceptance and maintenance of the Initial Project Schedule, Preliminary Project Schedule, Baseline Project Schedule and subsequent Monthly Schedule Updates must be given high priority.
   a. Progress payments may be withheld in whole or part should the Contractor fail to comply with the requirements of this section.

b. No separate payment will be made to the Contractor for any of the requirements of this section. All such costs shall be part of the Contractor's planned project overhead costs included in its bid.

2. The requirements for the Critical Path Method (CPM) schedule are included to assure adequate planning and execution of the work and to assist the Architect and Owner in appraising the reasonableness of the proposed schedule, evaluating progress of the work and for reviewing the Progress Payment Applications.

B. Performance Requirements:

1. The Baseline Project Schedule shall be the basis for evaluating the job progress and time extension requests. The responsibility for developing the Baseline Project Schedule, accurately updating the schedule, and monitoring the actual progress of the work compared to the planned schedule rests solely with the Contractor.
   a. Failure of the Contractor to include any element of the work or any inaccuracy in the Baseline Project Schedule will not relieve Contractor from the responsibility for accomplishing all the work in accordance with the Contract requirements.
2. Inclement Weather: The Contractor shall have included all impacts to weather dependent activities, resulting from the anticipated Inclement Weather, including muddy site conditions, in the Baseline Project Schedule.
   a. Contractor shall be responsible for all associated time delays and costs.
   b. Contractor shall be responsible for associated mitigating measures which includes, but not limited to, dewatering, mucking, temporary weather protection, gravel roadways, equipment downtime, etc.
   c. Contractor shall be responsible to account for the site¢s soil conditions, drainage patterns, and other elements that may be affected.
3. Cost Correlation: The Initial Project Schedule, Preliminary Project Schedule and the Baseline Project Schedule shall be the basis for developing the Schedule of Values and the Work performed as of planned and actual dates used for preparation of The Application for Payment.
   a. Refer to **Specification Section - SCHEDULE OF VALUES**.
4. Early Completion Schedules: Early completion schedules may be prohibited due to certain physical or monetary constraints imposed upon the Owner.
   a. If not prohibited, and is contemplated by the Contractor as part of its bidding strategy, it is hereby expressly understood by the Contractor that early completion schedules will only be acceptable under the condition that the schedule be reasonable and realistic.
   b. The Contractor certifies that it has included general conditions costs in its bid sufficient for the entire contractual time of performance.
   c. No damages for delay will be recoverable if the project is prolonged beyond the early completion date, but still completed within the entire contract duration.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Contractors Qualifications:
   a. The Contractor shall provide evidence to demonstrate the competency in the use of CPM scheduling, including evidence of the use of cost-loaded Critical Path Method scheduling software on projects of similar value and complexity.
   b. The Contractor must have scheduling capabilities (hardware and software, inclusive of plotter) located at the construction site, or readily accessible in a local area office.

2. Scheduler's Qualifications:
    a. The Contractor shall designate, in writing, an authorized representative in its firm or employ a qualified CPM schedule consultant, who shall be responsible for the preparation, revising, and updating the cost-loaded Critical Path Method schedule utilizing scheduling software specifically designed for construction projects.
        1) The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the construction scheduling requirements set forth herein.
        2) Contractor's representative authority shall not be interrupted throughout the duration of the project.
    b. The Scheduler must have the capacity and capability of supporting the project by producing schedule-related data within **two (2)** days of request by the Contractor, Architect, or Owner

B. Regulatory Requirements:
    1. In accordance with **Specification Section - REGULATORY REQUIREMENTS**.

C. Meetings:
    1. Prescheduling Conference: Scheduled by the Contractor prior to submitting the Baseline Project Schedule, unless otherwise agreed to by the Architect and Owner, for the proper coordination of the work. Conduct conference at Project site. Review methods and procedures related to the Baseline Project Schedule, including, but not limited to, the following:
        a. Discuss constraints, including **phasing, work stages, area separations, interim milestones and partial Owner occupancy**.
        b. Review delivery dates for Owner-Furnished products.
        c. Review schedule for work of Owner's separate contracts.
        d. Review submittal requirements and procedures.
        e. Review time required for review of submittals and resubmittals.
        f. Review requirements for test and inspections by independent testing and inspection agencies.
        g. Review time required for Project closeout and Owner startup procedures**,** including commissioning activities.
        h. Review and finalize list of construction activities to be included in schedule.
        i. Review procedures for updating schedule.
    2. Progress Meetings: Scheduled by the Contractor for the proper coordination of the work.
        a. Weekly Progress Meeting: Schedule on a weekly basis, unless otherwise agreed to by the Architect and Owner;
            1) Review Short Interval Schedule.
            2) Discuss field observations, problems, and decisions.
        b. Monthly Schedule Update: Designate a regular monthly meeting to address and resolve all schedule issues for the prior month;
            1) Identification of any potential problems which may impede planned progress.
            2) Corrective measures to regain projected schedules.
    3. Participants (or designated representative) invited to attend each of the above meetings shall be as follows:
        a. Contractor.
        b. Owner.
        c. Architect.
        d. Project Inspector.

e. Installer(s), as appropriate.
f. Material Manufacturer(s), as appropriate.
g. Subcontractors, as appropriate (including any accessory subcontractors).

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Time Frame: Extend schedules from dates established from the Notice to Proceed to final completion.
1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activity Data: Contains activity code, activity description, responsibility code, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, original duration, remaining duration, and percentage completion.
1. Contractor shall submit a detailed BPS presenting an orderly and realistic plan for the completion of the entire project.
a. The BPS shall not show more than 10% of the total activities as critical.
b. The BPS shall not show more than 20% of the activities with total float of 10 working days or less.
c. The schedule shall not show any activities with negative float.
d. Start and Finish constraints, unless identified in the contract documents, shall be minimized as much as possible.
2. Schedule activities that are dependent on submittal approval and/or material delivery. Activities shall not be scheduled to start earlier than the reasonably expected review, and acceptance or delivery dates.
a. Coordinate Submittal Schedule with the list of subcontractors, and the list of products.
b. Prepare the schedule in chronological order. Provide information as called for in **Specification Section - SUBMITTAL PROCEDURES.**
c. Submittal Review Time: Include review and resubmittal times indicated in **Specification Section - SUBMITTAL PROCEEDURES** in schedule.
3. All schedule activities shall have at least one predecessor logic tie except for the initial NTP activity. All schedule activities shall have at least one successor logic tie except for the final project completion milestone. No open-ended activities are permissible.
4. The schedule shall contain at least two calendars: 1) 7-day week calendar and 2) 5-Day work week calendar with normal holidays. Other calendars may be added as deemed necessary.

C. If requested, the Contractor shall provide manpower resource loading for all activities or for a specific trade.

D. Activity Duration: Activity durations shall be the total number of days required to perform that activity.
1. Define activities so no activity is longer that **twenty (20)** days, unless specifically allowed by Architect, except for submittal, approval, fabrication and delivery (procurement) activities.
2. Activities that require three months or longer to complete, indicate an estimated completion percentage in **ten (10)** percent increments.

3. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than **sixty (60)** days, as separate activities in schedule.
   a. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
4. Startup and Testing Time: Include no fewer that **fifteen (15)** days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.
6. Punch List and Final Completion: Include not less than **thirty (30)** ays for completion of punch list items and final completion.

E. Constraints:
1. Constraints: Include constraints and work restriction indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
   a. Phasing: Arrange list of activities on schedule by phase as indicated in **Specification Section -- SUMMARY OF WORK.**
   b. Include a Separate activity for each of the following
      1) Work under More Than One Contract.
      2) Work Performed By Owner.
      3) Each Product Ordered In Advance, include delivery dates.
      4) Each Owner-Furnished Product, include the delivery dates.
   c. Work Restrictions: Show the effect of the following items on the schedule:
      1) Coordination with existing construction.
      2) Limitations of continued occupancies.
      3) Uninterruptible service.
      4) Partial occupancy before Substantial Completion.
      5) Use of premises restrictions.
      6) Provisions for future construction.
      7) Seasonal variations.
      8) Environmental control.
   d. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
      1) Submittals.
      2) Purchases.
      3) Mockups.
      4) Fabrication.
      5) Sample Testing.
      6) Deliveries.
      7) Installation.
      8) Test and inspections.
   e. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities.

F. Inclement Weather: The schedules shall include delays due to the effect of the anticipated Inclement Weather, including resultant muddy conditions, in all-weather dependent activities.
1. The Contractor shall submit with the Baseline Project Schedule, a National Oceanic and Atmospheric Administration NOAA Meteorological Data Chart showing the "Normals", "Means" and "Extremes" of monthly Temperature, Precipitation, and Fog for the area

where the project is located.

a. The Owner reserves the right to update Meteorological Data, so that it reflects the most accurate data for the project site, site conditions and locality.

2. Upon review and acceptance, the Meteorological Data Chart shall be the baseline for evaluating anticipated weather related delays. Refer to the sample "Meteorological Data Chart" provided herein.
   a. Provide the number of delay days of anticipated Inclement Weather in the schedule per month.
   b. Provide the number of delay days of anticipated Mud Days in the schedule per month.
      1) Not all Mud Days are eligible for delays, only a portion of the actual Mud Days will be considered.
      2) Mud Days shall be based on a percentage of actual precipitation days. Upon review and found acceptable, the percentage shall be applied to actual precipitation that are above and beyond the anticipated Inclement Weather.
      3) It is the Contractors obligation to become aware of the site soil conditions, drainage patterns, and other elements that may affect the resulting impacts due to Mud.
      4) The baseline schedule shall include an activity "weather allowance" as the last critical path activity, prior to the project completion date.

G. Project Information:
   1. Identification: Include the following Project Identification on all Project Construction Schedules, Coordination Schedules, Schedule Modifications and Time Extension Requests.
      a. Project Name and Location.
      b. Name of Owner and Address.
      c. Name of Architect and Address.
      d. Architect's Project Number.
      e. Contractor's Name and Address.
      f. Submittal Date.

2.2 INITIAL PROJECT SCHEDULE (IPS)

A. Format:
   1. Prepare in form of a summary level horizontal-box-column Bar-Chart Schedule:
      a. Provide and identify separate columns to indicate the following;
         1) SPECIFICATION SECTION.
         2) DESCRIPTION.
         3) RESPONSIBILITY CODE.
         4) HORIZONTAL TIME SCALE.
      b. Provide and identify separate activity line-item horizontal bars to indicate the following;
         1) Activity.
         2) Milestones.
         3) Contract Conditions.
         4) Designation of Contractor or Subcontractor.

B. Content:
   1. SPECIFICATION SECTION: Use the specification section number in the Project Manual Table of Contents to identify and establish each line-item.

2. DESCRIPTION: Provide a description of the work for each line-item associated with the specification section and responsible party.
3. RESPONSIBILITY CODE: Provide responsibility code that identifies the responsible party for performing the work of each activity line-item associated with the specification section and description.
4. HORIZONTAL TIME SCALE: Identify the week, month and year. Indicate the first work day of each week with a continuous vertical line.
    a. Extend from the date established from the Notice to Proceed to the date of Final Completion.
5. Activity: Provide a summary level bar chart with distinct graphic delineation for each activity line-item.
    a. Provide at least one activity line-item for the work in each Specification Section.
        1) Provide separate activity line items for each Contractor or Subcontractor providing work under the same specification section.
    b. Organize activities in chronological order by the beginning of each Activity.
6. Milestones: Include initial milestones with dates for the Notice to Proceed, Project Start, Substantial Completion, and Final Completion.
7. Contract Conditions:
    a. Identify and provide separate activity line-items that are directly related to Division 01 - GENERAL REQUIREMENTS.
    b. Identify and provide separate activity line-items that are directly related to Division 00 - CONDITIONS OF THE CONTRACT.

2.3 PRELIMINARY PROJECT SCHEDULE (PPS)

A. Format:
1. Provide a preliminary computerized, time-scaled, cost loaded Critical Path Method (CPM) Contract Schedule using Precedence Diagram Methodology (PDM) showing in detail how the Contractor plans to execute, coordinate and generate progress billings for the work.
    a. Prepare a time-scaled logic diagram presenting an orderly and realistic detailed plan for the work to be completed in the first **ninety (90)** days of the contract.
        1) Work beyond the first **ninety (90)** shall be shown in a skeleton diagram for the remainder of the Work.
2. A tabular report containing Activity Data, Activity Durations, Constraints and Inclement Weather:
    a. Include Activity Code, Specification Sections, Responsible Code,
    b. Include Activity, Sub-Schedules, Milestones, Contract Conditions.
    c. Include Cost Loading of activities.
3. Provide a cash requirement prediction base on indicated activities.

B. Content:
1. Activity Data:
    a. Activity Code: Assign Activity Codes that identifies each separate activity to allow the following, but not limited to, to be appropriately sort and grouped in Sub-Schedules, Major Areas of Work, and Reports:
        1) "Construction Area",• "Trade" or "Submittal/Procurement".
    b. Specification Sections: As describe in the Initial Project Schedule.
    c. Responsible Code: As describe in the Initial Project Schedule.
    d. Activity: As describe in the Initial Project Schedule and expand to provide detail

data for each activity.

1) Expand to include entities, which are responsible for preforming the work of each activity, identified as, but not limited to General Contractor, and Sub-Contractor, second and tertiary tier Sub-Contractors, manufactures, fabricators and vendors.
2) Include planned mobilization and equipment; sequence of early operations; and procurement of materials and equipment.
3) Include duration, early start date, early finish date, late start date, late finish date.
4) Cost and Resource Loading.
    a) Assign cost to construction activities on the CPM schedule.
    b) Do not assign costs to submittal activities.
    c) Prior to assigning costs to fabrication and delivery activities, obtain Architect's approval.

2. Submit a Cash Flow Projection Diagram with the cost-loaded Preliminary Project Schedule.
    a. Report and diagram shall be based on the planned monthly progress billings expressed as a percentage of the total project cost.
3. The PPS will be temporarily used to record and monitor the progress of the work until the Baseline Project Schedule has been completely developed and accepted.
4. Recorded data on the Preliminary Project Schedule shall be incorporated into the Baseline Project Schedule during the first monthly update.
5. WBS report for the entire project shall be included in PPS

2.4 BASELINE PROJECT SCHEDULE (BPS)

A. Format:
1. Provide a comprehensive, fully developed, detailed computerized, time-scaled, resource and cost loaded Critical Path Method (CPM) Project Schedule using Precedence Diagram Methodology (PDM) showing in detail how the Contractor plans to execute, coordinate and generate progress billings for the work.
    a. Baseline Project Schedule shall be based on the Preliminary Project Schedule and expand to include additional required information of the Project for the complete duration of the Project.
2. A tabular report containing Activity Data, Activity Durations, Constraints and Inclement Weather.
    a. Include Activity Code, Specification Sections, Responsible Code.
    b. Include Activity, Sub-Schedules, Milestones, Contract Conditions.
    c. Include Cost and Resource Loading of activities.
3. A Cash Flow Envelope Report and Cash Flow Projection Diagram (S-curves) with the finalized, cost-loaded baseline project schedule.

B. Content:
1. Activity Code: As describe in the Preliminary Project Schedule.
    a. Construction Area, Trade or Submittal Procurement.
2. Specification Sections: As describe in the Initial Project Schedule.
3. Responsible Code: As describe in the Initial Project Schedule.
    a. Expand to include Other codes for "area," "trade" or "submittal/procurement" shall be similarly utilized to allow schedule data to be sorted and organized into separate, coherent reports or plots.

4. Activity: As describe in the Preliminary Project Schedule and expand to provide detail data for each activity thru the completion of the Project.
   a. Include but not limited to procurement Activities, Startup and testing, Substantial Completion, Punch List and Final Completion
   b. Expand to include original duration, remaining duration, early start date, early finish date, late start date, late finish date, original duration, remaining duration, total float and percentage completion.
   c. Appropriately grouped and sorted into Sub-Schedules, and Major Areas of Work. Organize activities in chronological order by the beginning of each Activity
   d. Cost and Resource Loading.
      1) Assign cost to construction activities on the CPM schedule.
      2) Do not assign costs to submittal activities
      3) Prior to assigning costs to fabrication and delivery activities, obtain Architect's approval.
      4) Assign costs under the main subcontracts for testing and commissioning activities, operations and maintenance manuals, punch list activities, Project record documents, demonstration and training, in the amount of **five (5)** percent of the Contract Sum.
      5) Total cost assigned to activities shall equal the total Contract Sum.
      6) All schedule activities shall have at least one predecessor logic tie except for the initial NTP activity. All schedule activities shall have at least one successor logic tie except for the final project completion milestone. No open-ended activities are permissible.
      7) The schedule shall contain at least two calendars: 1) 7-day week calendar and 2) 5-Day work week calendar with normal holidays. Other calendars may be added as deemed necessary.
      8) If requested, the Contractor shall provide manpower resource loading for all activities or for a specific trade.
5. Sub-Schedules: Sub-Schedules shall include, but not limited to, the following:
   a. Major Scope of Work: Identify each major area of construction for each major portion of the Work.
      1) Include, but not limited to, the following: Phasing, Alternates, Construction Phases and funding Criteria.
   b. Scope Type: Arrange and identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
      1) Site Utilities.
      2) Site Development Zones.
      3) Buildings.
         a) If necessary, separate each floor or separate areas of each main elements of the work.
   c. Submittals: Include a separate sub-schedule for all submittal, approval and procurement activities, including owner-furnished items.
      1) Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
      2) Coordinate Submittal Schedule with the list of subcontractors, **Schedule of Values** and the list of products as well as the **Contract Construction Schedule.**
   d. Testing and Inspection: Include a separate sub-schedule for all required on-site testing, off-site testing, mock-ups, and inspections.

6. Milestones: As describe in the Initial Project Schedule, Preliminary Project Schedule and include other milestones indicated in the Contract Documents and the following interim milestones.
    a. Earthwork.
    b. Building Foundations and slab on grade.
    c. Structural completions.
    d. Building "dry-in" milestone
    e. Partial Occupancy before Substantial Completion.
    f. Temporary Enclosure and Space Conditioning.
    g. Permanent Space enclosure.
    h. Completion of Mechanical.
    i. Completion of Electrical Installation.
    j. Completion of Communication Installation.
    k. Substantial Completion
    l. Finial Completion
7. Contract Conditions: As describe in the Initial Project Schedule, Preliminary Project Schedule and expand to include separate activity line-items that are directly related to Division 01 - General Requirements and are not of actual work-in-place. Such items shall be, but not limited to the following.
    a. Temporary Facilities.
    b. Field Engineering.
    c. Project Closeout Requirements:
        1) Startup and Testing Time:
        2) Operation and Maintenance.
        3) Demonstration and Training.
        4) Punch List.
            a) Cost-Load Schedule:
    d. Submit a Cash Flow Envelope Report and Cash Flow Projection Diagram (S-curves) with the finalized, cost-loaded baseline project schedule.
        1) Report and diagram shall be based on the planned monthly progress billings expressed as a percentage of the total project cost.
        2) Report and diagram shall calculate and show two projections. One based on early starts/early finishes, and another based on late starts/late finishes.

PART 3 - EXECUTION

3.1 SCHEDULES AND PROCEDURES FOR CONSTRUCTION SCHEDULES

A. General Requirements:
1. The Architect may request the Contractor to provide (at no cost) the following additional reports or schedule plots:
    a. Total or Free Float Report from least to most float.
    b. Subcontractor Certifications, indicating approval of the subcontractors scheduled work, acknowledging outside factors such as manpower resources, stacking of trades, multiple mobilizations, and coordination of space with other trades and the stacking of trades.
    c. Narrative Reports: May include but not limited to the following descriptions;
        1) Last month's progress achieved, and anticipated next month's progress.
        2) Problems or delays experienced and an explanation of mitigating actions taken.

3) Current or anticipated delays and proposed mitigation action to be taken.
4) Listing of all submittals, RFIs, Change Directives, Owner-supplied equipment or other Owner-controlled and critical constraints affecting the Contractor's progress.
5) Progressed achieved on critical path work as depicted in the last month's update. Changes to the critical path from the previous update to the current update.

B. Coordination Schedules:
1. Short Interval Schedules (SIS): A look-ahead schedule.
a. Provide a three-week snapshot of the work generated from the most recent monthly Schedule Update.
b. Include the current week, and two week thereafter.
c. The schedule shall contain sufficient detail to evaluate inspection requirements, and for the Contractor to anticipate manpower and equipment needs.
2. Monthly Schedule Updates (MSU): Accurately indicate the actual progress of the work during the prior month.
a. Indicate the date through which progress is reported shall be identified on all update schedule.
1) Provide the actual start and finish dates of activities commenced or completed during the prior month.
2) Once the actual start and finish dates are updated and accepted as accurate, this data shall not be changed. This portion shall be considered an "As-Built".
3) If the schedule data is changed due to a routine updating only, no identification or discussion of such changes is required.
b. The Monthly Schedule Updates shall include the Schedule Modifications and Time Extensions that have been mutual agreed to by the Architect and Contractor.
1) In the event of multiple Schedule Modifications and Time Extensions, events shall be updated into the current Monthly Schedule Update in the actual order of occurrence.
c. The Architect's review comments shall be incorporated into the next update for the Architect's verification.
d. Provide a Cost Report listing each activity and its associated cost, percentage of work accomplished, earned value to date, previous payments and amount earned for the update period.
1) Also provide a cost report listing each new or refined activity and its associated cost that were created through updates, change orders, or fragnet delay analyses for time extension requests.
e. Provide Cash Flow Projections Diagram showing actual billings plotted against early and late curves based on the Monthly Schedule Updates.
f. A MSU submittal, even if it indicates delay to project completion date, is not considered as a request for contract time extension request. A time extension request or a Time Impact Analysis is a separate submittal from MSU submittal.

C. Schedule Modifications:
1. Changes in Sequence:
a. If the Architect determines that the sequence of the construction differs significantly from the Contract schedule, the Contractor shall submit a revised schedule for approval within **fourteen (14)** days of the Architect's request.
b. If the work is re-sequenced, or if activities are added or deleted, these schedule data

changes must be specifically identified, discussed and submitted.

1) The submittal shall be separate and apart from the routine monthly update submittals.

c. If the changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next Monthly Schedule Update submittal.

1) The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.

2) Submit a "schedule comparison" report that indicates activities added or deleted, logic ties added or deleted, original and remaining duration changes and constraint changes.

2. Recovery Schedule:

a. When periodic update indicates, the Work is **fourteen (14)** or more calendar days behind the current approved schedule, submit a separate recovery schedule indication means by which Contractor intends to regain compliance with the schedule.

b. Submittal shall indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

1) The submittal shall be separate and apart from routine monthly update submittals.

c. The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.

3. Alterations to Schedule:

a. If the Contractor intends to alter its planned sequence or approach to the work, the Contractor shall submit a request of the schedule revisions or sequence changes to the Architect for review and comment.

b. Submittal shall include a description of the reason(s) for the schedule changes, a description of the changes being made, a list of all added and deleted activities, changed logic relationships, changed activity durations or descriptions, etc.

1) The submittal shall be separate and apart from routine monthly update submittals.

c. If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next Monthly Schedule Update submittal.

1) The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.

D. Time Extension:

1. Notice of Delay:

a. Provide a "Notice of Delay" submittal for all time extension requests, showing the impact of the delay event on the Project Schedule. Refer to the sample "Notice of Delay Form" provided herein.

1) In cases where the Contractor does not provide "Notice of Delay" submittal for a delay event within the specified time limits, then it is mutually agreed that the delay event has no time impact on the contract completion date (or interim milestones) and no time extension is required.

2. Time Extension Request / Time Impact Analysis:

a. Submit with a Change Order Request (COR) in response to an event, SI, RFI, RFP, or other documents issued by the Architect.

b. Provide a "Fragnet" with the COR, demonstrating the time impact based on the

date(s) and durations of the delay event, the status of construction at that point in time, and the affect on the scheduled sequence, progress of the Critical Path Activities and Project Completion

1) The Submittal shall be based on the latest Monthly Schedule Update.
2) The Submittal shall include all supporting project documentation or delay calculations that establish entitlement and quantify the delay.
3) The Submittal shall demonstrate the activity or activities effects on the total float along the activity path at the time the event occurred.
4) The Contractor must propose possible mitigation plans (sequence changes and any costs) for otherwise critical path delays.
    a) The Contractor shall provide an evaluation of the cost of mitigation versus the cost of extended project performance.

c. If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next Monthly Schedule Update submittal.
    1) Extensions of time for performance will be granted only to the extent that the equitable time adjustment for the activity or activities affected exceeds the total float.
    2) The Contractor acknowledges and agrees that mitigation of delays due to delay events may require a change to preferential sequences of work.
        a) The Contractor agrees to be bound by the revised, re-sequenced or optimized schedules, and agrees to make no claim for such.

d. The Owner (or District) shall not be liable for any acceleration costs due to the Contractor's failure to comply with the contract requirements for requesting, documenting and demonstrating that a time extension is required for a delay event.
    1) The Contractor¢s obligation to timely perform per the schedule will not be excused until time extension requests are reviewed and accepted by the Architect.
    2) If requested, the Contractor shall correct the "out-of-sequence" progress prior to requesting contract time extension.

3. Inclement Weather:
    a. General:
        1) The Contractor shall record on the Contractor Daily Reports, each occurrence of Inclement Weather and Mud impacts to the progress of scheduled work through the Contract duration. Refer to the sample of ÓInclement Weather Form• provided herein
            a) Inclement Weather days will be counted chronologically from the first to the last day of each month, with each daily incidence of "Inclement Weather" being counted as a whole day.
            b) Each occurrence of Inclement Weather and Mud, must be verified and approved by the Inspector of Record.
    b. Unusually Severe Weather:
        1) Submit with a Change Order Request (COR) for all time extension requests in response to "Unusually Severe Weather".
        2) Provide a "Fragnet" with the COR, demonstrating the time impact based on the date(s) and durations of the delay event, the status of construction at that point in time, and the effect on the scheduled sequence, progress of the Critical Path Activities and Project Completion.
            a) The submittal shall be based on the latest Monthly Schedule Update.
            b) The submittal shall include all supporting project documentation or delay calculations that establish entitlement and quantify the number

of days of anticipated "Inclement Weather" are exceeded in a given month.

c) The submittal shall demonstrate the effects on the total float of the Project at the time the event occurred

d) The submittal shall demonstrate that the delay must be beyond the control and without the fault of negligence of the Contractor

3) If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next Monthly Schedule Update submittal.

a) The Contractor will become eligible for an excusable, non-compensable time extension for "Unusually Severe Weather".

c. Mud Days:

1) Provide "Mud Days" Submittal to the Architect for all claimed time extension requests, showing the impact of the delay event on the contract schedule.

2) Submit as a Change Order Request (COR).

3) The Submittal shall demonstrate the time impact based on the date(s) and durations of the delay event, the status of construction at that point in time, and the effect on the scheduled sequence and progress of the Critical Path Activities.

a) The Submittal shall be based on the latest Monthly Schedule Update.

b) The Submittal shall include all supporting project documentation or delay calculations that establish entitlement and quantify the number of days of anticipated "Mud Days" are exceeded in a given month.

c) The Submittal shall demonstrate the effects on the total float of the Project at the time the event occurred.

d) The Submittal shall demonstrate that the delay must be beyond the control and without the fault of negligence of the Contractor.

4) If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next Monthly Schedule Update Submittal.

a) The Contractor will become eligible for an excusable, non-compensable time extension for "Mud Days".

3.2 SCHEDULES

A. List of attached Forms and Reports.

1. Meteorological Data Chart.
2. Notice of Delay Form.
3. Inclement Weather Form.

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"SAMPLE" Meteorological Data for Fresno, California

Normals, Means and Extremes

	TEMPERATURE (degrees F)				PRECIPITATION***		FOG	
	Normal	Extremes						
Month	Daily Max.	Daily Min.	Record Highest	Record Lowest	Mean* Number Calendar/Work		Normal (in) Calendar/Work	Mean**Number
	Days per month		Days per month					
Jan	54.1	37.4	78	19	7.5/5.4	1.96	11.8/8.4	
Feb	61.7	40.5	80	24	7.1/5.1	1.8	6.0/4.3	
Mar	66.6	43.4	90	26	7.1/5.1	1.89	1.7/1.2	
Apr	75.1	47.3	100	32	4.1/2.9	0.97	0.3/0.2	
May	84.2	53.7	107	36	1.9/1.4	0.3	0.1/0.1	
Jun	92.7	60.4	110	44	0.7/0.5	0.08	0.0/0.0	
Jul	98.6	65.1	112	50	0.2/0.1	0.01	0.0/0.0	
Aug	96.7	63.8	111	49	0.3/0.2	0.03	0.1/0.1	
Sep	90.1	58.8	111	37	1.0/0.7	0.24	0.1/0.1	
Oct	79.7	50.7	102	27	2.2/1.6	0.53	0.9/0.6	
Nov	64.7	42.5	89	26	5.2/3.7	1.37	5.8/4.1	
Dec	53.7	37.1	76	18	6.7/4.8	1.42	12.1/8.6	
Year	44.1/31.5		10.6	38.8/27.7				

Source: NOAA, National Oceanic and Atmospheric Administration

* Precipitation of .01 inches or more

** Heavy Fog visibility ¼ mile or less

*** Refer to the term Mud, for mud impacts.

2 Above data is subject to change, based upon the locality of the project. Contractor shall assemble the data and submit to The Architect for confirmation, review and modifications: Obtain data from NOAA (828) 271-4800, or the Local Weather Office. http://www.ncdc.noaa.gov.

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NOTICE OF DELAY FORM

Date: _____ Submittal No.: _____
From: Name of Contractor Sheet _____ of _____
To: Darden Architects, 6790 N. West Avenue, Fresno, CA 93711 (559) 448-8051
Description of Delay: By reference to attached schedule, the following delay occurred:
_____
_____
_____
_____ Continued on Sheets ____ of ____
Time Extension Requested:_____ work days x 1.4 = _____ calendar days.
Time Requested for Activity:_____ Time Requested for Project:_____
Related Documents: The following construction documents provide evidence of the delay event:
RFI Nos.: _____ SI Nos.: _____
CCD Nos.: _____ RFP Nos.: _____
Daily Reports Dated:_____ and attached.
Project Correspondence Dated:_____ and attached.
Other Documentation:_____
Schedule-Related Information: By reference to the attached Schedule, provide the following:
Predecessor Activity: _____
Successor Activity: _____
Affected CPM Schedule Activities (list IDs and descriptions):
_____
_____
_____

INCLEMENT WEATHER FORM

Date: _____
From: Name of Contractor Sheet _____ of _____
To: Darden Architects, 6790 N. West Avenue, Fresno, CA 93711 (559) 448-8051
Description of Delay: the following delay occurred:

_____
_____
_____
_____ Continued on Sheets ____ of ____
Time Extension Requested:_____ work days x 1.4 = _____ calendar days.
Time Requested for Activity:_____ Time Requested for Project:_____
Related Documents: The following construction documents provide evidence of the delay event:
Daily Reports Dated:_____ and attached.
Project Correspondence Dated:_____ and attached.
Other Documentation:_____
Affected CPM Schedule Activities (list IDs and descriptions):
_____
_____
_____

END OF SECTION

SECTION 013226 – FORMS AND REPORTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Contractor to provide all Forms and Reports as required by the Architect for Administrative Procedures and other related items necessary to document the Project as required by the Contract Documents, including but not limited to those forms provided under this specification section.
   2. CalGREEN Forms:
      a. Contractor shall provide all California Green Building Standards Code Certification Worksheets and other related items necessary to document the Project as required by the AHJ, including, but not limited to, those forms provided under this specification section.
         1) Obtain the latest documents from the California Building Standards Commission; revisions may have been made since the publication of this Project Manual.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Forms and Reports as attached to this section when required by the Architect.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. In accordance with Specification Section - REGULATORY REQUIREMENTS.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

A. Listing of Architect required Forms and Reports No. of Pages:
1. 01 32 26.01-DAILY SUPERINTENDENT'S REPORT 2
2. 01 32 26.02-SUBCONTRACTOR'S DAILY REPORT 1
3. 01 32 26.03-SHOP DRAWING AND SUBMITTAL TRANSMITTAL 1
4. 01 32 26.04-REQUEST FOR INFORMATION (RFI) 1
5. 01 32 26.05-SUPPLEMENTAL INSTRUCTIONS (SI) 1
6. 01 32 26.06-REQUEST FOR PROPOSAL (RFP) 1
7. 01 32 26.07-CONSTRUCTION CHANGE DIRECTIVE (CCD) 1
8. 01 32 26.08-CHANGE ORDER REQUEST REVIEW (COR) 2
   a. (Review form provided by the Contractor is subject to review and comments by the Owner and Architect).
9. 01 32 26.09-CHANGE ORDER (CO) 1
10. 01 32 26.10-FRAGNET SUBMITTAL FORM 1
11. 01 32 26.11-APPLICATION FOR PAYMENT (AP) 1
12. 01 32 26.12-CONTRACTOR'S TESTING / INSPECTION REQUEST FORM 1
13. 01 32 26.13-CONTRACTOR'S "DEVIATION NOTICE" INSPECTION REPORT FORM 1
14. 01 32 26.14-CONTRACTOR'S FINAL INSPECTION REQUEST FORM 1
15. 01 32 26.15-CONTRACTOR'S PUNCHLIST INSPECTION REQUEST FORM 1
16. 01 32 26.16-CONTRACTOR'S PUNCHLIST 1
17. Periodic field reports issued by the Architect and Engineers.
18. Contractor's Punch List Response and Correction form is required for each Punch List Review report, citing the issuing Punch List Review format number(s).
19. Completed Contractor's Punch List and Final Inspection Reports issued by the Architect, Engineers and the Owner.
20. See the attached Forms and Reports suitable for reproduction by the Contractor or Subcontractor.

B. Listing of California Green Building Standards Code Certification Worksheets:
1. SOILS LOSS PREVENTION PLAN CHECKLIST.
2. WORKSHEET (WS-4) FIXTURE FLOW RATE (Prescriptive Method).
3. CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN WORKSHEET (Sample).
4. CONSTRUCTION WASTE MANAGEMENT (CWM) WORKSHEET (Sample).
5. CONSTRUCTION WASTE MANAGEMENT (CWM) ACKNOWLEDGMENT (Sample).
6. FINISH MATERIALS CERTIFICATE - ADHESIVES & SEALANTS.
7. FINISH MATERIALS CERTIFICATE - ARCHITECTURAL COATINGS.
8. FINISH MATERIALS CERTFICATE - COMPOSITE WOOD PRODUCTS.
9. FINISH MATERIALS CERTIFICATE - FLOORING.

END OF SECTION

(Attachments)

GENERAL CONTRACTOR'S
DAILY SUPERINTENDENT'S REPORT

(JOB NO./REPORT NO.) (DATE/DAY)

(JOB NAME) WEATHER DESCRIPTION

(WORK SHIFT) / FROM / TO (PROJECT MANAGER/SUPERINTENDENT)

PM/	ENGR/	CARPENTERS			LABORERS		CEM FINISHERS			OPER ENGR			
SUPT	TK	FMAN	JRMAN	APP	FMAN	LAB	FMAN	JRMAN	APP	JRMAN	APP	OTHER	TOTAL

CONCRETE: CY TODAY:_____ LOCATION: _____ CY TO DATE: _____

WORK SUMMARY:

DELAYS / WORK RELEASED BY OWNER:

CHANGE ORDERS / EXTRA WORK ORDERS:

INSTRUCTIONS FROM ARCHITECT / OWNER:

MATERIALS / EQUIP. DELIVERED TO JOB:

INSPECTIONS / TESTS PERFORMED

SAFETY / ACCIDENTS:

MAJOR EQUIP. ON SITE:

BACKSIDE OF GENERAL CONTRACTOR'S REPORT

SUBCONTRACTORS ON JOB	NO. OF MEN	FOREMAN'S NAME	WORK DESCRIPTION / LOCATION

MAJOR EQUIPMENT ON SITE:

BACK CHARGES:

REMARKS:

SUBCONTRACTOR'S
DAILY REPORT

PROJECT: DATE:

SHIFT TIME FOREMAN: WEATHER:

WORK DESCRIPTION AND LOCATION:

SUB-SUBCONTRACTOR	CREW SIZE	CRAFT	WORK DESCRIPTION / LOCATION

DELAYS:

CHANGE ORDERS / EXTRA WORK ORDERS:

INSTRUCTIONS RECEIVED FROM GC:	TESTS / INSPECTIONS PERFORMED:
MATERAL / EQUIPMENT DELIVERIES:	MAJOR EQUIPMENT ON SITE:

SAFETY / ACCIDENTS:

SHOP DRAWING AND SUBMITTAL TRANSMITTAL

DESCRIPTION: **SUBMITTAL NO.:**

SPEC SECTION:

ARCHITECT:
Darden Architects, Inc.
6790 North West Avenue
Fresno, California 93711

PROJECT:

CONTRACTOR:

SUPPLIER:

Substitution: Yes: ☐ **DSA Approval Req'd**

DATE RECEIVED: _____ **NO. RECEIVED:** _____ **DATE RETURNED:** _____

Contractor Remarks:

Other Required Information: CPM Activity / Submittal Task No.: _____

Early Start (ES) Date: _____ Late Finish (LF) Date: _____

WARRANTY: ☐ **O and M MANUALS** ☐ Early Finish (EF) Date: _____ Scheduled Float Time: _____

DESIGN CONSULTANT'S REVIEW:

TRANSMITTED BY ARCHITECT TO: _____ DATE RETURNED: _____

DATE SENT: _____

NO. SENT: _____ **Consultants Remarks:**

ACTION:

☐ NO EXCEPTION TAKEN RELATIVE TO DESIGN
☐ NO EXCEPTION TAKEN WITH MODIFICATION NOTED
☐ AMEND AS NOTED AND RESUBMIT
☐ REJECTED AND RESUBMIT
☐ SEE ATTACHED LETTER

ARCHITECT'S REVIEW:

Architects Remarks:

ACTION:

☐ NO EXCEPTION TAKEN RELATIVE TO DESIGN
☐ NO EXCEPTION TAKEN WITH MODIFICATION NOTED
☐ AMEND AS NOTED AND RESUBMIT
☐ REJECTED AND RESUBMIT

Approved Substitution ☐

COPIES TO:

DATE RETURNED: _____

Contractor: **Owner:** **Inspector:** **File:** **Other:**

REQUEST FOR INFORMATION

RFI No.:

To: **Darden Architects, Inc.**
6790 North West Avenue
Fresno, California 93711

Date:

Respond By:

Architect Project No.

Attn:

Project:

INFORMATION REQUESTED:

test

Cost Impact: None: _____ Signature: _____

Schedule Impact: None: _____ Days Pages Attached: _____

Trade/Contractor: Schedule Task No/Item:

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in the Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Sum or Contract Time.

If the Contractor considers that this supplemental instruction requires a change in the Contract Sum or Contract Time, the Contractor shall not proceed with this Work and shall promptly submit an itemized proposal to the Architect for doing this work. If your proposal is found to be satisfactory and in order, this supplemental instruction will be superseded by a Construction Change Directive.

Refered To: Refered Date: Return Date:

SUPPLEMENTAL INSTRUCTIONS:

Consultant's Signature: _____ Architect's Signature: _____

Date: _____ Date _____

Copy: ☐Owner ☐Inspector ☐Testing Lab ☐Structural ☐Mech. ☐Elec ☐File ☐Other Pages Attached: _____

SUPPLEMENTAL INSTRUCTIONS

PROJECT:

SUPPL. INST. NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:
DSA Appl. No.:
DSA File No.:
OPSC Appl. No.:
OSHPD No.:

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in the Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Sum or Contract Time.

If the Contractor considers that this supplemental instruction requires a change in the Contract Sum or Contract Time, the Contractor shall not proceed with this Work and shall promptly submit an itemized proposal to the Architect for doing this work. If your proposal is found to be satisfactory and in order, this supplemental instruction will be superceded by a Construction Change Directive.

Description:

Trade/Contractor:

Schedule Task No/Item:

Attachments:

Darden Architects, Inc.

Issued By:

_____

Architect

☐ OWNER ☐ CONTRACTOR ☐ INSPECTOR ☐ TESTING LAB ☐ STRUCTURAL ☐ MECHANICAL ☐ ELECTRICAL ☐ OTHER

REQUEST FOR PROPOSAL

PROJECT:

REQUEST FOR PROPOSAL NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:
DSA Appl. No.:
DSA File No.:
OPSC Appl. No.:
OSHPD No.:

Please submit an itemized proposal for change in the Contract Sum and Contract Time for proposed modifications to the Contract Documents described herein. Submit proposal promptly or notify the Architect in writing of the date on which you anticipate submitting your proposal.

This is not a Change Order, Construction Change Directive, or a direction to proceed with the Work described in the proposed modifications.

Description:

Attachments

Darden Architects, Inc.

ISSUED BY:

Architect

☐ OWNER ☐ CONTRACTOR ☐ ARCHITECT ☐ CONSULTANT ☐ INSPECTOR ☐ OTHER

CONSTRUCTION CHANGE DIRECTIVE

PROJECT:

DIRECTIVE NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:
DSA Appl. No.:
DSA File No.:
OPSC Appl. No.:
OSHPD No.:

You are hereby directed to make the following change(s) in this Contract:

CONTRACT ADJUSTMENT

1. The proposed basis of adjustment to the Contract Sum of Guaranteed Maximum Price is:

   ☐ Lump Sum $0.00

   ☐ Unit Price of $0.00

   ☐ As provided for in General Conditions and the Supplemental Conditions of the contract.

   ☐ As Follows:

2. The Contract Time is proposed to (be adjusted). The proposed adjustment, if any, is increase of _____ days)

When signed by the Qwner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

Signature by the Contractor indicates the Contractor's agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this Construction Change Directive.

ARCHITECT	OWNER	CONTRACTOR
Darden Architects, Inc.		
6790 North West Avenue		
Fresno, California 93711		
By:	By:	By:
Date:	Date:	Date:

☐ OWNER ☐ CONTRACTOR ☐ ARCHITECT ☐ CONSULTANT ☐ INSPECTOR ☐ OTHER

darden architects

6790 North West Avenue
Fresno, California 93711
Tel: 559.448.8051
Fax: 559.446.1765
www.dardenarchitects.com

CHANGE ORDER REQUEST REVIEW

PROJECT:

CHANGE ORDER REQUEST NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACTOR:

Architect Project No.:
DSA Appl. No.:
DSA File No.:
OPSC Appl. No.:
OSHPD No.:

DESCRIPTION OF PROPOSED CHANGE:

Scope:

Necessary for:

DESIGN CONSULTANT'S REVIEW:

Date Sent:
Referred To:
Date Returned:

ACTION:

- ☐ NO EXCEPTION TAKEN RELATIVE TO COST
- ☐ NO EXCEPTION TAKEN RELATIVE TO TIME
- ☐ AMEND AS NOTED AND RESUBMIT
- ☐ REJECTED

Consultants Remarks:

ARCHITECT'S REVIEW:

Date Returned:

ACTION:

- ☐ NO EXCEPTION TAKEN RELATIVE TO COST
- ☐ NO EXCEPTION TAKEN RELATIVE TO TIME
- ☐ AMEND AS NOTED AND RESUBMIT
- ☐ REJECTED

Architects Remarks:

Attachments:

REVIEWED:

Darden Architects, Inc.
6790 North West Avenue
Fresno, California 93711

APPROVED:

Architect : **Date :** **Owner :** **Date :**

The Architect is hereby directed to instruct the Contractor to make the above changes in the Project and to include these changes in a subsequent Change Order:

☐ OWNER ☐ CONTRACTOR ☐ INSPECTOR ☐ STRUCTURAL ☐ MECHANICAL ☐ ELECTRICAL ☐ OTHER

CHANGE ORDER REQUEST NO.

Architect Project No.:

CHANGE ORDER REQUEST - BREAKDOWN WORKSHEET

WORK DELETED:

Contractor				
Materials	$0.00			
Equipment	$0.00			
Labor	$0.00			
Material, Equipment, & Labor		$0.00		
TOTAL:				**$0**

ADDITIONAL WORK PERFORMED BY SUB-CONTRACTOR

Sub-Contrator				
Materials	$0.00			
Equipment	$0.00			
Labor	$0.00			
Material, Equipment, & Labor		$0.00		
Overhead 01 32 26.03		$0.00		
Profit 01 32 26.03		$0.00		
Sub-Total:			$0.00	
Contractor				
Overhead 01 32 26.03			$0.00	
Profit 01 32 26.03			$0.00	
TOTAL:				**$0.00**

ADDITIONAL WORK PERFORMED BY CONTRACTOR

Contractor				
Materials	$0.00			
Equipment	$0.00			
Labor	$0.00			
Material, Equipment, & Labor		$0.00		
Overhead 01 32 26.03		$0.00		
Profit 01 32 26.03		$0.00		
TOTAL:				**$0.00**

TOTAL COST: **$0.00**

TOTAL COST:	**$0.00**
TOTAL DAYS:	**0**

ARCHITECTURAL ADMINISTRATIVE FEES:

Proposal Request Administration	**$0.00**
Construction Administration	**$0.00**
TOTAL:	**$0.00**
DSA Fees:	**$0.00**

CHANGE ORDER

PROJECT:

CHANGE ORDER NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:
DSA Appl. No.:
DSA File No.:
OPSC Appl. No.:
OSHPD No.:

The Contract is changed as follows:

Description:

See Attached pages for Change Order Items

It is mutually agreed that the affixed signature to this Change Order is evidence that all compensation with respects to the changes defined herein have been satisfied with the execution of this document. Furthermore, no additional compensation either monetarily or via time extension to this contract will be sought in respect to this Change Order.

The Original Contract Sum and Contract Completion Date:		
Net change (Contract Sum and Contract Time) by previous Change Orders:		
Contract Sum and Contract Completion Date prior to this Change Order:		
Contract Sum and Contract Time (increased or decreased) by this Change Order:		
New Contract Sum and Contract Completion Date including this Change Order:		

ARCHITECT	OWNER	CONTRACTOR
Darden Architects, Inc.		
6790 North West Avenue		
Fresno, California 93711		
By:	By:	By:
Date:	Date:	Date:

☐ OWNER ☐ CONTRACTOR ☐ ARCHITECT ☐ CONSULTANT ☐ INSPECTOR ☐ OTHER

FRAGNET SUBMITTAL FORM

Date: _____ Sheet _____ of _____

From: _____ Fragnet No.: _____

To: Darden Architects, Inc.

Description of Delay: By reference to attached schedule fragnet, the following delay occurred:

_____

_____

_____

Continued on Sheets _____ of _____

Time Extension Requested: _____ wds, _____ cds.

Time Requested for Activity: Time Requested for Project:

Related Documents: The following construction documents provide evidence of the delay event:

RFI Nos.: _____ SI Nos.: _____

CCD Nos: _____ RFP Nos.: _____

Daily Reports Dated: _____ and attached.

Project Correspondence Dated: _____ and attached.

Other Documentation: _____

Schedule-Related Information: By reference to the attached fragnet, provide the following:

Predecessor Activity to Fragnet:

Successor Activity to Fragnet:

Affected CPM Schedule Activities (list IDs and descriptions):

_____

_____

New CPM Schedule Activities (list IDs and descriptions):

_____

_____

END OF FORM

APPLICATION FOR PAYMENT

To:
DARDEN ARCHITECTS, INC.
6790 N. West Avenue
Fresno, CA 93711

Project:

Bid Package No: _____

Pay Application No: _____
Application Date: _____
Period Ending: _____

Distribution to: _____
Owner: _____
Architect: _____
Contractor: _____
Const Mgr.: _____
Inspector: _____

FROM: _____
Prime Contractor

Address: _____ Phone: _____

CONTRACTOR'S APPLICATION FOR PAYMENT:

CHANGE ORDER SUMMARY		
APPROVED CHANGE ORDERS:		
Change Order No.	Approved Date.	Amount:
		$
		$
		$
		$
		$
		$
		$
		$
TOTALS		
Net change by Change Order		$

The undersigned Contractor certifies that in the best of his 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 for Payment were issuesd and payment received from the Owner and that current payment show herein is now due.

Contractor:

_____ **DATE:** _____

The present status of the account for this Contract is as follows:

ORIGINAL CONTRACT SUM:..... $ _____

Net Change by Change Orders:..... $ _____

CONTRACT SUM TO DATE:..... $ _____

TOTAL COMPLETE & STORED TO DATE:..... $ _____

RETAINAGE:_____%:..... $ _____

TOTAL EARNED LESS RETAINAGE:..... $ _____

LESS STOP NOTICE(S):..... $ _____

LESS PREVIOUS PAYMENT:..... $ _____

CURRENT PAYMENT DUE:..... $ _____

This Certificate is not negotiable. This 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.

CONTRACTOR:

_____ **DATE:** _____

INSPECTOR:

_____ **DATE:** _____

CONSTRUCTION MANAGER:

_____ **DATE:** _____

ARCHITECT:

_____ **DATE:** _____

CONTRACTOR'S TESTING / INSPECTION REQUEST FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by Inspector)

BUILDING: _____

SITE/OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION (No.): _____

PLAN SHEET AND DETAIL: _____

SCOPE OF WORK: _____
(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____
(contractor name)

LOCATION (bldg., room, floor, wall, ceiling, etc.) _____

_____

_____

TYPE OF INSPECTION (concrete, framing, welding, masonry, electrical, etc.) _____

_____

_____

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the Testing / Inspection is Requested to Begin.

_____
PRINT NAME AND TITLE OF PERSON REQUESTING INSPECTION

_____
SIGNATURE OF PERSON REQUESTING INSPECTION

Note 2: Contractor Must Accompany Inspector on Inspection, if Requested.

PASSED: _____ FAILED: _____

Note 3: See Attached Sheet for Explanation if Inspection Failed. Re-inspection Required.

INSPECTOR SIGNATURE: _____ Date: _____

CONTRACTOR'S "DEVIATION NOTICE" INSPECTION REQUEST FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by Inspector)

DEVIATION NOTICE(S) (No.): _____

BUILDING: _____

SITE/OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION (No.): _____

SCOPE OF WORK: _____

(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____

(contractor company name)

LOCATION(S) OF WORK FOR INSPECTION (be specific- bldg.(s), room(s), etc.)

_____

_____

INSPECTION REQUESTED ON: _____ at _____ am/pm

(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the "Deviation Notice" Inspection is Requested to Begin.

_____

PRINT NAME OF PERSON REQUESTING DEVIATION NOTICE INSPECTION

_____

SIGNATURE OF PERSON REQUESTING DEVIATION NOTICE INSPECTION

Note 2: Contractor Must Accompany Project Inspector on "Deviation Notice" Inspection, if Requested.

Note 3: See Attached "Deviation Notice" for Inspector's Comments and/or Date Completed.

PASSED: _____ FAILED: _____

PROJECT INSPECTOR SIGNATURE: _____

DATE: _____

CONTRACTOR'S FINAL INSPECTION REQUEST FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by Inspector)

BUILDING: _____

SITE/OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION (No.): _____

SCOPE OF WORK: _____

(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____

(contractor company name)

INSPECTION REQUESTED ON: _____ at _____ am/pm

(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the Final Inspection is Requested to Begin. Contractor to be Notified by the Construction Manager in Regards to the Actual Date and Time of the Final Inspection.

_____

PRINT NAME AND TITLE OF PERSON REQUESTING FINAL INSPECTION

_____

SIGNATURE OF PERSON REQUESTING FINAL INSPECTION

Note 2: Contractor Must Accompany Project Inspector, Architect and/or Engineer(s) on Final Inspection, if Requested.

PASSED: _____ FAILED: _____

Note 3: If the Final Inspection Fails Re-Inspection is Required. See Attached Sheet for Comment(s).

PROJECT INSPECTOR SIGNATURE: _____

DATE: _____

PROJECT ARCHITECT SIGNATURE: _____

DATE: _____

CONTRACTOR'S PUNCHLIST INSPECTION REQUEST FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by Inspector)

BUILDING: _____

SITE/OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION (No.): _____

SCOPE OF WORK: _____

(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____

(contractor company name)

LOCATION(S) OF WORK FOR INSPECTION: (be specific- bldg.(s), room(s), etc.)

_____

_____

DESCRIPTION OF WORK TO BE INSPECTED: (item number(s) from punchlist)

_____

_____

INSPECTION REQUESTED ON: _____ at _____ am/pm

(date) (time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Officer Prior to the Time the Punchlist Inspection is Requested to Begin.

_____

PRINT NAME OF PERSON REQUESTING PUNCHLIST INSPECTION

_____

SIGNATURE OF PERSON REQUESTING PUNCHLIST INSPECTION

Note 2: Contractor Must Accompany Project Inspector on Punchlist Inspection, if Requested. Items Must Have Already Been Signed Off by Contractor.

Note 3: Attached Sheet for Contractor's Signoff and/or Inspector's Comments and/or Date Completed for the Specific Punchlist Items Noted Above.

Note 4: This Inspection is NOT A FINAL INSPECTION but Only an Acknowledgement That a Particular Item(s) is/are completed.

PROJECT: _____ - CONTRACTOR'S PUNCHLIST

CONTRACTOR NAME: _____ Page _____ of _____

ITEM NO.	DESCRIPTION	BUILDING & ROOM NO.	FLOOR	CEILING	WALLS N. S. E. W.	DATE OBSERVED	SIGNOFF/ COMMENTS

01.32.26.16.xls

SECTION 013300 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely provide all required submittals and other related items necessary to complete the Project as indicated by the Contract Documents.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

A. Request for Electronic Files:
   1. Submit in accordance with the following:
      a. Contractor's Usage Agreement for Electronic Files:
         1) See attachment.

B. Deferred Approval Submittal:
   1. Contractor's responsibilities:
      a. Contractor shall submit a deferred approval package for each of the items identified as such on the cover sheet. The Contractor Shall Be Responsible For The Preparation and Submittal Of The Deferred Approval Items To The Division Of The State Architect (DSA) For Review and Approval Prior To The Installation. The Submittal Shall Comply With the Requirements Of Specification Section 013300 SUBMITTAL PROCEDURES, Submittals.
      b. Installation of Deferred Approval items shall not be started until Contractor's drawing, specifications, and engineering calculations for the actual system(s) to be installed have been reviewed by the Architect and/or the Structural Engineer, and approved by the DSA.

C. Contractor's responsibilities:
   1. The Contractor shall check, verify, and be responsible for all field measurements.
   2. The Contractor shall submit a schedule indicating when the required shop drawings and submittals will be submitted to the Architect.
      a. Submit schedule within the amount of days as indicated in Specification Section - CONSTRUCTION SCHEDULES.
   3. Submit copies as scheduled below, checked and approved by the Contractor for all

submittals required for the work of the various trades. Deliver submittals promptly to avoid delays in delivery of materials or execution of the work.

a. The Contractor (or Subcontractor) shall mark-up the submittals as to project specifics. If the specifications contains a schedule prepared by the Architect (i.e. paint symbols such as DW-1, M-1, CB-1, etc., or tile symbols such as CT-1,CT-2, or IWA, IWB, IWC, etc.), then the submittal will also contain those designations. Submittals without project specifics will be returned to the Contractor as not being properly prepared.

b. The Contractor shall stamp the Submittals utilizing any language requested by the Owner in the General Conditions and the following minimum language:

"This submittal has been reviewed by (Name of Contractor) and approved with respect to the means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incidental thereto. The Contractor has reviewed and approved not only the field dimensions, but the construction criteria, and has also made written notation regarding any information in the Shop Drawings that does not conform to the Contract Documents. The Contractor has reviewed this submittal and coordinated with all other Shop Drawings received to date by the Contractor and this duty of coordination has not been delegated to subcontractors, material suppliers, the Architect, or the design consultants on this project. The Contractor shall also have indicated that it has not relied upon the dimensions shown on the drawings, specifications and schedules, and that the Contractor has double-checked all dimensions for accuracy and fit. (Name of Contractor) also warrants that this submittal complies with the Contract Documents and comprises no variation thereto."

By: _____ Contractor's Signature

_____Contractor's Typed Name

Date: _____

c. Substitutions on shop drawings or in product submittals will not be considered without prior approval in accordance with Specification Section - SUBSTITUTION PROCEDURES. Submittals containing unacceptable items will be rejected.

d. The Contractor shall make any corrections required by the Architect during the Architect's initial review, and re-submit the required corrected copies for final review and distribution.

D. Architect's responsibilities:

1. The Architect will make any desired corrections with reasonable promptness, and return the submittal to the Contractor.
2. The Architect's review of such drawings or schedules shall not relieve the Contractor of responsibility for deviations from the drawings or specifications, unless he has, in writing, called the Architect's attention to such deviations at the time of submission, and secured written acceptance.
   a. The Architect's review shall be for general conformance with the design concept for the project and general compliance with the information given in the Contract Documents.
   b. The Architect's review shall not be construed as an "approval", or to relieve the Contractor(s) and material suppliers of responsibility for errors or omissions in the submitted documents.
   c. Modifications or comments made on the submittals or shop drawings during this review do not relieve the Contractor from compliance with the requirements of the drawings and specifications.
   d. Acceptance of a specific item does not include acceptance of the assembly of

which the item is a component.

e. The Architect will stamp the submitall with one of the following items
   1) NET: No Exceptions Taken
   2) NETw/MN: No Exceptions Taken with Modifications Noted
   3) AR: Amend and Resubmit
   4) Rej'd: Rejected

E. The following list of items, definitions and required quantities is a minimum required for this project. Verify with FACILITY SERVICES SUBGROUP sections for additional quantities required within those divisions.

1. The submittal name shall include the type of submittal being furnished.
   a. Product Data
   b. Shop Drawings
   c. Samples
   d. Quality Assurance / Control
   e. Closeout
   f. Field Samples
   g. Mock Ups

2. Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, other product information, color choices and/or manufacturer's catalog sheets shall be specially prepared for the Project (marked-up with project specifics) and shall be submitted in sequential sets for each category of work:
   a. Quantity:
      1) Unless otherwise indicated in the Contract Documents, provide Six (6) sets.
   b. Material Safety Data Sheets (MSDS): MSDS are not required, but it is recognized that applicable federal and state laws require the submission of these data sheets to an Owner. MSDS shall be turned over to the Owner (without review by the Architect or it's consultants) in compliance with federal and state laws.

3. Shop Drawings: Newly prepared information, drawn to accurate scale, consisting of drawings, diagrams, schedules, and other data specifically prepared for the Project by the Contractor, a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Project. Do not reproduce Contract Documents or copy Standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
   a. Contractor's use of Architect's Electronic CAD Files.
      1) Upon written request by Contractor, copies of the Architect's electronic CAD files maybe available for Contractor's use in connection with this Project.
         a) Contractor's written request shall be on the Architect's "Contractor's Document Usage Agreement for Requested Documents" and may include an additional Architect's Consultant's Agreements, outlining conditions for providing files.
         b) Contractor's request shall be limited to drawings directly applicable to the Shop Drawings the Contractor wishes to create for submittal.
         c) Contractor shall pay the Architect for work incurred for providing the requested files. Payment shall be submitted with the request.
      2) The Architect's electronic CAD files are limited to files that already exist and that not all files maybe available at the Architect's and Architect's Consultant's discretion.
      3) The Architect's electronic CAD files are not part of the Contract Documents and have limitations to the accuracy, incorporating modifications, CAD

system formats, CAD entity attributes and layering.

4) The Architect's electronic CAD files have restrictions on Contractor's use, transmittal and delivery of files.

4. Samples: Physical examples specially prepared for the Project (marked-up with project specifics) which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.
   a. Quantity:
      1) Unless otherwise indicated in the Contract Documents, provide Four (4) sets.
   b. Color samples shall be submitted on 8-1/2" x 11" cards for all colors scheduling paint types specified utilizing the paint symbols designated by the Architect in the drawings and specifications.
   c. Manufactured devices or equipment items:
      1) Quantity: One (1) sample, returned to supplier and which, when approved, may be incorporated into the Project.
5. Quality Assurance/Control submittals: Consists of design data, test reports, certificates, manufacturers instructions, and /or manufacturer's field reports.
   a. Quantity:
      1) Unless otherwise indicated in the Contract Documents, provide Six (6) sets.
6. Closeout submittals: Maintenance data, operating manuals, project documents, engineering calculations, and/or warranties shall be submitted when required in the various specification sections:
   a. Quantity:
      1) Unless otherwise indicated in the Contract Documents, provide Two (2) sets.
7. Field Samples: Sample panels of in place construction, or selected area of completed substrates or work showing the anticipated compliance with specified characteristics in order to establish a standard of quality.
   a. Quantity:
      1) See specific specification section requirements.
8. Mockups: Full-sized erected assemblies, used for coordination purposes or for testing in a laboratory, or required for approval in a finish form before the actual Project construction begins.
   a. Quantity:
      1) See specific specification section requirements.

F. Substitution, Dispute or Claim Submittals:
   1. Any substitution, dispute or claim submittals relating to this contract, or any Contract breach, which are not disposed of by agreement shall be promptly submitted in accordance with the GENERAL CONDITIONS, as a claim to and decided by the Architect who shall issue a written decision on the dispute.
   2. Adequate supporting data shall include, but is not limited; a statement of the reasons for the asserted entitlement, the certified payroll, invoice for material and equipment rental, and an itemized breakdown of any adjustment sought.
   3. If no "SUBMISSION UNDER PENALTY OF PERJURY" clause is provided within the GENERAL CONDITIONS, then the Contractor shall certify, at the time of submission of a substitution, dispute or claim, as follows:

(The rest of this page is left intentionally blank)

SUBMISSION UNDER PENALTY OF PERJURY

I _____, being the _____(Must be an officer), declare under penalty of perjury under the laws of the State of California, and do personally certify and attest that: I have thoroughly reviewed the attached substitution, dispute or claim for additional compensation and/or extension of time, and know its contents, and said claim is made in good faith; the supporting data is truthful and accurate; that the amount required accurately reflects the contract adjustment for which the Contractor believes the Owner is liable; and further, that I am familiar with California Government Code Section 12650, et seq, pertaining to false claims, and further know and understand that submission of certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences.

By: _____Contractor's Signature

_____Contractor's Typed Name

Date: _____

Submission of a substitution, dispute or claim, properly certified, with all required supporting documentation, and written rejection or denial or all or part of the claim by Owner, is a condition precedent to any action, proceeding, litigation, suit or demand for arbitration by Contractor.

(This page is left intentionally blank)

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

A. Usage Agreement For Electronic Documents:
1. Contractor's Usage Agreement for Electronic Files:
a. See attachment.

B. The following schedule was prepared to assist the Contractor in knowing the required submittals for this project, but may not be complete. Specific submittal information as to what is required is contained within the individual specification sections and those individual sections shall govern in the event of a question.

C. SUBMITTAL SCHEDULE
1. 01 25 00 - SUBSTITUTION PROCEDURES
a. SUBSTITUTION REQUEST FORMS
2. 01 29 73 - SCHEDULE OF VALUES
a. SCHEDULE OF VALUES
3. 01 31 13 - CONTRACTORS PROJECT MANAGEMENT AND COORDINATION
a. SITE UTILITY COORDINATION DRAWINGS
b. FACILITY SERVICES COORDINATION DRAWINGS
4. 01 32 16 - CONSTRUCTION SCHEDULES
a. CONSTRUCTION SCHEDULE, SHOP DRAWING SUBMITTAL SCHEDULE, CRITICAL PATH SCHEDULES, FRAGNETS.
5. 01 32 26 - FORMS AND REPORTS
a. AS REQUIRED BY THIS SPECIFICATION SECTION AND OTHER SPECIFICATION SECTIONS.
6. 01 33 00 - SUBMITTAL PROCEDURES
a. SHOP DRAWING AND SUBMITTAL SCHEDULE, COLOR SAMPLES OF ALL FINISH MATERIALS FOR COLOR BOARD SELECTION.
7. 01 45 29 - TESTING LABORATORY SERVICES
a. TESTING SCHEDULE, TEST REPORTS
8. 01 77 20 - PROJECT CLOSEOUT
a. ANOTATED CONTRACTOR’S AND ARCHITECT’S PUNCH LIST. ALL OPERATIONAL DATA, ALL MAINTENANCE MANUALS, ALL EXTRA MATERIALS.
9. 01 78 36 - WARRANTIES
a. ALL GUARANTEES AND WARRANTIES
10. 01 78 39 - PROJECT DOCUMENTS
a. PROJECT "AS-BUILT" DOCUMENTS, PROJECT "RECORD" DOCUMENTS AND PROJECT "CERTIFICATION" DOCUMENTS.
11. 03 11 01 - CONCRETE FORMWORK
a. PRODUCT DATA, SAMPLES, QUALITY ASSURANCE/CONTROL

SUBMITTALS, CLOSEOUT SUBMITTALS.

12. 03 15 14 - DRILLED ANCHORS
    a. PRODUCT DATA, ICC EVALUATION SERVICE REPORTS, DSA APPROVAL LETTERS.
13. 03 20 00 - REINFORCEMENT
    a. SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
14. 03 30 00 - CAST-IN-PLACE CONCRETE
    a. PRODUCT DATA, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
15. 03 37 13 - SHOTCRETE
    a. PRODUCT DATA, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
16. 04 22 00 - CONCRETE MASONRY UNITS
    a. SAMPLES, COLOR SAMPLES, PRODUCT DATA CERTIFICATION.
17. 04 23 00 - GLASS MASONRY UNITS
    a. SAMPLES, COLOR SAMPLES, PRODUCT DATA CERTIFICATION.
18. 05 30 00 - METAL DECK
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
19. 05 52 00 - RAILING SYSTEMS
    a. MATERIALS LIST, SHOP DRAWINGS, AND WARRANTIES.
20. 06 10 00 - ROUGH CARPENTRY
    a. PRODUCT DATA, CERTIFIACTES OF COMPLIANCE, AND WARRANTIES.
21. 06 18 00 - GLUE-LAMINATED CONSTRUCTION
    a. SHOP DRAWINGS, VERIFIED REPORTS, AND WARRANTIES.
22. 06 61 16 - SOLID SURFACING
    a. SHOP DRAWINGS, MANUFACTURER'S SPECIFICATIONS, COLOR SAMPLES, MOCK-UP, WI CERTIFICATION.
23. 07 26 13 - VAPOR-ALKALINITY CONTROL
    a. PRODUCT DATA, INSTALLATION INSTRUCTIONS, CLOSEOUT SUBMITTALS.
24. 07 31 13 - SHINGLES
    a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES, CLOSOUT SUBMITTALS.
25. 07 51 13 - BUILT-UP ROOFING (Cold)
    a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
26. 07 53 16 - ELASTOMERIC MEMBRANE ROOFING ("Dur-O-Last" CPA)
    a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
27. 07 72 00 - ROOF ACCESSORIES
    a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES AND WARRANTIES.
28. 07 81 16 - FIREPROOFING
    a. MATERIALS LIST, COLORS, MANUFACTURER'S DATA, TEST DATA AND SAMPLES.
29. 07 84 00 - FIRESTOPPING
    a. PRODUCT DATA, CERTIFICATIONS, SHOP DRAWINGS QUALIFICATION DATA ON INSTALLERS.
30. 07 92 00 - SEALANTS
    a. PRODUCT DATA, COLORS AND WARRANTIES.
31. 07 95 00 - EXPANSION JOINTS
    a. MATERIALS LIST, SHOP DRAWINGS, AND WARRANTIES.

32. 08 11 00 - METAL DOORS AND FRAMES
    a. PRODUCT DATA AND SHOP DRAWINGS.
33. 08 14 16 - WOOD DOORS
    a. PRODUCT DATA AND SHOP DRAWINGS.
34. 08 15 13 - LAMINATE-FACED WOOD DOORS
    a. PRODUCT DATA AND SHOP DRAWINGS.
35. 08 33 00 - COILING DOORS
    a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
36. 08 34 73 - ACOUSTICAL DOORS AND FRAMES
    a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
37. 08 44 00 - CURTAINWALL
    a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
38. 08 63 00 - SKYLIGHTS
    a. PRODUCT DATA, SHOP DRAWINGS AND WARRANTIES.
39. 08 91 00 - LOUVERS
    a. PRODUCT DATA, SHOP DRAWINGS, CERTIFICATES AND COLORS.
40. 09 22 16 - METAL FRAMING
    a. PRODUCT DATA (INCLUDING INSTALLATION METHODS) AND MATERIALS LIST.
41. 09 24 00 - CEMENT PLASTER
    a. PRODUCT DATA (INCLUDING INSTALLATION METHODS) AND MATERIALS LIST.
42. 09 26 13 - VENEER PLASTER
    a. PRODUCT DATA (INCLUDING INSTALLATION METHODS) AND MATERIALS LIST.
43. 09 30 13 - TILE
    a. PRODUCT DATA, COLORS, SAMPLES, CERTIFICATES, MAINTENANCE MATERIAL AND WARRANTIES.
44. 09 51 00 - ACOUSTICAL CEILINGS
    a. ACOUSTICAL TILE SAMPLES, SUSPENSION SYSTEM SAMPLES AND DSA APPROVED CEILING BRACING DRAWINGS.
45. 09 64 29 - HARDWOOD FLOOR
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
46. 09 65 16 - RESILIENT SHEET
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
47. 09 67 23 - RESINOUS FLOORING
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
48. 09 68 40 - CARPET
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
49. 09 69 00 - ACCESS FLOORING
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
50. 09 91 00 - PAINTING
    a. PRODUCT DATA, MATERIALS LIST, COLORS, MAINTENANCE INFORMATION AND WARRANTIES.
51. 10 05 00 - MISCELLANEOUS SPECIALTIES

a. PRODUCT DATA, COLORS AND SAMPLES (WHERE APPLICABLE) FOR ALL ITEMS.

52. 10 11 00 - VISUAL DISPLAY BOARDS
    a. PRODUCT DATA AND SAMPLE COLORS.
53. 10 13 00 - DIRECTORIES
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
54. 10 14 53 - ROAD AND PARKING SIGNAGE
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
55. 10 21 00 - TOILET PARTITIONS
    a. PRODUCT DATA, SHOP DRAWINGS, CERTIFICATES AND COLORS.
56. 10 26 00 - WALL AND CORNER GUARDS
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
57. 10 28 13 - TOILET ACCESSORIES
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
58. 10 44 00 - FIRE PROTECTION SPECIALTIES
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
59. 10 51 13 - METAL LOCKERS
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
60. 10 56 13 - METAL STORAGE SHELVING
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS AND WARRANTIES.
61. 11 16 16 - SAFES
    a. PRODUCT DATA, SHOP DRAWINGS, CERTIFICATES AND COLORS.
62. DIV. 22 - PLUMBING SECTIONS
    a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
63. DIV. 23 -HEATING, VENTILATING AND AIR CONDITIONING SECTIONS
    a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
64. DIV. 25- INTEGRATED AUTOMATION SECTIONS
    a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
65. DIV. 26- ELECTRICAL SECTIONS
    a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
66. DIV. 27 -COMMUNICATIONS SECTIONS
    a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
67. DIV. 28- ELECTRONIC SAFETY AND SECURITY SECTIONS
    a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
68. 31 20 00 - EARTHWORK
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES, AND DRAWINGS SHOWING KNOWLEDGE OF THE EXTENT OF ENGINEERED PADS.
69. 31 31 00- SOIL TREATMENT
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.
70. 32 12 00- PAVEMENT

a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.

71. 32 80 00- LANDSCAPE IRRIGATION
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.
72. 33 40 00- STORM DRAINAGE
    a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES.

CONTRACTOR'S
USAGE AGREEMENT FOR ELECTRONIC FILES -
ELECTRONIC FILE REQUEST FORM

Project Name: _____

DA Project No.: _____

TO: DARDEN ARCHITECTS, INC.

6790 N. West Avenue

Fresno CA 93711

A. I _____as a duly authorized agent of

_____, have a contract with the Owner to perform work on the above project in the following capacity:

___ Lease-Lease Back Agent
___ Construction Manager
___ General Contractor

B. We hereby submit for your consideration a request for Electronic Files on the behalf of

_____, and certify that they have a contract or subcontract to perform work on the above named project in the following capacity:

___ General Contractor
___ Sub-Contractor
___ Others under contract to a sub-contractor

C. I _____, certify the required attachments are included as follows:

___ Completed "Usage Agreement for Electronic Files Agreement along with appropriate related supplemental Agreements.
___ Files requested are specific and are not deemed vague or excessive and with individual sheet numbers identified, and the total number of sheets are correct.
___ The enclosed Payment is accurate ($120 per sheet) and is made payable to Darden Architects, Inc..

_____ _____
Print Name, Title

_____ _____
Signature Date

CONTRACTOR'S USAGE AGREEMENT
FOR ELECTRONIC FILES

PROJECT NAME: _____

DA PROJECT NO.: _____

PROJECT ARCHITECT: _____

I _____, as a duly authorized agent
of_____ - (Contractor) have a contract or subcontract to perform work on the above named project. The Contractor acknowledges having received at least one (1) complete set of Contract Documents for the project and has posted all Addenda and all other contract documents issued to date.

Contractor Document Usage Agreement

The Contractor is requesting the electronic CAD files of work prepared by the Architect and/or Architect's Consultants (Design Team) on the subject project, so that the information therein may be utilized in the Contractor's work on the same project. The Contractor understands that these files are being provided as a courtesy and they are strictly intended for the Contractor's sole convenience and they are not recognized Contract Documents. This request is subject to the following conditions, which the Contractor hereby agrees to abide by:

1. It is understood and agreed to that any files and/or documents provided are instruments of professional service by the Design Team and are intended for one-time use solely in the construction of this project. They are and shall remain the property of the Architect or the Architect's Consultants, who is deemed to be the author of the drawings and data, and who shall retain all common law, statutory law, and all other rights, including copyrights.

2. The Contractor shall indemnify and hold harmless, the Design Team, its officers, directors, employees or subcontractors, to the fullest extent permitted by law, against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees and defense costs arising out of or resulting from contractor's use of these electronic files, or in any way connected with the modification, misinterpretation, misuse, or reuse by the Contractor or by others.

3. The Contractor agrees that by using these electronic files, the Contractor is in no way relieved of the duty to fully comply with the Contract Documents, including and without limitation, the need to check, confirm and coordinate all dimensions and other details, take field measurements, verify field conditions and coordinate with all other contractors for the project.

4. It is agreed to that these electronic files are not Contract Documents. Differences may exist between electronic files and corresponding hard-copy Contract documents. The Design Team makes no representation regarding the accuracy or completeness of the electronic files provided to the contractor. In the event that a conflict arises, the signed and sealed hard-copy Contract Documents shall govern. Contractor is responsible for determining if any conflict exists.

5. The Contractor understands that the Design Team makes no representation as to the compatibility of these files with Contractor's computer hardware or software. The Contractor understands that the accuracy of the information is an artifact of the techniques used to generate it and is in no way intended to imply actual accuracy. It is also understood that the automated conversion of information and data from the system and format used by the Design Team to an alternate system or format cannot be

accomplished without the possibility of introduction of inexactitudes, anomalies and errors.

6. Because information presented on the electronic files can be modified, unintentionally or otherwise, the Design Team reserves the right to edit the drawings to remove information deemed not necessary and/or remove all indications of ownership and/or involvement from each electronic display.

7. The Design Team will only furnish those drawings directly applicable to the shop drawings the contractor wishes to create. The Contractor understands that not all electronic files may be available at the Design Team's discretion.

8. The Contractor understands that the Architect's Consultants may have Additional Conditions for release of their electronic files or documents, and the Contractor hereby agree to abide by the Consultants conditions in addition to the stated conditions in this agreement. Additional Conditions (if any) are attached to this agreement.

9. The Contractor understands that the Architect and the Architect's Consultants will incur certain costs in providing the requested electronic files. The Contractor agrees to pay the Design Team a service fee of $120.00 per sheet, per delivery, prior to any delivery of the electronic files to compensate the Design Team for the labor to prepare and transmit the files and for the additional risk that this transfer will occasion.

10. Under no circumstances shall delivery of the electronic files for use by the Contractor be deemed a sale by the Owner, the Design Team, or any member of the Design Team. The Design Team makes no warranties, either expressed or implied, of merchantability or fitness for any particular purpose. In no event shall the Design Team be liable for any loss of profit or any consequential damages as a result of Contractor's use or reuse of the electronic files.

Darden Architects, Inc.

Attachments:
___ Civil ___ Structural ___ Mechanical ___ Electrical ___ Others

Description of the requested documents and/or CAD files:
_____
_____

_____ _____
Printed Name Title

_____ _____
Signed Dated

FOR USE BY ARCHITECT ONLY
___ Check Not Attached – Not Accepted
___ Accepted
___ Accepted as Noted
___ Not Accepted
By_____
Date_____
Remarks_____
_____

END OF SECTION

SECTION 014100 – REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
   2. Section 4-317 (c), Part 1, Title 24, CCR, requires the following:
      a. "The intent of these drawings and specifications is that the work of the alteration, rehabilitation or reconstruction is to be in accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration of non-complying construction be discovered which is not covered by DSA approved documents wherein the finished work will not comply with Title 24, California Code of Regulations, a construction change document, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work."

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

A. References to standards, codes, specifications, recommendations and regulations, refer to the latest edition or printing in effect at the date of issue shown in the Documents unless another date is implied by the suffix number of the Standards.

B. Applicable portions of the Standards listed that are not in conflict with the Contract Documents shall be construed as specification for this work.

C. General Standards:
   1. AFPA American Forest and Paper Association
   2. ANSI American National Standards Institute
   3. ASTM American Society for Testing and Materials
   4. CAL/OSHA California Occupational Safety and Health Administration
      a. State of California Construction Safety Orders
   5. CS Commercial Standards of the US Department of Commerce
   6. EPA Environmental Protection Agency
   7. FMG Factory Mutual Group

8. NIBS National Institute of Building Sciences
9. NIST National Institute of Standards and Technology
10. NFPA National Fire Protection Association
11. OSHA Occupational Safety and Health Administration
    a. Federal Construction Safety Orders
12. PS Product Standards of the US Department of Commerce
13. SS-CDOT "Standard Specification":
    a. State of California Department of Transportation (CalTrans)
14. UL Underwriters Laboratory Incorporated
15. WH Warnock Hersey

1.3 SUBMITTALS

1. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
2. Quality Assurance/Control Submittals:
    a. Certificates:
        1) Submit three (3) copies of certificates written on the Contractor's Letterhead indicating that the required codes shall be present at the Job Site.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements:
1. All codes, laws, ordinances, rules, regulations, orders and other legal requirements of City, County, State, Federal and other public authorities which bear on performances of Work shall be applicable to Project. Latest editions shall be applicable unless specified otherwise.
2. Relationship between Applicable Codes and Contract Documents. The Contract Documents have been developed with the intent to conform to the applicable codes. Nothing within the Contract Documents shall be construed to permit Work not conforming to the applicable codes.

B. Major Governing Codes And Regulations:
1. General: All work shall comply with the requirements of the following codes and regulations. Special reference in other Sections of the Specifications to a specific code will be by use of the abbreviation given in front of the Code.
    a. Freestanding equipment (if applicable) shall be provided and installed in accordance with the seismic requirements where the Project is located.
2. NOTE: * -Indicates that a copy of these codes shall be at the job site at all times.
3. FEDERAL LAW:
    a. ADA: Americans with Disabilities Act
4. CALIFORNIA CODE OF REGULATIONS (Previously known as the California Administrative Codes)
    a. CCR-T5: California Code of Regulations, Title 5-Education.
    b. CCR-T8: California Code of Regulations, Title 8-Industrial Safety
        1) Contains the California Elevator Safety Code.
    c. CCR-T19: California Code of Regulations, Title 19-Public Safety.
    d. CCR-T21: California Code of Regulations, Title 21-Public Works.
    e. *CCR-T24: California Code of Regulations, Title 24, Part 1-Administrative Regulations DSA.
5. CALIFORNIA BUILDING, ELECTRICAL, MECHANICAL, PLUMBING, ENERGY,

FIRE, and REFERENCED CODES

a. *CBC: California Building Code 2019 California Code of Regulations, Title 24-Part 2, Volumes 1 and 2, CCR-T24, based on the 2018 edition of the IBC (International Building Code), with the latest California State Amendments.
b. *CEC: California Electrical Code 2019, California Code of Regulations, Title 24-Part 3, CCR-T24, based on the 2017 edition of the NEC (National Electrical Code), with the latest California State Amendments.
c. *CMC: California Mechanical Code 2019, California Code of Regulations, Title 24, Part 4, CCR-T24, based on the 2018 edition of the UMC (Uniform Mechanical Code), with the latest California State Amendments.
d. *CPC: California Plumbing Code 2019, California Code of Regulations, Title 24, Part 5, CCR-T24, based on the 2018 edition of the UPC (Uniform Plumbing Code) by IAPMO, with the latest California State Amendments.
e. *CEnC: California Energy Code 2019, California Code of Regulations, Title 24, Part 6, CCR-T24, and the latest California State Amendments.
f. *CFC: California Fire Code 2019, California Code of Regulations, Title 24, Part 9, CCR-T24, based on the 2018 edition of the IFC (International Fire Code), with the latest California State Amendments.
    1) In addition to all other Chapters in the CFC to be followed, attention is specifically called out to comply with Chapter 33 - "Fire Safety During Construction and Demolition".
g. CBSC: California Building Standards Commission, California Code of Regulations, Title 24, Part 10, CCR-T24.
h. CGBSC: California Green Building Standards Code 2019, California Code of Regulations, Title 24-Part 11, CCR-T24 (CALGreen).
i. CRSC: California Referenced Standard Code 2019, Title 24, Part 12, CCR-T24, with the latest California State Amendments.

6. DIVISION OF THE STATE ARCHITECT:
    a. DSA: Regulations of the Division of the State Architect of the State of California:
        1) ACS: Access Compliance Section
        2) SSS: Structural Safety Section
        3) FLS: Fire and Life Safety Section
        4) IR: Interpretation of Regulations.
7. OTHER STATE AGENCIES:
    a. AQMCD: Air Quality Management Control District in the area where the project is located.
    b. RWQCB: Regional Water Quality Control Board in the area where the project is located.

C. Governing Authority:
1. The provisions of the State of California, Statutes of 1933, Chapter 59, Safety of Construction of Public School Buildings Act, and the latest regulation based thereon, of the Division of the State Architect of the State of California, shall be the governing authority and shall take precedence over other applicable codes.
2. The following shall be stamped and signed by the A/E on Record or Delegated Design Professional per CBC, Part 1, Section 4-317 (h), and the following:
    a. Addenda or Bulletins per Sec. 4-338(b): All addenda or bulletins shall be signed and approved by the Division of State Architect.
    b. Construction Changes per Sec. 4-338(c): All Construction Changes related to structural items, fire safety issues, life safety issues and accessibility compliance

issues shall be reviewed and approved by the appropriate Division of the State Architect.

c. Substitutions (per DSA) shall be treated like Addenda, or Construction Changes per Sec. 4-338(c), and IR A-6: All substitution requests and substitutions related to structural items, fire safety issues, life safety issues and accessibility compliance issues shall be reviewed and approved by the appropriate Division of the State Architect prior to fabrication and installation.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 014200 – REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
      a. The abbreviations, symbols and work meanings not defined in the Contract Documents are in accordance with building industry usage and convention. Questions which arise as to "meaning," or intent shall be referred to the Architect prior to bidding for interpretation.
      b. Refer to drawings for additional abbreviations and symbols.
      c. Refer to GENERAL and SPECIAL or SUPPLEMENTAL CONDITIONS and specific specification Sections for additional definitions.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. EXECUTE Perform what is required to install, apply, erect and otherwise incorporate products in to this Project.

B. FURNISH Supply products required, deliver to Project, unload, store and install as required in location as directed by Contractor, Owner or Architect.

C. GUARANTEE An assurance by the seller or installer that products or Work are as represented or will be as promised in compliance with Specifications. Synonymous and interchangeable with WARRANTY.

D. INSTALL Incorporate into this Project.

E. PRODUCTS The material, equipment, fixtures and other physical substances required to execute the Project.

F. PROVIDE Furnish and Install into this Project.

G. WARRANTY An assurance by the seller or installer that products or Work are as represented or will be as promised in compliance with Specifications. Synonymous and

interchangable with GUARANTEE.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 014523 – TESTING AND INSPECTION SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
1. One Project Inspector (Owner's Inspector), including Special and/or Assistant Inspector(s) (minimum Class 1 Rating), as required, will be employed by the Owner in accordance with the requirements of CCR-Title 24, Part 1, CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, and the latest amendments, and will be assigned to the Project.
   a. Duties of a Project Inspector are specifically defined in CCR-Title 24, Part 1, Section 4-333, and the latest amendments.
   b. Special Inspections (not within the Project Inspector's abilities) shall be performed by the Testing Laboratory or other Special Inspector as approved by the Owner and DSA.
      1) All Special Inspections shall be approved by DSA in accordance with CCR-T24, Part 1, Chapter 4, Group 1, Article 5, Section 4-335.1.
2. The Project Inspector shall be employed by the Owner and approved by the Architect, Structural Engineer, and DSA.
   a. See the Title Page of this Project Manual for the name of this Project.
   b. Payment of the Project Inspector will be by the Owner.
3. Provide all access, facilities and information required by the Project Inspector for the Project.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
1. ALL DIVISION 00 SPECIFICATION SECTIONS.
2. ALL DIVISION 01 SPECIFICATION SECTIONS.
3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. Responsibilities of the Project Inspector:
   a. The Project Inspector will be required to provide inspection of the Work (including "Continuous Inspection") as required in CCR-T24, Part 1:Educational Work: Chapter 4, Group 1, Article 6, 4-342 (b).
2. The Project Inspector will report to the Owner, the Architect and DSA as required during the progress of the Work.
3. The Project Inspector shall review all Pay Requests prior to submittal to the Architect.

B. Responsibilities of the Contractor:
1. Written Statement of Responsibility to the Owner and the Authority Having Jurisdiction

per CBC Chapter 17A:
   a. Provide a written Statement of Responsibility regarding the Contractor's understanding of the special inspection requirements and identifying individuals in their firm responsible for exercising control over the conformance to the construction documents.
2. Provide the Project Inspector free access to any and all parts of the Project at all times.
3. Provide the Project Inspector information necessary to keep him fully informed with respect to the progress, manner and character of Work.
4. Perform no Work in absence of the Project Inspector unless alternate arrangements have been made in advance and agreed to by the Owner, the Architect and DSA.
5. The Owner's "Inspection of Work" by the Project Inspector shall not relieve the Contractor from any conditions of this Contract.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Quality Assurance/Control Submittals:
      a. Written Statement of Responsibility to the Owner and the Authority Having Jurisdiction per CBC Chapter 17A.
      b. Project Inspector's Field Reports:
         1) Submit four (4) copies of reports.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. In accordance with Specification Section - REGULATORY REQUIREMENTS.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 014529 – TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. The Owner's Testing Laboratory shall be employed by the Owner and approved by the Architect, Structural Engineer, and DSA.
      a. Payment of the Owner's Testing Laboratory will be by the Owner.
      b. The Owner shall pay for all initial testing indicated as paid for by Owner except as specified otherwise or in the schedule at the end of this section.
         1) Cost of re-testing (due to initial failures) shall be back-charged to the Contractor, and those excess costs will be deducted from the Contract Price.
         2) Cost of testing (due to shop fabrication or in-plant testing out of state and beyond a 75 mile radius of the Project Site) shall be back-charged to the Contractor, and those excess costs will be deducted from the Contract Price.
   2. Provide all access, facilities and information required for the testing of the various portions of the Work as required by Regulatory Agencies, Planning, Agencies, Building Agencies, and other Governmental Inspectors, the Contract Documents and the Owner.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. Responsibility of the Testing Laboratory:
   1. Taking all specimens.
   2. Performing Tests.
      a. The Testing Laboratory's duties shall include all tests required by the DSA 103 Form prepared at the time of DSA Approvals, and any other testing as determined by authorities or the Project Inspector during the course of the work.
      b. Special Inspections (not within the Project Inspector's abilities) shall be performed by the Testing Laboratory or other Special Inspector as approved by the Owner and DSA.
         1) All Special Inspections shall be approved by DSA in accordance with CCR-T24, Part 1, Chapter 4, Group 1, Article 5, Section 4-335.
   3. Writing Test Reports
   4. Review of "Continuous Inspection" reports by the Project Inspector.
      a. Portions of the Work requiring "Continuous Inspection" shall be performed by the

Project Inspector (if qualified) and all reports will be reviewed by the Testing Laboratory.

5. Distribute Test Reports to the Owner, Architect, applicable Engineer, Contractor and to DSA.

B. Responsibilities of the Contractor:
1. Contractor shall provide a Testing Schedule that is in accordance with the following:
a. Format of the Testing Schedule shall be in accordance with Specification Section – CONSTRUCTION SCHEDULES.
b. Cooperates with the Testing Laboratory's schedule of required testing.
c. Contractor shall coordinate Construction Schedule and Testing Schedule.
1) Format of testing schedule in accordance with Specification Section – CONSTRUCTION SCHEDULES.
2. Cooperation with testing laboratory:
a. Provide access to Work being tested.
b. Provide test samples as selected by testing laboratory.
c. Schedule Work so that there shall be no excessive inspection time.
1) At times that an inspector is required, sufficient work shall be laid out and adequate personnel supplied so that the inspector's time shall be used to full advantage.
2) If inspection costs become excessive because of poor shop or construction procedure, such excess costs will be paid for by the Owner, but deducted from the Contract Price.
d. Inspections and tests required by regulatory agencies shall be the responsibility of and shall be paid for by the Owner unless specified otherwise.
e. Inspections and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.
f. Test Reports:
1) Distribute test reports and related instruction to insure all required re-testing and/or replacement of materials.
g. Payment of Testing:
1) All testing shall be paid for by the Owner.
3. Contractor shall be backcharged for re-testing, excessive distance from the Project Site, or extra testing required because of initial failures.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
1. Quality Assurance/Control Submittals:
a. Test Reports:
1) Submit four (4) copies of testing laboratory's report.

1.4 QUALITY ASSURANCE

A. Qualifications:
1. Testing Laboratory Qualifications:
a. In accordance with the latest Edition of ASTM E-329.

B. Regulatory Requirements and Reference Standards:

1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
   a. In accordance with regulatory agencies and appropriate ASTM Standards.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

A. Testing Schedule at the end of this section should be used as a guide only and it is not considered a complete list. Refer to regulatory agency requirements and specific specification section for complete testing requirements.

B. TESTING SCHEDULE
   1. 03 15 14 - DRILLED ANCHORS
      a. Tension Tests.
         1) Paid by Owner.
   2. 03 20 00 - REINFORCEMENT
      a. Rebar Material per ACI 318, CBC TABLE 1705A.2.1, CBC Sections 1903A.1, 1905A, and 1910A.
         1) Paid by Owner
      b. Continuous Inspection of Welds per ACI 318, CBC TABLE 1705A.2.1, CBC Sections 1903A.8, 1905A, and 1910A.
         1) Paid by Owner
   3. 03 30 00 - CAST-IN-PLACE CONCRETE
      a. Cement Material per ACI 318, and CBC Sections 1903A, 1905A, and 1910A.
         1) Paid by Owner
      b. Aggregate Material per of ACI 318.
         1) Paid by Owner
      c. Concrete Mix per CBC Section 1903A and 1910A.
         1) Paid by Owner
      d. Concrete Strength Tests per ACI 318.
         1) Paid by Owner
      e. Concrete Compression Tests per ACI 318.
         1) Paid by Owner
   4. 04 22 00 - CONCRETE MASONRY UNITS
      a. Grout Tests/Mortar Tests per CBC Section 2105A.3.
         1) Paid by Owner
      b. Continuous Inspection of Laying Block and Block Cores per THE MASONRY SOCIETY - TMS 402 and TMS 602, as set forth in Tables 3 and 4, Level 3 requirements and Chapter 21A. Testing shall be in accordance of CBC Section 2105A.
         1) Paid by Owner
      c. Concrete Masonry Unit Tests per CBC Section 2105A.6.
         1) Paid by Owner

5. 05 12 00 - STEEL AND FABRICATIONS
   a. Steel Material per CBC Table 1705A.2.
      1) Paid by Owner
   b. High Strength Bolts and installation per CBC Section 1705A, and CBC Section 1705A.2.6.
      1) Paid by Owner
   c. Inspection of Shop and Field Welding per CBC Table 1705A, and Table 1705A.2.1.
      1) Paid by Owner
6. 05 30 00 - METAL DECK
   a. Steel Material per CBC Table 1705A, and CBC Section 1705A.2.2.
      1) Paid by Owner
   b. Inspection of Shop and Field Welds per CBC Table 1705A, and Table 1705A.2.1.
      1) Paid by Owner
7. 09 22 16 - METAL FRAMING
   a. Metal Stud Material.
      1) Paid by Owner
   b. Metal Stud Welding.
      1) Paid by Owner
8. 09 51 00 - ACOUSTICAL CEILINGS
   a. Main and cross runners, intersection connectors and expansion devices
      1) Paid by Contractor
9. DIV. 22 - PLUMBING
   a. Non-Leaking System
      1) Paid by Contractor
   b. Bacteriological Purity
      1) Paid by Contractor
10. DIV. 23 - HEATING, VENTILATING AND AIR CONDITIONING
   a. Equipment Operation
      1) Paid by Contractor
   b. System Energy Balance
      1) Paid by Contractor
   c. Non-Leaking Hydronic System.
      1) Paid by Contractor
11. DIV. 26 - SERVICE AND DISTRIBUTION
   a. Equipment Operation
      1) Paid by Contractor
   b. Protective Systems
      1) Paid by Contractor
12. DIV. 26 - LIGHTING
   a. Equipment Operation
      1) Paid by Contractor
13. DIV. 27 - MASTER CLOCK AND PUBLIC ADDRESS SYSTEM
   a. Equipment Operation
      1) Paid by Contractor
14. DIV. 28 - FIRE SPRINKLER SYSTEM
   a. All tests required by NFPA #13.
      1) Paid by Contractor
15. DIV. 28 - WET CHEMICAL FIRE SUPPRESSION SYSTEM
   a. All tests required by NFPA #17A.

1) Paid by Contractor

16. 31 20 00 - EARTHWORK
    a. Compaction Test
        1) Paid by Owner
    b. Inspection of Excavations and Fills per CBC Table 1705A.6.
        1) Paid by Owner

C. Division of the State Architect "Statement of Structural Tests and Special "Inspections":
    1. In addition to the TESTING SCHEDULE cited above, and elsewhere within the documents, DSA requires the Contractor to schedule and manage the following tests to be performed and reported as required for this Project.
    2. Failure to schedule these tests is grounds for reduction in Monthly Payment Request authorization, and may delay distribution of the Final Payment.
    3. Refer to the approved DSA 103-Listing of Structural Tests and Special Inspections Form.

END OF SECTION

SECTION 015000 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all Temporary Utilities, Support Facilities, and Protection Facilities materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Shop Drawings:
      a. Project Sign.
   2. Quality Assurance/Control Submittal:
      a. Copy of Application to APCD for Dust Prevention and Control Plan.
      b. Copy of approved Application to APCD for Dust Prevention and Control Plan.
      c. Copy of Application to local City or County Engineer for Traffic Control.
      d. Copy of approved Application to local City or County Engineer for Traffic Control.
      e. Temporary Project Enclosure Plan.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
      a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.
      b. CAL/OSHA California Division of Occupational Safety and Health Administration
      c. CF County of Fresno, Codes and Ordinances
      d. EPA Environmental Protection Agency

B. Dust Prevention and Control Plan:
   1. Prior to commencing the Work, prepare a Dust Prevention and Control Plan and obtain review and approval of the Air Pollution Control District (APCD) in the area where the project is located.
      a. Prepare application and file with appropriate fees to APCD upon completion of Dust Prevention and Control Plan.
   2. The Dust Prevention and Control Plan shall specify the methods of control that will be utilized, demonstrate the availability of needed equipment and personnel, and identify a responsible individual who, if needed, can authorize implementation of additional measures.
   3. All construction shall comply with applicable elements of the APCD's regulations.
   4. The Dust Prevention and Control Plan shall include, but not be limited to, the following:
      a. Contractor's name and project identification information.
      b. Procedures and measures to be implemented, but not be limited to:
         1) All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust.
         2) During periods of high winds, all clearing, grading, earth moving, or excavation shall cease when dust control measures are unable to avoid visible plumes.
         3) All dust producing material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
         4) The area disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.
         5) All watering of areas shall be only to the extent required to keep the soil particles in a moist condition and not to the extent that erosion of surface soil occurs.
         6) To control general fugitive dust, on-site vehicle speed shall be limited to 15 mph.
         7) All areas with vehicle traffic shall be watered periodically for stabilization of dust emissions.
         8) Periodically streets adjacent to the project site shall be cleaned as required to remove silts which may have accumulated from construction activities.

C. Traffic Control Plan:
   1. Prior to commencing the Work, prepare a Traffic Control Plan and obtain approval of the local City or County Engineer in the area where the project is located.
      a. Prepare application and file with appropriate fees to the local City or County Engineer upon completion of Traffic Control Plan.
   2. The Traffic Control Plan shall include information on construction timing and phasing and proposed methods of alleviating potential hazardous and/or inconvenient conditions. Such methods can include, but are not limited to, the use of flagmen, barricades, signs, warning lights, detours, phased lane closures, coordination with adjacent property owners, and coordination with law enforcement, fire protection and other emergency service agencies.

D. Temporary Project Enclosure Plan:
   1. Prior to commencing the Work, prepare a Temporary Project Enclosure Plan indicating the protection of people, animals, and partial and fully completed work until occupancy by the Owner.
   2. Identify temporary egress from existing occupied facilities and as required by authorities

having jurisdiction.

3. The Temporary Project Enclosure Plan shall include, but not be limited to, the following:
   a. Contractor's name and project identification information.
   b. Indicate the duration of the proposed measures based on the completion of the work as a whole and if any phases of work are identified.
   c. Indicate proposed temporary fencing and potential exit and entry paths.
      1) Show gate and door locations and indicate who has access.
   d. Indicate proposed temporary wall location(s) and potential exit and entry paths.
      1) Show door location(s) and indicate who has access.
   e. Indicate type of material used for temporary fencing, walls, gates, and doors.
   f. Indicate proposed temporary roads and paved areas.
   g. Indicate proposed temporary offices and storage areas.

E. Copy of approved Fire Protection Program:
   1. Contractor shall be responsible for the development, implementation, and maintenance of a written plan establishing a fire prevention program at the project site applicable throughout all phases of the construction, repair, alteration, or demolition work in accordance with CFC Chapter 33, Section 3308 and sub-sections.
   2. It is the Contractor's responsibility to contact local Fire Authority to discuss the plan.
      a. A copy of the report should be made available to the Project Inspector and local Fire Authority.
   3. Approval Required: Prior to commencing the Work, prepare a Fire Protection Program and obtain review and approval from the local Fire Authority in the area where the project is located.
   4. Plan shall address at a minimum:
      a. Each phase of the construction, repair, alteration, or demolition work.
      b. Designate responsible program superintendent in accordance with CFC 3308.2.
      c. Duties of staff.
      d. Staff training requirements.
      e. Prefire plans.
      f. Fire protection devices.
      g. Hot work operations.
      h. Impairment of fire protection systems.
      i. Temporary covering of fire protection devices.

1.4 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Heating and Cooling:
      a. Provide temporary heating and cooling required by construction activities for curing, acclimating the building or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed, and is maintained prior, during and after the installation in accordance with the exterior or interior building materials temperature and humidity guidelines.
         1) Do not use heating units that contribute moisture to the enclosed spaces under construction.
   2. Ventilation and Humidity Control:
      a. Provide temporary ventilation required by construction activities for curing,

acclimating the building or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1) Exterior Moisture Control:
   a) Perform the installation of all exterior building cladding only after the substrate to which they are being applied is dry and ready to receive them. Do not apply any cladding if it will trap moisture inside a wall or roof cavity (i.e. insulation that has become wet for whatever reasons).
2) Interior Moisture Control:
   a) Perform the installation of all interior moisture sensitive building materials only after the building or space is acclimated to the final environmental conditions under which the building is to be operated in accordance within the Owner's humidity control guidelines.

b. Maintain a consistent humidity in accordance with the guidelines for those materials in the space at least seven (7) days prior to installation of any moisture sensitive materials (i.e. Veneer Plaster, Gypsum Board, Ceiling Tiles, Wood Sensitive Floors, other Flooring sensitive to moisture levels, Interior Painting, etc.).
c. Maintain the same levels or temperature and humidity during the installation of those materials, and after the installation of those materials until the building's own mechanical systems can be turned on to maintain the facility within the Owner's temperature and humidity control guidelines.
d. Replace any materials that have become wet and damaged due to the Contractor not properly protecting installed building materials at no additional cost to the Owner.

3. Dust control:
   a. Perform work in a manner as to minimize the spread of dust and flying particles.
   b. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors and concurrent performance of other on-site work.
4. Burning: No burning will be allowed on-site.
5. Noise Control:
   a. Stationary noise sources shall be of a low-noise emission design, consistent with the best available noise reduction technology.
   b. The hours of operation of noise-generating equipment shall be restricted to 6:00 a.m. to 7:00 p.m. Monday through Friday, and to 8:00 a.m. to 6:00 p.m. on Saturday and Sunday.
   c. Mufflers shall be required on all gas and diesel-powered equipment.

B. Existing Conditions:
1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Cultural Resources:
   a. The Contractor is advised of the possibility that cultural resources may be discovered during project activities.
   b. If any cultural or paleontological materials are uncovered during project activities, work in the area or any area reasonably suspected to overlie adjacent remains shall

be stopped and the Architect advised of the discovery. The Architect will notify the appropriate agency and the work shall remain stopped until professional cultural resources evaluation and/or data recovery excavation can be planned and implemented. Appropriate measures to protect remains from accidents, looting, and vandalism shall be implemented immediately on discovery.

c. If human remains are discovered, the work in the area or any area reasonably suspected to overlie adjacent remains shall be stopped and the County Coroner and the Architect shall be notified immediately. Appropriate measures to protect remains from accidents, looting, and vandalism shall be implemented immediately on discovery. The work shall remain stopped until professional cultural resources evaluation and/or recovery excavation can be planned and implemented.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Fire Protection During Construction:
1. Provide Temporary Fire Protection per CFC Chapter 33 during demolition and construction.

B. Field Offices:
1. General Note: Provide one (1) 2A:10B:C Wall Surface Mounted Fire Extinguisher in each field office as a minimum per the CSFM.
2. Contractor's Field Office:
   a. Size: Nominal 8 feet wide minimum, approximately 96 square feet minimum.
   b. Equipment:
      1) Table for review of Drawings.
      2) Files, rack and shelves as required to store Contract Drawings and Project Record Drawings in a neat, orderly manner.
      3) One copy of each code listed in Specification Section - REGULATORY REQUIREMENTS.
      4) Telephone.
      5) Internet Connection.
      6) Plain Paper Copier / FAX Machine.
   c. Facilities:
      1) Adequate light and power.
      2) Adequate heating, ventilation and air conditioning.
   d. Control and Access:
      1) Door shall be lockable and key shall be supplied to Architect and access shall be limited to Owner, Architect, Inspector and Contractor.
   e. All of the above items shall be subject to Architect's approval.
3. Contractor's Field Office:
   a. Size: Nominal 8 feet wide minimum, approximately 200 square feet minimum.
   b. Equipment:
      1) Table for review of Drawings.
      2) Files, rack and shelves as required to store Contract Drawings and Project Record Drawings in a neat, orderly manner.
      3) One copy of each code listed in Specification Section - REGULATORY REQUIREMENTS.

4) Telephone.
5) Internet Connection.
6) Plain Paper Copier / FAX Machine.

c. Facilities:
1) Adequate light and power.
2) Adequate heating, ventilation and air conditioning.

d. Control and Access:
1) Door shall be lockable and key shall be supplied to Architect and access shall be limited to Owner, Architect, Inspector and Contractor.

e. All of the above items shall be subject to Architect's approval.

4. Contractor's Field Office:
a. Size: Nominal 10 feet wide minimum, approximately 400 square feet minimum (half of this office is to be reserved for a conference room for job site meetings).
b. Equipment:
1) Table for review of Drawings.
2) Files, rack and shelves as required to store Contract Drawings and Project Record Drawings in a neat, orderly manner.
3) One copy of each code listed in Specification Section - REGULATORY REQUIREMENTS.
4) Telephone.
5) Internet Connection.
6) Plain Paper Copier / FAX Machine.
7) Conference room table and chairs for at least 10 people.

c. Facilities:
1) Adequate light and power.
2) Adequate heating, ventilation and air conditioning.

d. Control and Access:
1) Door shall be lockable and key shall be supplied to Architect and access shall be limited to Owner, Architect, Inspector and Contractor.

e. All of the above items shall be subject to Architect's approval.

5. Project Inspector's Field Office:
a. Size: Nominal 8 feet wide minimum, approximately 96 square feet minimum.
b. Equipment:
1) Table for review of Drawings.
2) Files, rack and shelves as required to store Contract Drawings and Project Record Drawings in a neat, orderly manner.
3) Space for one copy of each code listed in Specification Section - REGULATORY REQUIREMENTS.
4) Telephone.
5) Internet Connection.
6) Plain Paper Copier / FAX Machine.

c. Facilities:
1) Adequate light and power.
2) Adequate heating, ventilation and air conditioning.

d. Control and Access:
1) Door shall be lockable and key shall be supplied to Architect and access shall be limited to Owner, Architect, Inspector and Contractor.

e. All of the above items shall be subject to Architect's approval.

6. Project Inspector's Field Office:
a. Size: Nominal 8 feet wide minimum, approximately 200 square feet minimum (sized for one (1) Owner's Inspector, and a desk for the Architects use).

b. Equipment:
   1) Two (2) 48" x 96" layout tables for review of the drawings by each Inspector.
   2) Two (2) 30" x 60" standard desks with two drawers on one side of each desk (the second desk will be used by the Architect when visiting the site).
   3) Two (2) secretarial task chairs with five point rolling bases.
   4) Two (2) 4-drawer legal size, full suspension, lockable file cabinets.
   5) Two (2) 60" high x 36" wide x 12" deep free standing bookcases with four (4) adjustable shelves for each bookcase.
   6) One (1) 12-capacity rolling, vertical "Plan Holds" with adjustable brackets for 30" x 42" wide drawings.
   7) Two (2) 36" x 48" tackboards mounted to walls as directed by the Owner's Inspector.
   8) Two (2) drafting stools.
   9) Space for one copy of each code listed in Specification Section - REGULATORY REQUIREMENTS.
   10) One telephone.
   11) Internet Connection.
   12) One Plain Paper Copier / FAX Machine.
c. Facilities:
   1) Adequate light and power.
   2) Adequate heating, ventilation and air conditioning (ducted central HVAC).
   3) Electric water cooler with both hot and cold water.
d. Control and Access:
   1) Door shall be lockable and key shall be supplied to Architect and access shall be limited to Owner, Architect, Inspectors and Contractor.
e. All of the above items shall be subject to Architect's approval.

7. Project Inspector's Field Office:
   a. Size: Nominal 10 feet wide minimum, approximately 400 square feet minimum (sized for two (2) Owner's Inspectors, and a desk for the Architects use).
   b. Equipment:
      1) Three (3) 48" x 96" layout tables for review of the drawings by each Inspector.
      2) Three (3) 30" x 60" standard desks with two drawers on one side of each desk (the third desk will be used by the Architect when visiting the site).
      3) Three (3) secretarial task chairs with five point rolling bases.
      4) Three (3) 4-drawer legal size, full suspension, lockable file cabinets.
      5) Three (3) 60" high x 36" wide x 12" deep free standing bookcases with four (4) adjustable shelves for each bookcase.
      6) Three (3) 12-capacity rolling, vertical "Plan Holds" with adjustable brackets for 30" x 42" wide drawings.
      7) Three (3) 36" x 48" tackboards mounted to walls as directed by the Owner's Inspector.
      8) Three (3) drafting stools.
      9) Space for one copy of each code listed in Specification Section - REGULATORY REQUIREMENTS.
      10) Two telephones.
      11) Internet Connection.
      12) One Plain Paper Copier / FAX Machine.
   c. Facilities:
      1) Adequate light and power.

2) Adequate heating, ventilation and air conditioning (ducted central HVAC).
3) Electric water cooler with both hot and cold water.

d. Control and Access:
1) Door shall be lockable and key shall be supplied to Architect and access shall be limited to Owner, Architect, Inspectors and Contractor.

e. All of the above items shall be subject to Architect's approval.

8. Project Inspector's Field Office:
a. Size: Nominal 12 feet wide minimum, approximately 675 square feet minimum (sized for four (4) Owner's Inspectors, and a desk for the Architects use).
b. Equipment:
1) Four (4) 48" x 96" layout tables for review of the drawings by each Inspector.
2) Five (5) 30" x 60" standard desks with two drawers on one side of each desk (the fifth desk will be used by the Architect when visiting the site).
3) Five (5) secretarial task chairs with five point rolling bases.
4) Two (2) 4-drawer legal size, full suspension, lockable file cabinets.
5) Two (2) 60" high x 36" wide x 12" deep free standing bookcases with four (4) adjustable shelves for each bookcase.
6) Four (4) 12-capacity rolling, vertical "Plan Holds" with adjustable brackets for 30" x 42" wide drawings.
7) Two (2) 36" x 60" folding tables and twelve (12) folding chairs.
8) Five (5) 36" x 48" tackboards mounted to walls as directed by the Owner's Inspector.
9) Five (5) drafting stools.
10) Space for one copy of each code listed in Specification Section - REGULATORY REQUIREMENTS.
11) Four telephones.
12) Internet Connection.
13) One Plain Paper Copier / FAX Machine.
c. Facilities:
1) Adequate light and power.
2) Adequate heating, ventilation and air conditioning (ducted central HVAC).
3) Electric water cooler with both hot and cold water.
d. Control and Access:
1) Door shall be lockable and key shall be supplied to Architect and access shall be limited to Owner, Architect, Inspectors and Contractor.
e. All of the above items shall be subject to Architect's approval.

C. Project Sign:
1. The Contractor shall furnish and erect at location as directed by the Architect one sign board approximately 4 feet x 8 feet, fabricated of 3/4 inch exterior grade plywood with a sturdy frame attached to 4 inch x 4 inch x 14 foot redwood posts set 4 feet in the ground minimum, and substantially braced.
2. The sign to be painted on signboard shall be of design in 4 colors as directed by the Architect.
3. Lettering shall be of style shown, neatly executed by a skilled sign painter.
4. The information to be lettered on sign shall be as furnished by the Architect.
a. Sign will include the names of the [prime] Contractor[s], Owner, Architect, and the project designation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Site verification of conditions:
   1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
   2. Execution of work under this specification section shall constitute acceptance of existing conditions.
   3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the work under this section.

3.2 PREPARATION

A. Coordination:
   1. Before proceeding, verify plans match existing conditions.
   2. Coordinate work under this specification with work specified under other sections to ensure proper and adequate interface of work.

B. Protection:
   1. The Contractor shall verify and protect existing landscaping, asphalt area, concrete walkways, and other site improvmeents to remain on the site before proceeding with the Work.
   2. Prior to starting Work, hose bibbs, utility lines, etc., to be abandoned and removed within the construction area shall be stubbed off outside the limits of construction.
   3. Verify and protect utilities to remain within the construction area and provide special construction for their protection.

3.3 IMPLEMENTATION

A. General:
   1. Perform Work and provide and maintain Temporary Utilities and Temporary Facilities in accordance with the requirements of all regulatory authorities having jurisdiction.
   2. Contractors shall cooperate with other contractors and the Owner in the use of the site, Temporary Utilities, Temporary Facilities and shall adjust their operations to maintain harmonious relations and uninterrupted progress of the Work.
   3. The Contractor shall assume all responsibility for the provision and maintenance of these Temporary Utilities and Temporary Facilities and for the provisions of public safety where the operations under this Contract interface with public areas.
   4. Relocate and modify Temporary Utilities and Temporary Facilities, as required by progress of the Work.
   5. Remove Temporary Utilities and Temporary Facilities upon completion of the Project.
   6. Temporary Utilities and Temporary Facilities are to be provided and maintained from commencement of Work until final acceptance.
      a. The Contractor shall pay all charges required of him for the duration of the project, including a [1][2][3] month period following the date of the Notice of Substantial Completion.

B. Temporary Utilities:
1. Install temporary service or connect to existing service.
   a. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
      1) Minimum forty-eight (48) hours prior notice to any interruption.
2. Sewers:
   a. Provide temporary service to remove effluent lawfully.
3. Storm Drainage:
   a. Provide temporary service as necessary to remove storm water. Work shall be performed in accordance with the requirements of the Storm Water Pollution Prevention Plan (SWPPP), if any. If no SWPPP is required, then follow local authorities having jurisdiction requirements.
4. Water:
   a. The Contractor will arrange and pay for all water supply for all purposes of construction at a location to be designated at the site. Extensions within the site shall be provided by the Contractor and maintained in a safe and efficient manner.
   b. The Owner will pay for all water supply for all purposes of construction at a location to be designated at the site. Extensions within the site shall be provided by the Contractor and maintained in a safe and efficient manner.
5. Electrical:
   a. The Contractor shall provide and pay for all electrical facilities and services for all purposes of power and lighting for construction at a location to be designated at the site. Extensions within the site shall be provided by the Contractor and maintained in a safe and efficient manner.
      1) The Contractor shall pay for cost of electrical energy required in connection with the testing of such equipment as generators, transformers, power machinery, and similar equipment installed in the work.
   b. The Owner will pay and the Contractor shall provide for all electrical facilities and services for all purposes of power and lighting for construction at a location to be designated at the site. Extensions within the site shall be provided by the Contractor and maintained in a safe and efficient manner.
      1) The Contractor shall pay for cost of electrical energy required in connection with the testing of such equipment as generators, transformers, power machinery, and similar equipment installed in the work.
   c. The Contractor will provide electrical energy to all subcontractors as required on or about the premises.
   d. The Contractor will provide power outlets having adequate electrical characteristics and lighting of adequate intensity for the use of other contractors within reasonable distances from their needs and within a reasonable period of time after the other contractors have requested them.
6. Telephone:
   a. The Contractor shall provide and pay for all telephone service and telephone equipment in the Field Offices until completion of the Work.
      1) Provide an additional dedicated phone line for modem/network connection in the Project Inspector's Field Office for use by the Architect's representative.
7. Heating:
   a. Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity.

b. Select UL or FM approved equipment that will not have a harmful effect on completed installations or elements being installed.
   1) Except where use of the permanent heating system is authorized, provide temporary units that do not introduce moisture into the newly constructed building spaces.
   2) Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited.
c. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.

C. Temporary Facilities:
1. Support Facilities:
   a. Offices and Storage:
      1) Provide temporary offices and storage facilities located within the construction area.
      2) Protect materials, construction work and their operations from weather, vandalism, and theft.
   b. Sanitary Facilities:
      1) Provide adequate, self-contained toilets as required for all persons employed on the Project.
      2) In no case shall the permanent plumbing fixtures of the Project be used for this purpose.
   c. Temporary Roads and Paved Areas:
      1) Construct and maintain temporary roads and paved areas adequate for construction operations and fire protection during construction.
   d. Traffic Controls:
      1) Implement procedures and measures outlined in the local jurisdiction's approved Traffic Control Plan.
      2) Maintain access for fire-fighting equipment and access to fire hydrants.
      3) Conduct work and comply with applicable building codes and regulations regarding the use of public streets and sidewalks and the proper barricading and lighting of public thoroughfares surrounding the construction activities.
      4) Provide and maintain access as required to perform work.
      5) Repair all damage as a result of work performed on the project to adjacent roads, streets, drives and walks. Restore to condition as good as existed at commencement of the Work.
   e. Project Sign:
      1) Install project sign as submitted and approved.
      2) No other signs will be allowed on the project.
   f. Existing Elevator Use:
      1) Use of Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to the Owner.
      2) Do not load elevators beyond their rated weight capacity.
   g. Existing Stair Use:
      1) Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to the Owner.
2. Protection Facilities:
   a. Existing Facilities:
      1) Protect existing vegetation, equipment, structures, utilities, and other improvements at project site and on adjacent properties, except those indicated to be removed or altered. Damage occurring during the course of

construction shall be repaired to condition at the start of the Work.

b. Environmental:
   1) Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

c. Project Enclosure:
   1) Implement procedures and measures outlined in Temporary Project Enclosure Plan.
   2) Project enclosure shall protect materials, construction work, and operations from vandalism, theft, and to exclude the intrusion of the public into the construction area.
   3) Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by the Owner from fumes and noise.
   4) Maintain security by limiting number of keys and restricting distribution to authorized personnel.

3.4 CLEANING

A. Clean in accordance with Specification Section – PROJECT CLOSEOUT.
   1. At all times, keep the premises free from accumulations of waste materials or rubbish caused by employees or the Work.
   2. Clean all soiled surfaces to remain immediately.
   3. At the completion of the Work, remove all rubbish from and about the building and all tools, scaffolding, and surplus materials and shall leave the Work "broom clean" or its equivalent.

END OF SECTION

SECTION 017123 – FIELD ENGINEERING

PART 1 - GENERAL

1.1 SUMMARY

1. This section includes the following:Section includes requirements governing execution of the work including, but not limited to, the following:
   a. Construction layout
   b. Field engineering and surveying

B. Related Sections: The following Project Manuel Sections contain requirements that relate to this section:
1. ALL DIVISION 00 SPECIFICATION SECTIONS
2. ALL DIVISION 01 SPECIFICATION SECTIONS
3. 03 11 01 CONCRETE FORMWORK
4. 03 30 00 CAST-IN-PLACE CONCRETE
5. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP
6. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

A. Submit in accordance with specification section – SUBMITTAL PROCEDURES:
1. Coordination Drawings:
   a. Utility Coordination Drawing(s)
2. Quality Assurance/Control Submittal:
   a. Qualification Data for Civil Engineer/Surveyor
   b. Intermediate Certificate of Survey Compliance
   c. Final Certificate of Survey Compliance
3. Closeout Submittals in accordance with the following:
   a. As-built Survey Drawing(s)
   b. Project "Record" Survey Drawing

1.3 QUALITY ASSURANCE

A. Qualifications:
1. Civil Engineer/Surveyor Qualifications:
   a. A professional Civil Engineer or Land Surveyor who is licensed to practice in the State of California.
   b. Has successfully completed three (3) projects of similar scope and size to that indicated for this project.

B. Regulatory Requirements:
1. In accordance with Specification Section – REGULATORY REQUIREMENTS and the following:
   a. CARB Materials and equipment used for this project shall comply with the current applicable regulations of the California Air Resources Board and the

Environmental Protection Agency (EPA), in the area where the project is located.

b. CF County of Fresno, codes and ordinances

C. Certificates:

1. Intermediate Certificate of Survey Compliance:
   a. Provide certification letter on contractor's letterhead stating the project complies with the requirements of the contract documents at the completion of building pad construction and installation of underground utilities outside of building pads is complete. Certification letter must be stamped and signed by the qualified Civil Engineer/Surveyor.
2. Final Certificate of Survey Compliance:
   a. Provide certification letter on contractor's letterhead stating the project complies with the requirement of the contract documents at the completion of all above ground improvements and finish grading.

D. Meetings:

1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
   a. Coordinate the work with all other related work.
   b. Identify any potential problems, which may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
2. Progress: Scheduled by the Contractor during the performance of the work.
   a. Review for proper installation of work progress.
   b. Identify any installation problems and acceptable corrective measures.
   c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
   a. Inspect and identify any problems, which may impede issuance of warranties or guaranties.
   b. Maintain installed work until the Notice of Substantial Completion has been filed.

1.4 PROJECT CONDITIONS OR SITE CONDITIONS

A. Existing Conditions:

1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions:

1. The existence and location of underground utilities indicated as existing are not

guaranteed. Before beginning sitework, investigate and verify the existence, location, and elevation of all underground utilities and other construction affecting the Work.

a. Call a local utility locator service (such as USA – "Underground Service Alert") for the task of locating any project related utilities.
b. Verify the location and invert elevation at points of connection of sanitary sewer system and storm drainage system.
c. Accurately document vertical and horizontal measurements and elevations uncovered or verified.

B. Coordination:

1. Before proceeding to lay out the Work, verify layout information shown on the drawings in relation to the property survey, topographic survey, and existing benchmarks.
2. Drawings have been provided showing improvements and underground systems for foundations, storm drainage, sewer, water, gas, mechanical lines, electrical lines, and site improvements. Coordinate and verify the accuracy of the drawing locations and elevations as they relate to each other, with existing utility lines, and building pad earthwork zones of influence.
    a. Provide 1"=20' scaled and dimensioned Utility Coordination Drawing.
    b. No improvements shall be executed until the Utility Coordination Drawing is reviewed by the Architect for general conformance with the Contract Documents.
3. Coordinate Layout of Work performed under other sections of the Specifications.
4. If layout conflicts are encountered, report to Architect and then prepare recommendation(s) for correction.
5. Close and careful coordination is required between work of the Contract and that of any future work to follow.
6. Work under this Contract shall accommodate the installation of future work.

3.2 PREPARATION

A. Existing Utility Information:

1. Furnish information to public utilities that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

3.3 CONSTRUCTION

A. Layout of Work:

1. Engage a Civil Engineer/Surveyor to Layout the Work using accepted surveying practices and be responsible for all reference points, benchmarks, lines, elevations, and measurements required for Work under this Contract.
2. Reference points:
    a. Locate existing permanent benchmarks, control points, and similar reference points before beginning the work.
    b. Do not change or relocate existing benchmarks or control points without approval of the Architect.
    c. Replace lost or destroyed permanent benchmarks and control points. Base replacements on the original survey control points.
3. Benchmarks:
    a. Establish and maintain a minimum of two (2) permanent benchmarks on the project site, referenced to data established by survey control points.

b. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
c. Use established benchmarks and control points to set lines and levels at each floor of construction and elsewhere as needed to locate each element of the Project.

4. Locate construction access to site parking, storage areas, and temporary facilities and controls.
5. Locate and layout control lines and levels for structures, foundations, column and wall grids, and floor levels including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels.
   a. Level foundations and piers from two or more locations.
6. Locate and layout site improvements, including pavement, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
7. Inform installers of lines and levels to which they must comply.
8. Check the location, level, and plumb of every major element as the Work progresses.
9. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.4 FIELD QUALITY CONTROL

A. Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by the Inspector and Architect.

B. Maintain As-built Survey Drawing(s) of all underground, surface, and above ground improvements and grades with measurements for both vertical and horizontals dimensions.
   1. Record all addendum and issued change documents.
   2. Upon project completion stamp and sign As-built Survey Drawing(s).

C. Check documented measurements and elevations at completion of building pads and underground utilities against contract documents. The Contractor shall correct out of compliance Work before proceeding with the next element of Work. As-built Survey Drawing(s) shall be current. When all Work at this stage is in compliance with the contract documents, issue the Intermediate Certificate of Survey Compliance.

D. Check documented measurements and elevations at completion of finish grading and site improvements, except for landscape and irrigation work, against contract documents. The Contractor shall correct out of compliance Work before proceeding with the next element of Work. As-built Survey Drawing(s) shall be complete. When all Work at this stage is in compliance with the contract documents, issue the Final Certificate of Survey Compliance.

E. The Civil Engineer/Surveyor shall prepare Project "Record" Survey Drawing in accordance with Specification Section - PROJECT DOCUMENTS.
   1. The Project "Record" Survey Drawing shall contain all of the vertical and horizontal measurements and elevations of reference points, benchmarks, utility lines, grade contours, grade breaks, building floors, major vegetation, and sitework improvements.
   2. The Project "Record" Survey Drawing shall be stamped and signed by the qualified Civil Engineer/Surveyor.
   3. The As-built Survey Drawing(s) shall used in preparation of the Project "Record" Survey Drawing.

3.5 PROTECTION

A. Preserve and protect permanent benchmarks, control points, reference points, and staking during construction operations.

END OF SECTION

SECTION 017329 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary for cutting and patching existing materials, accessories and other related items necessary to remodel the Project as indicated by the Contract Documents.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of Work.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Coordination Drawings:
      a. Submit any installer's coordination drawings indicating the work of this section with that of related work of other sections for proper interface of the completed work. Installer shall coordinate and obtain approvals from the work of other related sections prior to submitting to the Architect.

1.4 QUALITY ASSURANCE

A. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades.
   1. Review areas of potential interference and conflict.
   2. Coordinate procedures and resolve potential conflicts before proceeding.

B. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

E. The Contractor shall do all cutting, fitting or patching of existing construction and his work as may be required to make the several parts come together properly and ready to receive or be received by work of other contractors as shown, or reasonably implied by the drawings and specifications for the completed structure. All work shall be as directed by the Architect to achieve the intended work and degree of finish shown.

F. Any cost caused by defective or ill-timed work shall be borne by the party responsible therefor.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
   2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

3.3 FIELD QUALITY CONTROL

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill. *Do not overcut concrete corners* – hand chip all corners to prevent over-cutting lines. Cut any masonry pavers at grout lines, and *don't overcut* into adjacent brick that is to remain.
   4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
   5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   6. Proceed with patching after construction operations requiring cutting are complete.

C. Grinding and Sandblasting: Where grinding and sandblasting is required of existing construction, perform in accordance with industry standards for proper preparation of new construction or finishes.

D. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other

Sections of these Specifications.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    a. All hard paving and walk replacement shall be flush with adjacent existing construction. Compact existing subgrade so that there is no settling of adjacent horizontal surfaces greater than 1/4", and that all surfaces are ADA compliant.
    b. When altering surfaces in brick paving, match nearby adjacent horizontal concrete surfaces in color and texture. Take care to protect adjacent brick surfaces from concrete slurry and finishing operations. Clean exposed surfaces of brick immediately so that no signs of adjacent concrete work is seen.
    c. Match existing adjacent exposed aggregate concrete paving (color and texture) when construction is proposed for areas paved with exposed aggregate concrete.
    d. Match existing adjacent colored concrete paving (color and texture) when construction is proposed for areas paved with colored concrete.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION

SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the following:
   1. Requirements governing execution of the work including, but not limited to, the following:
      a. Salvaging non-hazardous demolition waste.
      b. Recycling non-hazardous construction and demolition waste.
      c. Disposing of non-hazardous construction and demolition waste.

B. Related Sections: The following Project Manuel Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS
   2. ALL DIVISION 01 SPECIFICATION SECTIONS
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP

1.2 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, modernization, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition and site clearing operations.

C. Disposal: Removal off-site of construction and demolition waste and subsequent sale, recycling, reuse, or deposit in landfill acceptable to authorities having jurisdiction.

D. Recycle: Recovery of construction or demolition waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of construction or demolition waste and subsequent sale or reuse in another facility.

1.3 SYSTEM DESCRIPTION

A. Performance Requirements
   1. General:
      a. Achieve end-of-project rate for salvage/recycling of minimum [50][75][90] percent by weight of total non-hazardous construction and demolition waste generated by

the Work.
b. Practice efficient waste management in the use of materials in the course of the Work.
c. Use all reasonable means to divert construction demolition waste from landfills and incinerators.

1.4 SUBMITTALS

A. Submit in accordance with Specification Section – SUBMITTAL PROCEDURES:
1. Quality Assurance/Control Submittal:
a. Waste Management Plan
b. Waste Management Progress Reports

1.5 QUALITY ASSURANCE

A. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following:
a. CARB Materials and equipment used for this project shall comply with the current applicable regulations of the California Air Resources Board and the Environmental Protection Agency (EPA), in the area where the project is located.
b. CAL/OSHA California Division of Occupational Safety and Health Administration.
c. CF County of Fresno, codes and ordinances
d. EPA Environmental Protection Agency

B. Waste Management Plan:
1. Prior to commencing the Work, submit Waste Management Plan. The Plan must include, but not limited to, the following:
a. Contractor's name and project identification information.
b. Procedures to be implemented.
c. Materials to be salvaged, recycled, or disposed.
d. Estimated quantities of material broken down by material categories.
e. Names and locations of entities who receive salvaged and recycled materials.
f. Tonnage calculations that demonstrate that the Contractor will salvage, re-use, or recycle the minimum percentage by weight of the construction and demolition waste materials generated by the Work.

C. Waste Management Progress Reports:
1. Submit the Report with each application for progress payment.
a. Failure to submit the Report and it supporting documentation can render the application for progress payment incomplete and delay the progress payment.
2. Each Report must include, but not limited to, the following:
a. List of material categories.
b. Weight quantity of waste by material category.
c. Weight quantity of waste salvaged.
d. Weight quantity of waste recycled.
e. Total weight quantity of salvaged and recycled waste by material category.
f. Weight percentage of waste salvaged and recycled by material category.

g. Include manifests, weight tickets, receipts, and invoices specifically identifying the salvaged, reused, and recycled materials.
h. Signature line for Contractor.

D. Meetings:
1. Pre- Demolition……Schedule prior to the start of work.
a. Coordinate the work with other work being performed.
b. Identify any potential problems, which may impede the proper disposal of materials.
c. Review areas where waste and recycle bins will be located.
d. Review where salvaged materials will be stored.
e. Review demolition waste disposal and material recycling procedures and environmental goals per Waste Management Plan with all subcontractors and waste haulers.
2. Progress:……Scheduled by the Contactor during the performance of the work.
a. Review for maintaining proper procedures.
b. Inspect and identify any problems and acceptable corrective measures.
3. Completion:……Scheduled by the Contactor upon proper completion of the work.
a. Inspect and identify any problems.
b. Submit final Progress Report summarizing total construction and demolition waste weights, percentages salvaged, recycled, and disposed.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Cleaning, handling, and packing:
1. Salvaged Items shall be handled in such a manner as to assure that they are free from damage.
2. Salvaged Items shall be cleaned and packed or cleaned and palleted before off-site transport.

B. Storage and protection
1. Salvaged Items shall be stored in a dry, protected area prior to transport.
2. Cover with protective waterproof covering providing for adequate air circulation and ventilation.

1.7 PROJECT CONDITIONS

A. Environmental requirements;
1. Comply with federal, state, and local regulations pertaining to solid waste, recycling, chemical waste, sanitary waste, and noise pollution.
2. Perform work in a manner as to minimize the spread of dust and flying particles.
3. No burning will be allowed on-site.

B. Existing conditions:
1. Examine project site and building(s) and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.

2. Conduct work so as not to interfere unnecessarily with adjacent buildings, roads, streets, drives, and walks.
    a. Do not close or obstruct streets, alleys, walks, or passageways without permission from authorities having jurisdiction and coordinating same with immediate neighbors whose business operation may be affected.
    b. Safety measures shall be taken to insure an uninterrupted flow of traffic around the site as required by local Police and Fire Departments
3. Storage or sale of removed items on-site is not permitted.
4. It is not expected that hazardous materials will be encountered in the Work.
    a. Hazardous materials will be removed and disposed of by Owner prior to start of the Work.
    b. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.
5. Hazardous materials are present in buildings and structures to be selectively demolished. The Owner has prepared a report for the Contractor to review and use.
    a. Hazardous material remediation is specified in Specification Section - HAZARDOUS MATERIAL PROCEDURES.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Furnish all materials, tools, equipment, facilities, and services as required for performing the construction and demolition waste disposal work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of conditions:
    1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
    2. Execution of work under this specification section shall constitute acceptance of existing conditions.
    3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the Work under this Section.

3.2 PREPARATION

a. Coordination:
b. Before proceeding, verify plans match existing conditions.
c. Review documents of existing construction provided by Owner against existing conditions.
d. If conflicts are encountered, report it to the Architect. Then prepare recommendation(s) for correction and submit to Architect for review.
e. Coordinate work under this specification section with work specified under other sections.

B. Protection:
1. Property:
a. Provide temporary weather protection to prevent damage to salvage and recycled items.
b. All damage inflicted on public and private property and the property of the Owner shall be repaired or restored to the original condition prior to the start of this Work. All repair or replacement work shall be done at no additional cost to the owner.

3.3 IMPLEMENTATION

A. General:
1. Implement waste management plan as submitted.
2. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the contract.
3. Designate and label specific areas on project site necessary for separating materials that are to be salvaged, recycled, reused, and donated.

B. Demolition Waste:
1. Salvaged items for delivery to Owner or other entity:
a. Clean salvaged items.
b. Pack or crate items after cleaning. Identify contents of containers.
c. Store items in a secure area until pick-up or delivery to Owner.
d. Transport item to Owner’s storage area [on-site][off-site][list address].
e. Protect items from damage during transport and storage.
2. Salvaged items for reuse in the work:
a. Clean salvaged items.
b. Store items in a secure and dry area until ready for installation.
3. Recyclable materials:
a. Prepare and maintain recyclable waste materials according to recycling facility requirements.
b. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
c. Separate recyclable demolition waste from other waste materials. Separate recyclable waste by material type at project site to the maximum extent practical according to approved waste management plan.
d. Separate recyclable demolition waste from other waste materials. All recyclables may be co-mingled into one bin and separated off-site at the appropriate recycling facility.
1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from the project site.
2) Include a list of acceptable and unacceptable materials at each container or bin.
3) Inspect containers and bins for contamination and remove contaminated materials if found.
4) Processed materials stockpiled on site shall not be mixed with other materials. Shape stockpiles to drain surface water. Cover stockpiles to prevent windblown dust.
5) Processed material shall be stockpiled away from construction. Do not stockpile within drip line of remaining trees.

e. Remove recyclable demolition waste off project property and transport to recycling receiver or processor.
f. The following list is of common material types which can be recycled. The list of material types is in no way complete but is representative of materials that can be sorted and recycled as per the intent of this specification section.
1) Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
2) Wood: Sort and stack members according to size, type, and length of member.
3) Metals: Separate metal by type. Stack structural steel members according to size and length. Remove bolts, nuts, washers, and other hardware from members.
4) Gypsum Board: Stack large clean pieces on wood pallets in a dry location. Remove edge trim and sort with other metals.
5) Acoustical Ceiling Tile: Stack large clean pieces on wood pallets in a dry location.
6) Metal Suspension System: Separate metal members including trim and other metals from acoustical ceiling tile and sort with other metals.
7) Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and any tack strips. Store carpet in a dry location.
8) Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
9) Conduit: Reduce conduit to straight lengths and store by type and size.

4. Site clearing waste:
a. Excavated top soil and land clearing debris not recycled and reused on-site shall be removed to an off-site recycling location or disposed of at a landfill that accepts inert material.

C. Construction Waste:
1. Recyclable materials:
a. Prepare and maintain recyclable waste materials according to recycling facility requirements.
b. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
c. Recycle paper and beverage containers used by on-site workers.
d. Separate recyclable construction waste from other waste materials. Separate recyclable waste by material type at project site to the maximum extent practical according to approved waste management plan.
e. Separate recyclable construction waste from other waste materials. All recyclables may be co-mingled into one bin and separated off-site at the appropriate recycling facility.
1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from the project site.
2) Include a list of acceptable and unacceptable materials at each container or bin.
3) Inspect containers and bins for contamination and remove contaminated materials if found.
f. Separate recyclable construction waste from other waste materials. All recyclables may be co-mingled into one bin and separated off-site at the appropriate recycling facility.

1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from the project site.
2) Include a list of acceptable and unacceptable materials at each container or bin.
3) Inspect containers and bins for contamination and remove contaminated materials if found.

g. Remove recyclable construction waste off project property and transport to recycling receiver or processor.

h. The following list is of common material types which can be recycled. The list of material types is in no way complete but is representative of materials that can be sorted and recycled as per the intent of this specification section.
1) Cardboard Packaging: Breakdown into flat sheets. Bundle and store in a dry place.
2) Polystyrene Packaging: Separate and bag materials.
3) Pallets: As much as possible, require deliveries using pallets to remove pallets from the project site. For pallets that remain on-site, breakdown pallets into component wood pieces and comply with requirements for recycling wood.
4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
5) Wood: Clean cut-Offs of lumber and grind or chip into small pieces.
6) Gypsum Board: Stack large clean pieces on wood pallets in a dry location.

D. Disposal of Waste:
1. Except for items or materials to be salvaged, recycled, or otherwise reused remove and transport waste materials from project site and legally dispose of them in a manner acceptable to authorities having jurisdiction.
2. Do not allow waste material to accumulate on site.
3. Transport waste in a manner that will prevent spillage on adjacent surfaces and areas.

3.4 CLEANING
1. Clean in accordance with Specification Section – PROJECT CLOSEOUT:
a. Immediately clean any soiled surfaces to remain.

END OF SECTION

SECTION 017720 – PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
      a. Project Certification procedures.
      b. Final Review & Punch List procedures.
      c. Final Cleaning & Repair of the Work.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. 01 78 23 - OPERATION AND MAINTENANCE DATA
   2. 01 79 00 - DEMONSTRATION AND TRAINING
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Quality Assurance/Control Submittals:
      a. Product Data: For each type of cleaning agent.
      b. Punch List: Initial submittal at Substantial Completion.
      c. Contractor's Request for Final Review form.
      d. Design Data.
         1) All design data as required by the Contract Documents.
      e. Test Reports:
         1) Submit four (4) copies of reports.
         2) Submit four (4) copies of reports required by regulatory requirements.
         3) Submit four (4) copies of ICC Evaluation Service Report.
         4) Submit four (4) copies of Testing Laboratory's report.
         5) All other Test Reports as required by the Contract Documents.
      f. Certificates:
         1) Submit three (3) copies of certificates.
      g. Manufacturer's Instructions:

1) Submit three (3) copies of manufacturer's instructions.

h. Manufacturer's Field Reports:
1) Submit three (3) copies of manufacturer's field reports.

i. Engineering Calculations:
1) Submit four (4) copies of engineering calculations computed and signed by a registered Civil or Structural Engineer in the State of California.

2. Closeout Submittals in accordance with Specification Sections in Division One:
a. Certificates of Release: From authorities having jurisdiction.
b. Certificate of Insurance: For continuing coverage.
c. Field Report: For pest control inspection.
d. Warranties in accordance with Specification Section - WARRANTIES.

3. Operation and Maintenance Material Items:
a. Schedule of Operation and Maintenance Material Items: For maintenance material submittal items specified in other sections.
b. Warranty in accordance with Specification Section - WARRANTIES.

4. Project Record Documents:
a. In accordance with Specification Section - PROJECT DOCUMENTS.
b. Various Sections of the detailed specifications require Project Record Drawings to be prepared by the Contractor(s). These drawings shall be collected by the Contractor, checked for conformance to the specific requirements, and when completed, delivered to the Architect. The Contractor shall also be responsible for collecting bound operating and maintenance manuals required of all trades supplying equipment, and for delivering them to the Architect.

5. Project Certification Documentation:
a. Compile and neatly assemble with indexed and labeled tabs, three (3) sets of the required documents for project certification by the State Agencies. The required documents include, but are not limited to, the following;
1) Document Required List for Project Certification - Form ORS-6. This document shall be used to organize and index the required documents.
2) Project Information Forms
a) Project Site Inspector(s) - Form SSS-5
b) In-Plant Inspector(s) - Form SSS-5, required for re-locatable buildings only.
c) Contract Information - Form DSA-102
3) Final Verified Reports from the Architect and Engineers
a) Architect’s Final Verified Report - Form DSA-6A/E
b) Structural Engineer's Final Verified Report - Form DSA-6A/E
c) Mechanical Engineer's Final Verified Report - Form DSA-6A/E
d) Electrical Engineer's Final Verified Report - Form DSA-6A/E
4) Final Verified Reports from the Contractor(s) and Inspector(s)
a) Project Site Inspector(s) Final Verified Report - Form DSA-6
b) Contractor(s) Final Verified Report - Form DSA-6
c) In-Plant Inspector(s) Final Verified Report - Form DSA-6.
d) Special Inspector(s) Final Verified Report - Form DSA-6
5) Other Final Verified Reports and Affidavits for:
a) Laboratory - To be signed by Licensed Professional Engineer
b) Shop Welding and Fabrication - To be signed by AWS/CWI Welding Inspector
c) Field Welding - To be signed by AWS/CWI Welding Inspector
d) High Strength Bolt Installation
e) Glu-Laminated Fabrication

f) Manufactured Trusses
g) Masonry Inspection
h) Engineered Fill - To be signed by the Geotechnical Engineer
i) Bleacher Fabrication
j) Other items required by the State Agencies

6) Notices, Certificates, and Change Orders
   a) Notice of Completion - Signed by the Owner, Notarized and recorded with the County Recorders Office.
   b) Weighmaster Certificate(s)
   c) Automatic Fire Sprinkler System
   d) Fire Alarm System Components
   e) Fire Standpipe System
   f) Fire Suppression System
   g) Smoke Ventilation System
   h) Skylight System
   i) Bleacher System
   j) Change Orders - Signed and fully executed.
   k) Other documents and/or requirements required by the State Agencies
7) Field Visit Reports, Correction Reports, Punch Lists & Final Review Reports
   a) Field Visit Reports from State Agencies
   b) Field Visit Reports from Architect and Engineers
   c) Inspector's Correction Reports
   d) Contractor Punch Lists
   e) Architect, Engineers and Owner Final Review Reports
   f) A jointly signed and notarized Affidavit from the Contractor and Project Inspector (formerly the Inspector of Record), indicating that any and all items of correction noted in the above documents have been corrected (including Testing Laboratory Reports).

1.4 QUALITY ASSURANCE:

A. Safety, Fire and Environmental Protection, and Insurance standards shall be strictly adhered to in all phases of the construction work. It shall be the responsibility of the Contractor to determine the standards applicable to this project as set forth in all codes, regulations, and ordinances having jurisdiction, and as set forth elsewhere in the Specifications.

B. All specific requirements stipulated in, or required by code references included under all sections of DIVISIONS 02 through 49 inclusive of this specification, and as detailed under Article 3.4 of this Section, shall be required under this Contract.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Materials:
   1. Use only those specified materials or types of materials recommended and approved by the manufacturer of the item to be cleaned.

B. Touch-Up Materials:
1. Use only those materials furnished by or as recommended and approved by the manufacturer of the item to be touched up. Colors and finish characteristics shall exactly match the base material and extra materials, labor, and services required to achieve this result shall be provided by the Contractor(s).

C. Replacement Materials:
1. Materials that are damaged and not repairable, or materials that are destroyed shall be replaced with equal and identical materials of the same manufacture and shall function in conjunction with the remaining portions of that material. Items no longer manufactured or available shall be replaced with comparable materials as approved by the Architect and at no additional cost to the Owner.
2. Materials that are required for maintenance replacement by the owner after the guarantee period has expired, or by the contractor during the guarantee period shall exactly match those materials installed as to make, style, color lot, etc., under this contract, and shall be delivered to the owner in marked, identified containers.

D. Extra Materials:
1. Carefully examine the requirements of the applicable Sections of all DIVISIONS and specifically of DIVISION 09 and deliver the materials required to the Owner.

PART 3 - EXECUTION

3.1 REPAIR AND RESTORATION

A. All damaged items shall be repaired and replaced as directed using proper materials and craftsmen skilled in that particular trade. Materials shall be as follows:
1. All repair or replacement parts shall be of the same equality and manufacturer as the item being repaired.
2. All touch-up paint shall be as provided by the item manufacturer for that purpose and shall exactly match the original color and finish.

3.2 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of **10** days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties,

workmanship bonds, maintenance service agreements, final certifications, and similar documents.

4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by **Architect**. Label with manufacturer's name and model number.
    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain **Architect's** signature for receipt of submittals.
5. Submit testing, adjusting, and balancing records.
6. Submit sustainable design submittals not previously submitted.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of **10** days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section - DEMONSTRATION AND TRAINING.
6. Advise Owner of changeover in utility services.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements.
10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of **10** days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

3.3 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section - SCHEDULE OF VALUES.

2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report.
5. Submit final completion photographic documentation.
6. Submit Contractor's Request for Final Review Form.

B. Inspection: Submit a written request for final review (Contractor's Request for Final Review Form) to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests.
1. The Contractor represents that the work has been carefully inspected by the Contractor to determine that the work is complete and in compliance with all requirements set forth.

C. The Architect shall review the initial Contractor's Punch List along with the Owner's Project Inspector, and determine together whether or not the Project is ready for final review. If approved, the Architect or its representative will make the final review on the date and time requested in the Contractor's Request for Final Review form, except under the following conditions:
a. Upon reviewing a portion of the Project and finding quantities of work incomplete or not in compliance, the review shall cease, and the Architect will notify the Contractor.
b. If the Contractor has assured the Architect of the completeness and/or accuracy of the work, and the review does not bear this contention out.
2. The above conditions will be adhered to rigidly to prevent the Architect from being required to act as a supervisory agent of the Contractor by being asked to determine the degree of completion.
a. When the Contractor requests additional reviews, he shall reimburse the Architect for all time and expense incurred as indicated on the Contractor's Request for Final Review form at the end of this Specification Section.
b. The Architect is herein defined as any of those firms or individuals listed by references on the drawings, including all consultants identified herein.
c. All requests for Project Final Review (and re-review) shall be made in writing on the form provided at the end of this Specification Section.
3. When the Architect does approve of the degree of readiness for the Project based on the initial Contractor's Punch List and the readiness of the Project, the Architect will make his final review, adding to the Contractor's Punch List any other items that require further completion.
4. The Contractor shall take the initial Contractor's Punch List, together with the Architect's Punch List, and initial and date each item on each list as to when it was completed.
5. Once both lists are completed and signed by the Project Inspector, the Contractor shall submit to the Architect the completed lists for final review and approval prior to filing for Substantial Completion.

3.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
   a. Project name.
   b. Date.
   c. Name of Architect.
   d. Name of Contractor.
   e. Page number.
4. Submit list of incomplete items in the following format:
5. MS Excel electronic file. Architect will return annotated file.
6. PDF electronic file. Architect will return annotated file.
7. Web-based project software upload. Utilize software feature for creating and updating list of incomplete items (punch list).
8. **Three** paper copies. Architect will return **two** copies.

3.5 CLEANING

A. During Construction:
1. Ensure that building and grounds are maintained free from accumulations debris, such as waste, dust, excess water, rubbish, and excess materials and equipment.
2. Maintain the structure and Site in a clean and orderly condition at all times until acceptance of the project by the District.
3. Contractor shall keep access driveways and adjacent streets, sidewalks, gutters and drains free of rubbish, debris, and excess water by cleaning and removal each day.
4. All concrete, sidewalks, and paths of travel shall be broom cleaned daily.
5. Sprinkle dusty debris with water.
6. At reasonable intervals during progress of work, clean up site and access and dispose of waste materials, rubbish, and debris.
7. Provide suitable containers and locate on site for collection of waste materials, rubbish, and debris.
8. Do not allow waste materials, rubbish and debris to accumulate and become an unsightly or hazardous condition.
9. Remove waste materials, rubbish and debris form the site and legally dispose of at public or private dumping areas off the Owner's property.
10. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for acceptance or occupancy.
11. Lower waste materials in a controlled manner with as few handling as possible; do not drop or throw materials from heights.
12. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

B. Final Cleaning:
1. Use experienced professional cleaners for final cleaning.
2. At completion of construction and just prior to acceptance or occupancy, conduct a final review of exposed interior and exterior surfaces.
3. Clean interior and exterior of building, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and the like.
4. Repair or replace any damaged materials.

5. Remove grease, dust, dirt, stains, temporary labels, temporary films, fingerprints, and other foreign materials.
6. Clean and polish glass, plumbing fixtures, equipment, finish hardware and similar finish surfaces. Remove glazing compounds.
7. Verify bottoms and tops of all wood doors are sealed.
8. Remove temporary utilities, fencing, barricades, sanitary facilities, etc.
9. Use experienced professional cleaners for final cleaning.
10. Broom clean paved surfaces; rake clean other surfaces of grounds.
11. Replace air conditioning filters if units were operated during construction.
12. Clean ducts, blowers, and coils if air conditioning units were operated during construction
13. Maintain cleaning until the building, or portion thereof, is accepted by the Owner.

3.6 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. Repair, patch, and touch-up marred surfaces to match adjacent finishes.
2. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
3. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
4. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
5. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

3.7 DEMONSTRATION

A. Refer to DEMONSTRATION AND TRAINING for additional requirements.

B. During Construction and as each piece of equipment is installed, provide the following tests:
1. Verify that all external service connections have been properly completed, and that piping and/or wiring is properly sized, and contain all necessary safety devices.
2. Verify that the equipment is free of shipping materials, tie downs, or other internal obstructions.
3. Conduct tests employing the manufacturer's operating instructions as a sequential guide.
4. Verify that all portions of the equipment function properly and that the total performance criteria is satisfied.

5. Make adjustments, replacements, or repairs necessary to achieve full operational capability and repeat tests until performance is achieved and approval obtained.

C. Prior to acceptance, verify that all conditions specified in the Article titled FIELD QUALITY CONTROL, Final Review, have been satisfied and that equipment is ready for continuous use. Provide the following services preparatory to acceptance:
1. Clean or replace all filters and/or strainers.
2. Adjust all belts and drive mechanisms.
3. Lubricate all moving parts as required by manufacturer's operating instructions.
4. Demonstrate to the Owner's representative and the Architect or Engineer the method and sequence of operation, and provide testing devices and/or data to verify that performance equals that specified.
5. Provide operating instructions in bound form along with manufacturer's parts list and written warranties.

3.8 SCHEDULES

A. See next page for Request for Final Review from the Contractor(s):

(The rest of this page is left intentionally blank)

CONTRACTOR'S REQUEST
FOR
FINAL REVIEW FORM

PROJECT:_____
(Name of Project and DA Project Number)

TO: **DARDEN ARCHITECTS, INC.**
6790 N. West Avenue
FRESNO, CA 93711

FROM:_____
(Contractor)

_____
(Address)

_____

WE HEREBY request Final Review on _____ and _____.
(Date) (Time)

WE HEREBY, request and certify:

1. The project is ready for Final Review.
2. The undersigned will compensate the Architect at a rate of $176.00 an hour for further review, investigation and comments if it is determined that the Project is not ready for final review as indicated earlier within this Specification Section. The Architect is herein defined as any of those firms or individuals listed by reference on the Drawings, including all Consultants identified herein.

Submitted By (Contractor)

Signature_____
Firm_____
Address_____
Date_____
Telephone_____

Below is
for Use by Design Consultant only
___ Conditions for Final Review Accepted
___ Final Review Accepted as Noted
___ Final Review Not Accepted
By_____
Date_____
Remarks_____
_____
_____
_____

END OF SECTION

SECTION 017836 – WARRANTIES

PART 1 - GENERAL

1.1 SUMMARY

A. In addition to providing all other warranties specified in the Project Manual and without affecting any rights of Owner under State or Federal law, Contractor shall warrant that the Work done under this Project Manual will be free from faulty materials or workmanship and hereby agrees, upon receiving notification from the Owner or his Agent, to immediately remedy, repair or replace, without cost to the Owners and to his entire satisfaction, all defects, damages or imperfections appearing in said work within a period of one (1) year unless specified otherwise, after date of final acceptance by the Owner of all work done under this Project Manual, regardless of whether or not the Owner or persons operating under contract with the Owner partially or wholly occupies any portion of the work prior to acceptance. For work performed after completion, the one (1) year period shall be extended by the period of time between the date of final acceptance by Owner and actual performance of the work. This obligation shall survive acceptance of the work and termination of the Contract.
   1. Warranties shall be in the form outlined below and shall be submitted in duplicate to the Contractor and submitted on his own letterhead.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

A. Warranty Form: *(following page.)*

B.

C.

D.

E.

F.

G. *(Contractor's Letterhead)*

H. Project Number: _____

I. Project Name: _____

J.

K.

L.

WARRANTY FOR

_____

We hereby warrant and the General Contractor warranties that

_____

_____

_____

has been done in accordance with the Drawings and the Specifications and that the Work as installed will fulfill the requirements of the warranty included in the Project Manual. We agree to repair, replace any or all of our work together with any other adjacent work which may be displaced or damaged by so doing that may prove to be defective in its workmanship or materials within a period of _____ years from date of acceptance of the above-named without any expense to the Owner, ordinary wear and tear and unusual abuse or neglect excepted. In the event of our failure to comply with above-mentioned conditions within ten (10) days after being notified in writing by the Owner or his agent, we collectively or separately, do hereby authorize the Owner to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefor upon demand.

_____
(Signature of Subcontractor)

_____
(Signature of Contractor)

Date: _____

M. Submit 2 copies of all manufacturer's or installer/applicator's warranties and bonds as specified within Division 02 –49.

N. Submit to Architect together with Project Record Documents.

O. Accompany submittals with transmittal letter in duplicate.

P. When Product Submittals are required, submit copy of warranty with product submittal.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 017839 – PROJECT DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the administrative and procedural requirements for Project Record Documents, including the following:
   1. Project As-Built Drawings.
   2. Project Record Drawings.
   3. Record Specifications.
   4. Record Product Data.

B. Related Requirements: The following Project Manual Sections contain requirements that relate to this Section:
   1. Specification Section 013226- FORMS AND REPORTS
   2. Specification Section 017720- PROJECT CLOSEOUT

1.3 DEFINITIONS

A. CONTRACT DOCUMENTS: Contract Documents include Contract Forms, Project Manual (Contract Requirements and Specifications), Drawings, Addenda, Change Orders and Modification Documents (Supplemental Instructions, Request for Information, Construction Change Directives).

B. PROJECT "AS-BUILT" DOCUMENTS: A set of Contract Documents used during construction for recording of actual construction information during construction. The recording of construction information shall be maintained on the Contract Drawings and in the Project Manual.

C. PROJECT "RECORD" DOCUMENTS: A set of Contract Documents used at the completion of construction for transferring and documenting the actual construction information recorded on the PROJECT "AS-BUILT" DOCUMENTS.

D. RECORD PRODUCT DATA: A set of Submittals and Shop Drawings that have documentation of field changes made after review.

E. AGENCY DOCUMENTATION: Documents required by the Agency Having Jurisdiction to be prepared and submitted by the contractor.

1.4 SUBMITTALS:

A. Submit the following in accordance with specification Section SUBMITTAL PROCEDURES.

B. Format for Submittals:
1. Accompany each submittal with a SHOP DRAWING AND SUBMITTAL TRANSMITTAL:
2. PDF electronic file names shall match the Sheet Numbers of the Contract Documents.
3. Provide labels on DVD's and DVD Cases and include the following:
4. First Line: CLOSE-OUT DOCUMENTS
5. If submittal contains multiple disks append to first line Disk, i.e. (1 of 2)
6. Second Line: Project Name and Year
7. Third Line: Architect Firm Name and Architect's Project Number
8. Fourth Line: DSA or OSHPD Number (if applicable)
9. Fifth Line: Contractor Company Name
10. PDF files for Project "Record" Documents and Record Product Data shall be combined with PROJECT CLOSEOUT, Maintenance Data and Operations Data, and WARRANTIES on a single set of DVD's.

C. PROJECT "AS-BUILT" DOCUMENTS: Comply with the following:
1. Number of Copies: Submit one paper-copy set of marked-up as-built drawings and one paper-copy of marked-up as-built specifications.
2. Clearly Label each copy "PROJECT 'AS BUILT' DOCUMENTS" in two-inch-high printed letters.

D. PROJECT "RECORD" DOCUMENTS: Comply with the following:
1. Number of copies: Submit copies of the Record Documents as follows:
a. Initial Submittal:
1) Submit one paper-copy of marked-up record drawings and one paper copy of marked-up record specifications,
2) Alternatively, submit PDF electronic files of scanned marked-up record drawings and marked-up record specifications on one set of DVD Üs
3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
2. Final Submittal:
3. Submit one paper-copy of marked-up record drawings, one paper copy of marked-up record specifications, and PDF electronic files of scanned marked-up record drawings and marked-up record specifications on three sets of DVD's.
4. Each record drawing sheet shall be labeled, "PROJECT "RECORD" DOCUMENT.•
5. Print each drawing, whether or not changes and additional information were recorded.
6. Clearly Label each copy "PROJECT "RECORD" DOCUMENTS in two-inch-high printed letters in a prominent location.

E. RECORD PRODUCT DATA: Comply with the following:
1. Number of Copies:
a. Submit one paper-copy set of marked-up shop drawings.
b. Submit three DVD's of PDF electronic files of scanned marked-up shop drawings.

F. AGENCY DOCUMENTATION: Comply with the following:
1. Submit Documentation Required by the Agency Having Jurisdiction utilizing the format

and system established by the Agency.

1.5 SYSTEM DESCRIPTION

A. The Architect considers the Project Record Documents to be of significant importance to the Owner.

B. Project Record Documents provide important information for the Owner's records, they form an invaluable record for future reference for concealed conditions, facilities management processes, and future additions and renovations.

PART 2 - PRODUCTS

2.1 General:

A. All costs (including the time) required for recording, transferring, and copying all documentation shall be part of the Contractor's Overhead Expense.

B. Provide red pencil or ink (contrasting color) for all marking of the PROJECT "AS-BUILT DOCUMENTS, PROJECT "RECORD" DOCUMENTS, and RECORD PROJECT DATA.

C. Do not permanently conceal any work until required information has been recorded.

2.2 RECORD DRAWINGS

A. PROJECT "AS-BUILT" DOCUMENTS: Maintain one set of marked-up paper copies of the Contract Drawings: and Specifications, incorporating new and revised drawings as modifications are issued.
   1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
      a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
      b. Accurately record information in an acceptable drawing technique.
      c. Record data as soon as possible after obtaining it.
      d. Record and check the markup before enclosing concealed installations.
   2. Content: Types of items requiring marking include, but are not limited to, the following:
      a. Elevation for finish grade for all points indicated on Site Grading Plan.
      b. Depths of various elements of foundation in relation to first floor finish elevation.
      c. Horizontal and vertical location of underground utilities and appurtenances referenced to visible and accessible features of structure.
      d. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
      e. Revisions to routing of piping and conduits.
      f. Revisions to electrical circuitry.
      g. Actual equipment locations.
      h. Duct size and routing.
      i. Locations of concealed internal utilities Field changes of dimensions and details.

j. Changes made by Addenda, Change Orders and other Modification Documents.
k. Details not on original Contract Documents.
l. Changes made on Shop Drawings.

3. Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
   a. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   b. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
   c. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
   d. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
   e. Note related Changes Orders, record Product Data, and record Drawings where applicable.
4. Mark the Contract Drawings and Specifications completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
5. Note Request for Information numbers, Supplemental Instruction numbers, Construction Change Directive numbers, Change Order numbers, and similar identification, where applicable.

2.3 PROJECT "RECORD" DOCUMENTS:

A. General: Transfer all changes, notations, etc. from the "AS-BUILT" PROJECT DOCUMENTS to the "PROJECT RECORD" DOCUMENTS in the same quality as the original Contract Documents.

2.4 RECORD PRODUCT DATA

A. Maintain one set of marked-up paper copies of the Shop Drawings and Product Data, incorporating any modifications to the reviewed documents.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies from that indicated in Product Data submittal.
   1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
   3. Note related Change Orders and record Drawings where applicable.
   4. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.5 AGENCY DOCUMENTATION

A. Contractor shall prepare and upload all applicable forms pertaining to the Contractor as required by the Division of State Architect DSA Procedure 13-02, including but not limited to:
   1. DSA 6-C - Contractor Verified Report

2. NFPA System Record of Completion

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE:

A. Recording:
1. Keep all documents current, PROJECT "AS-BUILT" DOCUMENTS shall be kept current at all times. Post changes and revisions to project as-built documents as they occur; do not wait until end of Project
2. The Project Inspector will review the PROJECT "AS-BUILT" DOCUMENTS periodically for the Architect at the time Payment Requests are processed. Should the PROJECT "AS-BUILT DOCUMENTS not be current and up to date, the Owner reserves the right to hold the Payment Request until compliance with the Contract Documents has occurred.

B. Maintenance of Documents:
1. Maintain at job site the following:
   a. Contract Drawings.
   b. Project Manual/Specifications.
   c. Addenda.
   d. Reviewed shop drawings.
   e. Change Orders.
   f. All Modification Documents.
   g. Field test records.
2. Store documents in field office apart from documents used for construction.
3. Provide files and racks for storage of documents.
4. File documents in accordance with Project Filing Format or Uniform Construction Index.
5. Maintain documents in clean, dry, legible condition.
6. Do not use record documents for construction purposes.
7. Make documents available at all times for inspection by Architect, Owner and Owner's Inspector.

END OF SECTION

SECTION 024919 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the following:
   1. Section includes requirements governing execution of the work including, but not limited to, the following:
      a. Demolition and removal of selected portions of building or structure.
      b. Demolition and removal of selected site elements.
      c. Salvage of existing items to be reused or recycled.
      d. Demolition of entire small buildings or structures.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS
   2. ALL DIVISION 01 SPECIFICATION SECTIONS
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP
   4. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP

1.2 REFERENCES

A. Standards:

B. In accordance with the latest edition of the following standards:
   1. ANSI A10.6 American National Standards Institute

1.3 DEFINITIONS

A. Remove: Detach items from existing site or building (s) and legally dispose or recycle off-site.

B. Remove and Salvage to Owner: Carefully detach from existing site or building (s)), in a manner to prevent damage, and deliver to Owner.

C. Remove and Reinstall: Detach items from existing site or building (s), prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Existing item(s) within project site that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Shop Drawings:

a. Proposed Protection Measures - Submit report and drawings that indicates the measures proposed for protecting individuals and property for dust and noise control.
   1) Indicate proposed locations and construction of barriers.
   2) Indicate occupant paths of egress and travel.
   3) Indicate how long utility services will be interrupted.
b. Salvaged Item Inventory List
   1) Indicate items to be salvaged and delivered to Owner.

2. Closeout Submittals:
   a. Existing Warranties
   b. Pre-demolition Photographs

1.5 QUALITY ASSURANCE

A. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following:
   a. CARB Materials and equipment used for this project shall comply with the current applicable regulations of the California Air Resources Board and the Environmental Protection Agency (EPA), in the area where the project is located.
   b. CAL/OSHA California Division of Occupational Safety and Health Administration.
   c. CF County of Fresno, codes and ordinances
   d. EPA Environmental Protection Agency

B. Meetings:
1. Pre- Demolition……Schedule prior to the start of work.
   a. Coordinate the work with other work being performed.
   b. Review requirements of work performed by others that rely on substrates exposed by selective demolition work.
   c. Identify any potential problems that may impede planned progress and proper demolition of work.
   d. Review structural load limitations of existing structure.
   e. Review areas where existing construction is to remain and requires protection.
   f. Review demolition waste disposal and material recycling procedures.
2. Progress:……Scheduled by the Contractor during the performance of the work.
   a. Review for proper work progress.
   b. Identify any problems and acceptable corrective measures.
   c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion:……Scheduled by the Contractor upon proper completion of the work.
   a. Inspect and identify any problems.
   b. Establish method and procedures to maintain protections while progressing to project completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Cleaning, handling, and packing:
1. Salvaged Items and Reinstalled Items shall be handled in such a manner as to assure that they are free from damage.
2. Salvaged Items shall be cleaned and packed or cleaned and palleted.

3. Reinstalled Items shall be cleaned.

B. Storage and protection
1. Salvaged Items and Reinstalled Items shall be stored in a dry, protected area.
2. Salvaged Items and Reinstalled Items shall be stored above ground on level platforms, six (6) inches above ground, allowing air circulation underneath.
3. Cover with protective waterproof covering providing for adequate air circulation and ventilation.

C. Waste Management and Disposal:
1. Disposal of all selective demolition items shall be per Specification Section - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

1.7 PROJECT CONDITIONS

A. Environmental requirements:
1. Dust control - perform site, exterior, and interior work in a manner as to minimize the spread of dust and flying particles.
   a. Thoroughly moisten appropriate surfaces as required to prevent dust from being a nuisance to the occupants, public, and neighbors.
2. Noise control - perform work in a manner as to minimize construction noise.
   a. When a certain level of noise is unavoidable and is objectionable to the occupants of the adjacent spaces, buildings, or premises, coordinate with Owner and make arrangements to perform such work at the most appropriate time periods of the day.
3. Infection control -
4. Vibration control -

B. Existing conditions:
1. Examine project site and building(s) and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Conduct work so as not to interfere unnecessarily with adjacent buildings, roads, streets, drives, and walks.
   a. Do not close or obstruct streets, alleys, walks, or passageways without permission from authorities having jurisdiction and coordinating same with immediate neighbors whose business operation may be affected.
   b. Safety measures shall be taken to insure an uninterrupted flow of traffic around the site as required by local Police and Fire Departments
3. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
4. Maintain existing utilities indicated to remain in service and protect against damage during selective demolition work.
   a. Maintain fire-protection facilities in service during the work.
5. Demolition waste becomes the property of the Contractor.
6. Storage or sale of removed items on-site is not permitted.
7. It is not expected that hazardous materials will be encountered in the Work.
   a. Hazardous materials will be removed by Owner before start of the Work.
   b. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

8. Hazardous materials are present in buildings and structures to be selectively demolished. The Owner has prepared a report for the Contractor to review and use.
    a. Hazardous material remediation is specified in Specification Section - HAZARDOUS MATERIAL PROCEDURES.

1.8 WARRANTY

A. Existing Warranties:
1. Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warranter before proceeding. Existing warranties include the following:
    a. Roofing system
2. Notify warranter on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Furnish all materials, tools, equipment, facilities, and services as required for performing the selective demolition and removal work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of conditions:
1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
2. Execution of work under this specification section shall constitute acceptance of existing conditions.
3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the Work under this Section.
4. Verify that utilities have been disconnected and capped before starting selective demolition operations.
5. Verify that rooftop utilities and service piping have been shut-off prior to roof selective demolition.
6. Record existing conditions by use of Pre-demolition Photographs.
    a. Inventory and record the condition of items to be salvaged and/or re-installed.

3.2 PREPARATION

A. Coordination:
1. Before proceeding, verify plans match existing conditions.
2. Review documents of existing construction provided by Owner against existing conditions.

3. If conflicts are encountered, report it to the Architect. Then prepare recommendation(s) for correction and submit to Architect for review.
4. Coordinate work under this specification section with work specified under other sections.
5. Coordinate any utility and HVAC unit shut-down with owner 48 hours in advance of the anticipated shut-down.
    a. Do not interrupt utilities and HVAC units serving occupied or used facilities, except when authorized in writing by the Owner.
    b. Provide temporary service during interruptions to existing facilities, as may be required by the Owner to maintain essential services.
6. Prior to site selective demolition, review status of trees and shrubs with Architect and Owner. The Owner may wish to relocate trees or shrubs outside the limits of construction.
7. Prior to roofing selective demolition, coordinate with Owner to shut down air intake equipment and service piping in the vicinity of work.

B. Protection:
1. Structure and Property:
    a. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings, landscape, and facilities to remain.
    b. All damage inflicted on public and private property and the property of the Owner shall be repaired or restored to the original condition prior to the start of this Work. All repair or replacement work shall be done at no additional cost to the owner.
    c. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building and site.
    d. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and other weather damage to building envelope, structure, and interior areas.
    e. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
    f. Protect and maintain utility services and mechanical/electrical systems to remain.
    g. Cover and protect furniture, furnishings, and equipment that have not been removed.
    h. Cover all air supply and return ducts to remain before proceeding with demolition work.
    i. Cover air intake louvers before proceeding with work that will affect indoor air quality.
    j. During roof selective demolition have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
2. Temporary Shoring:
    a. Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
        1) Strengthen or add new supports when required during progress of selective demolition.

3.3 APPLICATION

A. General:

1. Selective demolition shall include the removal of all components of the existing building and/or site described in the documents to be removed. Unless otherwise specified, the component identified for removal shall include all materials, accessories and fabrications associated with that component.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.
    a. Temporarily cover opening to remain.
    b. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. When removing structural framing members, lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
5. Locate selective demolition equipment and demolished debris so as not to impose excessive loads on supporting walls, floors, or framing.
6. Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems.
7. Demolished items and materials that are recyclable or slated for disposal shall be promptly dealt with per Specification Section - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
8. Removed and Salvaged items:
    a. Clean salvaged items.
    b. Pack or crate items after cleaning. Identify contents of containers.
    c. Store items in a secure area until delivery to Owner.
    d. Transport item to Owner's storage area [on-site][off-site][list address].
    e. Protect items from damage during transport and storage.
    f. In addition to items indicated elsewhere, salvaged items that the Owner wants to retain in usable condition are as follows:
        1) All door hardware
        2) All unit heater and controls
        3) All energy management controls
        4) All security system devices
9. Removed and Reinstalled items:
    a. Clean and repair items to functional condition adequate for intended reuse.
    b. Pack or crate items after cleaning and repairing. Identify contents of containers.
    c. Protect items from damage during transport and storage.
    d. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
10. Existing Items to Remain:
    a. Protect construction indicated to remain against damage and soiling during selective demolition.

B. Site Selective Demolition:
1. Utility lines to be abandoned within the construction area shall be removed and stubbed off outside the limits of construction.
2. Maintain existing storm drainage system to remain in functioning condition. Prevent debris from entering or blocking drains and piping. Use drain plugs specifically for this purpose. Remove drain plugs at the end of each work day.
3. Refer to drawings for trees and shrubs to be removed. Protect certain trees as indicated.
    a. Remove tops, trunks, and roots of trees and shrubs to a minimum depth of 3 feet or to a depth required to remove all roots 1/4 inch diameter and larger.

b. Chip removed trees, shrubs, and roots.
1) Removed chipped material to recycling station.
2) Recycle chipped material into mulch for this project. Refer to Specification Section - LANDSCAPE PLANTING for treatment.

4. Remove debris, concrete, asphalt, and any other obstruction to the extent indicated.
5. Remove all:
a. Buried objects which will interfere with the Work.
b. Irrigation lines, irrigation risers, and irrigation valves.
c. Stand pipes.
d. Water wells and pumps.
e. Electrical service and power poles.
6. At building pads, site improvements, or trenching, strip topsoil which contains:
a. Grass, weeds, and natural vegetation to a minimum depth of [12][18][24] inches.
b. Stumps and roots 1/4 inch and larger.
7. Remove non-soil materials from topsoil, including clay lumps, gravel, trash, debris, weeds, roots, other waste materials, and objects more than 1/2 inch in diameter.
8. Stockpile reusable topsoil away from excavation and where work is to proceed.
a. Do not stockpile topsoil within drip line of remaining trees.
9. Non-soil materials removed from topsoil shall be separated into like materials and recycled either within the project or removed from the project site to a recycling station.
a. Those waste materials that are non-recyclable shall be legally disposed off of the project site.

C. Roofing Selective Demolition:
1. Maintain roof drains in functioning condition to ensure roof drainage at end of each work day. Prevent debris from entering or blocking roof drains and conductors. Use roof drain plugs specifically for this purpose. Remove roof drain plugs at end of each work day, when no work is taking place, or when rain is forecast.
2. Remove existing roofing membrane and other roofing system membrane components down to the deck including flashings, copings, and roof accessories.
a. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry. Remove un-adhered bitumen and felts.

3.4 CLEANING

A. Clean in accordance with Specification Section - PROJECT CLOSEOUT:
1. Clean any soiled surfaces to remain immediately.
2. Existing substrates shall be clean and ready for the installation of any additional materials.
3. Leave site areas level and free of any ruts or debris. Appearance of earth surface shall be equal to or better than adjacent undisturbed surfaces.

END OF SECTION

SECTION 051200 - STEEL AND FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all Structural Steel, Miscellaneous Metals, and Fabrications, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. 03 11 01 CONCRETE FORMWORK
   4. 03 15 14 DRILLED ANCHORS
   5. 03 20 00 REINFORCEMENT
   6. 03 30 00 CAST-IN-PLACE CONCRETE (Grouting of Bearing Plate)
   7. 04 22 00 CONCRETE MASONRY UNITS
   8. 05 30 00 METAL DECK
   9. 06 18 00 GLUE-LAMINATED CONSTRUCTION
   10. 06 41 23 MODULAR CASEWORK
   11. 07 21 00 INSULATION
   12. 07 40 00 METAL PANELS
   13. 07 60 00 SHEET METAL
   14. 07 72 00 ROOF ACCESSORIES
   15. 07 81 16 FIREPROOFING
   16. 07 84 00 FIRESTOPPING
   17. 08 11 00 METAL DOORS AND FRAMES
   18. 08 14 16 WOOD DOORS
   19. 08 33 00 COILING DOORS
   20. 08 34 73 ACOUSTICAL DOORS AND FRAMES
   21. 08 41 00 STOREFRONTS
   22. 08 70 00 HARDWARE
   23. 09 22 16 METAL FRAMING
   24. 09 50 00 ACOUSTICAL CEILINGS
   25. 09 67 23 RESINOUS FLOORING
   26. 09 91 00 PAINTING
   27. 10 05 00 MISCELLANEOUS SPECIALTIES
   28. 10 11 00 VISUAL DISPLAY BOARDS
   29. 10 22 13 WIRE MESH PARTITIONS
   30. 10 44 00 FIRE PROTECTION SPECIALTIES
   31. 31 62 13 CAST-IN-PLACE DRILLED PIERS
   32. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   33. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

A. Standards:

1. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following standards:
   a. AISC: American Institute of Steel Construction "Specification for Design, Fabrication and Erection of Structural Steel buildings" and "Code of Standard Practice for Steel Buildings and Bridges" and "Recommended Procedure for Identification of High Strength Steels During Fabrication".
      1) NOTE: All connections shall be designed by the Structural Engineer and approved by DSA/SSS.
      2) NOTE: All connections shall be as shown in the Contract Document drawings.
      3) AISC 303: "Architecturally Exposed Structural Steel" "Code of Buildings and Bridges", Section 10.
      4) AISC 303: "Code of Standard Practice for Steel Buildings and Bridges"..
      5) AISC: "Specification for Structural Steel Buildings" using the AISC 360-10.
      6) AISC 341 - "Seismic Provisions for Structural Steel Buildings".
      7) AISC 358 - "Pre-Qualified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications.
      8) AISC 360: "Specification for Structural Steel Buildings".
   b. ANSI: American National Standards Institute:
      1) ANSI B18.22.1 "Plain Washers".
      2) ANSI B18.22.1 "Beveled Washers".
   c. ASTM: American Society for Testing and Materials.
      1) ASTM A6: General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use.
      2) ASTM A 123: Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.
      3) ASTM A 153: Standard Specification for Zinc (Hot-Dip) on Iron and Steel Hardware.
      4) ASTM A 385: Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip).
      5) ASTM A 780: Standard Specification for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
   d. AWS: American Welding Society "Structural Welding Code".
      1) AWS D1.1 "Structural Welding Code".
      2) AWS D1.8 "Structural Welding Code - Seismic Supplement".
      3) AWS A2.0 "Welding Symbols".
   e. ICC: International Code Council
   f. NAAMM: National Association of Architectural Metal Manufacturers
      1) Metal Stairs Manual
      2) Pipe Rail Manual.
   g. RCSC: Research Council on Structural Connections, "Specifications for Structural Joints Using High Strength Bolts" Using ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
   h. SSPC: The Society for Protective Coatings.

1) SSPC-SP 1 "Solvent Cleaning".
2) SSPC-SP 2 "Hand Tool Cleaning".
3) SSPC-SP 3 "Power Tool Cleaning".
4) SSPC-SP 6 "Commercial Blast Cleaning".
5) SSPC-SP 7 "Brush-Off Blast Cleaning".
6) SSPC-PA2 "Measurement of Dry Paint Thickness with Magnetic Gauges".

1.3 DEFINITIONS

A. Welding Definitions:
1. CVN Charpy V-Notch (Testing Procedure).
2. FCAW Flux Core Arc Welding.
3. FCAW-G Flux Core Arc Welding-Gas Shielded.
4. FCAW-SS Flux Core Arc Welding-Self Shielded.
5. G-MAW Gas Metal Arc Welding.
6. SMAW Shielded Metal Arc Welding.
7. SAW Submerged Arc Welding.

1.4 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
1. Product Data.
a. Submit Load Indicating Device information as indicated in Part 3 of this Specification Section, and include Laboratory Test Reports and other data to show compliance with Specification (include Specified Standards).
b. Include certified copies of mill reports covering chemical and physical properties of each type of steel.
c. Submit primer paint system. Obtain certification from the project's Painting Contractor and Paint Manufacturer that primer paint system is compatible with proposed painting systems for this project.
2. Shop Drawings.
a. The Contract Drawings represent the spatial relationship as conceived by the Architect.
1) The production of the structural steel Shop Drawings may require the employment and utilization of a 3-dimensional structural steel fabrication layout program to achieve the exact relationship of all intersecting members.
2) Building sections and details represent interpretations of these relationships and the dimensions shown shall not be relied upon for accuracy and fit, but the Contractor / Structural Steel Fabricator shall verify them and double-check them for accuracy and fit.
3) Any significant variations shall be submitted to the Architect and Structural Engineer for review and approval, of which the conditions may or may not require DSA review and approval.
4) "Fit-Up" means and methods are the sole responsibility of the Contractor.
b. Provide all information necessary for the fabrication of component parts. Indicate size and weight of members, type and location of shop and field connections, size and extent of all welds, and welding sequence when required.
c. Include details of cuts, connections, camber, holes and other pertinent data.

Include welds by Standard AWS Symbols, and show size, length and type of each weld.

d. Provide sections, drawings, templates and directions for installation of anchor bolts and other anchorages to be installed by others.

e. Dimension requirements of structural steel for manufactured items, such as Mechanical Equipment, Dock Levelers, etc. All of these items shall be coordinated and provided by the General Contractor. The General Contractor shall also coordinate and provide dimensions to locate Structural Steel for Window Washing supports such as davits, tie-backs, etc.

3. Samples.
   a. Provide material samples cut and machined for testing without charge to the Owner.
4. Quality Assurance/Control Submittals.
   a. Test Reports:
      1) Submit mill analysis and test reports for each heat, in accordance with ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use", certifying conformity with the Specifications. Steel shall be identifiable in the fabricating shop.
      2) Submit test reports for each lot of high strength bolts in accordance with ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" and ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength" .
      3) Submit Welding Procedure Specification (WPS) to the Structural Engineer for review prior to use.
         a) For WPS's that have been qualified by test, the supporting Procedure Qualification Record (PQR) shall be submitted to the Structural Engineer for review prior to use.
      4) Submit to the Structural Engineer for approval, a step by step welding sequence for the field welding of each type of connection.
      5) Submit to the Structural Engineer a quality control plan that addresses all inspection issues, including in process and final inspection that are addressed in AWS D1.1.
   b. Certificates:
      1) Submit current valid certificate issued by an independent testing agency for all welders, welding operators, and tack welders.
      2) Certification of Welder's Qualifications: Welders that will make welds in restricted access, such as, but not limited to, the bottom flange-to-column welds through a cope hole or access hole in the beam web, shall be qualified by the Contractor using the same welding procedure as will be used for production and a mock-up assembly that simulates the construction configuration.
      3) Provide Certified Mill Test Report Sheets in accordance with ASTM A123 "Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products", certified at the plant after galvanizing, but prior to shipment.
5. Closeout Submittals:
   a. Project Record Documents in accordance with Specification Section - PROJECT DOCUMENTS.
   b. Warranty.

1.5 QUALITY ASSURANCE

A. Qualifications:
1. Installer Qualifications:
a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
b. Welders shall be recently qualified by Test as prescribed in AWS "Structural Welding Code" for the type of welding to be performed.
1) All welders, welding operators, and tack welders shall be qualified with the largest diameter electrode(s) to be used on the work by test and hold a current valid certificate issued by an independent testing agency, to perform the type of welds required by the work; including the process, position, and thickness of materials used (AWS D1.1: Clauses 3 & 4 Sections).
2) In addition to meeting the requirements of AWS, welders that will make welds with restricted access, such as, but not limited to, the flange to column welds through a cope hole or access hole in the beam web, or where access to the bottom of a groove is restricted by the presence of a column flange, shall be qualified by the Contractor using the same welding procedure as will be used for production and a mock-up assembly that simulates the construction configuration.
3) All welders on the project shall be capable of understanding and following the requirements of the written WPS.
4) Each welder employed on the project shall understand all the requirements of this welding specification before welding on the project.
5) The written WPS shall be available to the welder, welding supervisor, and all inspectors.
6) Provide weld procedures for both pre-qualified welds and special welds to be submitted to the Owner's Testing laboratory and the Architect. Procedures shall be provided for both shop & field welds and shall be provided prior to commencing welding operations.
2. Manufacturer/Supplier Qualifications:
a. Structural Steel firm experienced in successfully producing/supply capacity to produce/supply required units without causing delay in the Work.
b. Provide documentation that the Hot-Dipped Galvanizer is a member in good association with the AGA (American Galvanizers Association).
3. Metal Stair Qualifications:
a. For all surfaces exposed to view, use materials, that are smooth and free of surface blemishes including pitting, seam marks, rolled trade names and roughness.
b. All loading conditions resulting in eccentricities or torsion to beams and/or columns shall be resolved by the Installation of stiffeners and diagonal struts designed, supplied, and installed buy the stair supplier.
c. Take field measurements prior to preparation of shop drawings and fabrication; do not delay job progress; allow for trimming and fitting where necessary.
d. Concrete for treads and landings shall attain a minimum strength of 3,000 psi in 28 days.
e. Metal stairs and intermediate landings:
1) Stair pans and risers shall be a minimum of 10 gage material. Actual gage as required by design.
2) Stringer and member sizes indicated on drawings shall be the minimum sizes allowed. Flat plate stringers are not acceptable substitutions.

B. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB)and the Environmental Protection Agency (EPA), in the area where the project is located.

C. Mockups:
1. A typical mockup of welded connections shall be provided prior to shop fabrication.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Product Handling:
1. Store materials to permit easy access for inspection and identification. Keep steel members off the ground using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration.

1.7 SCHEDULING

A. Schedule the Work so that there will be no excessive inspection time. At all times that an inspector is required, sufficient work shall be laid out and adequate personnel supplied so that the Inspector's time will be used to full advantage. If inspection costs become excessive because of poor shop procedure, such excess costs will be paid for by the Owner, but deducted from the Contract Price. Poor procedures will be determined upon review of Inspection and/or Testing Reports. The rate for charging the excess costs will be as follows:
1. Minimum of three (3) certified welders are used, Owner will pay 100 percent.
2. Only two (2) certified welders are used, Contractor will be charged 1/3 of the Inspection cost.
3. Only one (1) certified welder is used, the Contractor will be charged 2/3 of the inspection cost.

1.8 WARRANTY

A. Contractor's General Warranty:
1. In accordance with Specification Section - WARRANTIES.

B. Manufacturer's Warranty:
1. In accordance with manufacturer's written standard warranty:
a. Warranty Period One (1) Year.

C. Installer's Warranty:
1. In accordance with the terms of the Specification Section - WARRANTIES
a. Warranty Period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.

1. Specified Steel Bar Grating product manufacturer, or approved equivalent:
   a. McNICHOLS COMPANY:
      1) "Welded bar grating" #GW-150A".
      2) "Welded bar grating" #GW-200-2".
      3) "Sunscreen" Welded bar grating #GW-250".
2. Specified Plastic Steel Putty product manufacturer, or approved equivalent:
   a. DEVCON Plastic Steel Putty A.
3. Specified primer paint product manufacturer, or approved equivalent:
   a. PPG PAINTS, INC.
4. Specified galvanized repair paint product manufacturer, or approved equivalent:
   a. AERVOE INDUSTIRES, INC.
      1) Zinc Rich Galvanize #1141.

B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

A. Steel:

1. Angles, Channels, rolled shapes other than W Shapes, Structural Shapes, Plates, and Bars: Shall be made in accordance with ASTM A 36, "Specifications for Carbon Structural Steel", unless indicated otherwise on drawings.
   a. ASTM A 572, "Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel", Grade 50.
   b. ASTM A 992, "Standard Specification for Steel for Structural Shapes for use in Building Framing" Grade 50.
2. W Shapes: Shall be made in accordance with ASTM A572-50 or ASTM A992-50 unless indicated otherwise on drawings.
   a. ASTM A 572, "Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel", Grade 50.
   b. ASTM A 992, "Standard Specification for Steel for Structural Shapes for use in Building Framing" Grade 50.
3. Pipe: Shall be in accordance with "Specifications for Welded and Seamless Steel Pipe", ASTM A 53 "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless", Grade B.
   a. Finish: Type E, for concealed conditions, Black, except where indicated on the drawings to be galvanized.

b. Finish: Type S, for visually exposed conditions, Black, except where indicated on the drawings to be galvanized.

4. Structural Tubes:
   a. Cold-Formed tubing: Shall be in accordance with ASTM A 500 "Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes", Grade C.
   b. Hot-Formed tubing: Shall be in accordance with ASTM A 501 "Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing".
   c. All HSS sections (round and square) shall have their material certifications reviewed by the special inspector.
      1) The special inspector shall verify that all seam welds are fused in accordance with ASTM A 500 "Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes", Grade C.
      2) The special inspector shall, as a minimum, visually inspect the exterior of all seam welds.
5. AISC Group 4 and 5 shapes and plates greater than 2-inches thick: ASTM A36 and/or ASTM A572, Grade 50 with supplementary requirements S91 Fine Austenitic Grain Size and S5 Charpy V-Notch Impact Test For Location of Charpy V-Notch Test, see ASTM A6 Supplementary Requirement S30 Charpy V-Notch test shall be per ASTM A673, frequency P and shall meet a minimum average value of 20 ft-lbs absorbed energy at 70 degrees F.

B. Light Gage Cold Formed Shapes: In accordance with the following, unless otherwise noted on the Structural Engineer's Drawings:
1. ASTM A 653 "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process", such as "Zee" purlins, angles bent plated, etc.
2. ASTM A 1011 "Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability".

C. Bar Grating: Shall be primed for field finish painting, overall sizes as indicated on the drawings.
1. "Welded bar grating" as manufactured by McNICHOLS COMPANY, or approved equivalent.
   a. Model Number: #GW-150A.
      1) Use Type "C" galvanized steel fasteners.
      2) Fill all grind marks, pits and pockets on exposed faces in the body putty, sand smooth and prep for finish.
      3) Miter cut all corners and angle connections. Remove all slag, grind all welds smooth, and on flat surfaces, grind flush with flat surface.
   b. Model Number: #GW-200-2.
      1) Use Type "CB" galvanized-steel grate fasteners.
   c. "Sunscreen":
      1) Model: #GW-250.
      2) 17.4 lbs/sq.ft. Heavy Duty Galvanized Steel.
      3) Cut to fit with Type "CB" galvanized steel grate fasteners.
2. Aluminum Bar Grating:
   a. Provide "I-Bar IB" configuration by IKG BORDEN, or approved equivalent,

material to be 6063 aluminum alloy, weight 4.0 lbs./sq. ft.

1) Depth of bearing bar to be 2-1/2 inch spaced on 1-3/16 inch centers, Standard panel width to be 13-5/16 inches.
2) The cross bar is to be spaced on 4inch centers.
3) The bearing bar shall be punched to receive the cross bar.
4) Notching, slotting, or cutting the top or bottom flanges of the bearing bars to receive cross bars will not be permitted.
5) Cross bars shall be secured to the main bearing bars by a swaging process to prevent turning, twisting or coming loose.
6) Ends of cross bars to be trimmed flush with outside face of bearing bars.
7) Trimming will be made in such a manner as to prevent destruction of swagged lock on bearing bar.

D. Panels:

1. Perforated Panels (Type 1):
   a. Manufacturer: McNICHOLS COMPANY.
   b. Quantity: Continuous Sheet with no joints.
   c. Material: Stainless Steel, Type 304, #4 Finish.
   d. Thickness: 18 Gage.
   e. Width and Length: See Drawings.
   f. Perforation: 3/32" dia. With 1/4 inch staggered center, 11% open area.
   g. Panel Ends and Edges: 1" margin at perimeter with hemmed edges.
   h. Panel Fasteners:
      1) Manufacturer: HAFELE.
      2) Sleeve Nut: 1/4-20 JCN Nut Screw, 267.10.617.
      3) Material: Nickel Plated Steel.
      4) Width and Length: 17 mm x 19 mm.
      5) Threaded Stud: Match Sleeve Nut Threading.
      6) Spacer Tube: Stainless Steel, to fit over Sleeve Nut (9 mm).
2. Perforated Panels (Type 2):
   a. Manufacturer: McNICHOLS COMPANY.
   b. Quantity: Continuous Sheet with no joints, curved to profile on drawings.
   c. Material: Carbon Steel, polished, clear light oil finish, unprimed.
   d. Thickness: 22 Gage.
   e. Width and Length: 48" x 120".
   f. Perforation: 5/32" dia. With 7/32 inch staggered centers, 46% open area.
   g. Panel Ends and Edges: 1" margin at perimeter with hemmed edges.
3. Non-Perforated Solid Panels (Type 3):
   a. Manufacturer: McNICHOLS COMPANY.
   b. Quantity: Continuous Sheet with no joints.
   c. Material: Stainless Steel, Type 304, #8 Finish.
   d. Thickness: 18 Gage.
   e. Width and Length: See Drawings.
4. Non-Perforated Solid Panels (Type 4):
   a. Manufacturer: McNICHOLS COMPANY.
   b. Quantity: Formed Cylindrical "Can" shape, with smooth welded edges.
      1) See drawings - no burrs or sharp edges allowed.
   c. Material: Stainless Steel, Type 304, #4 Finish.
   d. Thickness: 18 Gage.
   e. Width and Length: See Drawings.

E. Wire Cloth: Galvanized Steel as manufactured by McNICHOLS COMPANY:
1. Plain Weave, 1" square opening
a. (1" x 1") x 0.135 inch diameter (ID Gage).
2. Woven Weave, 1" square opening
a. (1" x 1") x 0.135 inch diameter (ID Gage).

F. Plastic Steel Putty:
1. Manufacturer: DEVCON.
2. Material: Plastic Steel Putty "A".

2.3 COMPONENTS

A. Fasteners shall be in accordance with the following, unless otherwise noted on the Structural Engineer's Drawings:
1. Anchor Bolts:
a. All anchor bolts cast in concrete or masonry shall be headed bolts with cut threads conforming to:
1) ASTM F 1554 "Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength", Grade 36, 55, or 105 as indicated on drawings.
2. Machine Bolts:
a. ASTM A 307 "Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength".
3. Direct Tension Indicators:
a. Provide in accordance with ASTM F 959 "Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners", type as required.
1) Use on all bolts for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" and ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
4. High Strength Bolts, Nuts and Washers: Install in accordance with requirements for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" and ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength" slip critical and snug tight conditions as indicated on drawings. Install high strength bolts with snug tight type connections with threads included in shear plane except as otherwise noted. Install hardened washers in conformance with AISC Specifications.
a. Bolt Specifications: Bolts shall conform to the requirements of the current edition of the Specifications of the American Society for Testing and Materials for High-Strength Bolts for Structural Steel Joints, ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength", ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength" as indicated on drawings.
b. Bolt Geometry: Bolt dimensions shall conform to the current requirements of the American National Standards Institute for Heavy Hex Structural Bolts, ANSI Standard B18.2.1. The length of bolts shall be such that the end of the bolt will be flush with or outside the face of the nut when properly installed.
c. Provide hexagonal heads and nuts for all connections per ASTM A 563 "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process", Appendix Table X1.1.

d. Nut Specifications: Nuts shall conform to the current chemical and mechanical requirements of the American Society for Testing and Materials Standard Specification for Carbon and Alloy Steel Nuts, ASTM A 563 "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process", Appendix Table X1.1 Provide grade A Heavy Hex nuts for Grade 36 and 55 threaded rods. Provide Grade DH or ASTM A194-2H Heavy Hex nuts for Grade 105 threaded rod.

e. Washers: Flat circular washers and square or rectangular beveled washers shall conform to the current requirements of the American Society for Testing and Materials Standard Specification for Hardened Steel Washers, ASTM F 436 "Standard Specification for Hardened Steel Washers".

1) Washers for Base Plates shall be placed top and bottom and shall be ASTM A36 square or circular unless ASTM F844 are permitted on the drawings.

f. Tension Control Fastener System:

1) LOHR, LEJEUNE, NUCOR FASTENER, CORDOVA BOLT, INC., or approved equivalent.

2) Bolts shall conform to the requirements of the current edition of the Specifications of the American Society for Testing and Materials for Twist Off Type Tension Control Structural Bolt/Nut/Washer Assemblies, ASTM F1852, providing equivalent properties to ASTM A325 or A490 as indicated on drawings.

5. Headed Stud-Type Shear Connectors: ASTM A 108 "Standard Specification for Steel Bars, Carbon, Cold-Finished, Standard Quality" Grade 1015 or 1020 Cold-finished carbon steel with dimensions complying with AISC Specifications.
   a. Tensile Strength: 80,000 psi.
   b. Elongation in 2 inches: 20 percent.
   c. Reduction of area: 50 percent.
6. Power Driven Fasteners: Tempered steel pins with special corrosive resistant plating or coating. Pins shall have guide washers to accurately control penetration. Fastening shall be accomplished by low-velocity piston-driven power activated tool. Pins and tool shall be as manufactured by Hilti Fastening Systems.
7. Filler Metal and Welding Flux in accordance with AWS D1.1 Clause 5 "Fabrication Section", and AISC 360, Section A3.5, and shall meet a CVN Impact Energy of 20 ft-lbs at minus 20 Degrees F.
   a. FCAW A5.20 or A5.29 E7XT-X.
   b. G-MAW A5.18 or A5.28 E70S-X.
   c. SAW A5.17 or A5.23 E7X-EXXX.
   d. SMAW A5.1 or A5.5 E70XX Low Carbon.
8. Turnbuckles:
   a. ASTM F 1145, "Standard Specification for Turnbuckles, Swaged, Welded, Forged".
   b. The supplier shall provide turnbuckles manufactured from the same production lot.
   c. The manufacturer shall provide test reports indicating the safe load of the turnbuckles using a safety factor of 5.
   d. Turnbuckles shall be in compliance with ASTM F 606 "Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, and Rivets".
9. Expansion Bolts:
   a. HILTI FASTENING SYSTEMS"Kwik-Bolt Concrete Anchors" to concrete. RAMSET "Dynabolt Sleeve Anchors" to masonry or approved equal.

2.4 FABRICATION

A. Shop Assembly:
1. Fabricate in accordance with AISC Spec and AISC Code unless otherwise indicated on Drawings or Specifications.
   a. Mechanically curve specific Structural members as indicated on the drawings in accordance with AISC requirements and tolerances.
2. Fabricate all structural steel members and fittings.
3. Fabricate all miscellaneous metal fabrications scheduled in Part 3 of this Specification Section.
4. Architecturally Exposed Structural Steel and "Exposed to View" Metal Fabrications:
   a. Comply with AISC - "Architecturally Exposed Structural Steel" 2010 AISC "Code of Buildings and Bridges", Section 10.
   b. At all exposed joints, continuous fill with Plastic Steel Putty. Sand smooth and uniform and ready to receive finishes.
      1) Clean all areas to have smooth seams with manufacturers recommended cleaner.
      2) Place Steel Putty and cure.
   c. Also, refer to drawings.

B. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with the AISC Specifications and as indicated on final shop drawings. Provide camber in structural members where indicated to provide the flattest floor possible. The contractor shall coordinate member tolerances with finishes.
1. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence which will expedite erection and minimize field handling of materials.
2. Where finishing is required, complete assembly, including welding of units, before start of finishing operations. Provide finish surfaces of members exposed in final structure free of markings, burrs, and other defects.
3. Columns:
   a. All columns and beams shall adhere to Section M2.7 of the referenced "Specification for Structural Steel for Buildings" which states that completed members shall be free of twists, bends, and open joints.

C. Connections: Weld or bolt shop connections, as indicated. Bolt field connections, except where welded connections or other connections are indicated.

D. Unless noted otherwise, make holes 1/16 inches larger than the nominal bolt diameter.
1. For anchor bolts, the hole diameter may not exceed the sizes indicated in CBC Section 2204A.4, nor what is specified on the drawings.

E. Welding, Shop and Field: Weld by shielded arc method, submerged arc method, flux cored arc method, or other method approved by AWS. Perform welding in accordance with AWS Code. All welders, both manual and automatic, shall be certified in accordance with AWS "Standard Qualification Procedure" for the Work to be performed. See paragraph "welding" herein, for detailed requirements. If sizes of fillet welds are not shown on drawings, use AWS minimum weld size but not less than 3/16 inch fillet welds.

F. Bolt Holes for Other Work: Provide holes required for securing other work to structural steel

framing.

1. Provide threaded nuts welded to framing, and other specialty items as indicated to receive other work.
2. Cut, drill or punch holes perpendicular to metal surfaces and remove all burrs. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates.

G. AISC Heavy Section shapes and built up members shall meet the requirements for joints in AISC Sections J1.5, J1.6, J2.7 and M2.2.

H. High Strength Bolts:
   1. Installation and Tightening:
      a. Handling and Storage of Fasteners: Fasteners shall be protected from dirt and moisture at the job site.
         1) Only as many fasteners as are anticipated to be installed and tightened during a work shift shall be taken from protective storage.
         2) Fasteners not used shall be returned to protected storage at the end of the shift.
         3) Fasteners shall not be cleaned of lubricant that is present in as-delivered condition.
      b. Tension Calibrator: A tension measuring device shall be required at all job sites where bolts in slip-critical joints are being installed and tightened.
         1) The tension measuring device shall be used to confirm:
            a) The suitability to satisfy the requirements of AISC for the complete fastener assembly, including lubrication if required to be used in the work,
            b) Calibration of wrenches, if applicable, and
            c) The understanding and proper use by the bolting crew of the method to be used.
         2) The frequency of confirmation testing, the number of tests to be performed and the test procedure shall be as specified in 1.d. below, as applicable.
            a) The accuracy of the tension-measuring device shall be confirmed through calibration by an approved testing agency at least annually.
      c. Joint Assembly and Tightening of Shear/Bearing Connections: Bolts in connections not within the slip-critical category shall be installed in properly aligned holes, but need only be tightened to the snug tight condition.
         1) The snug tight condition is defined as the tightness that exists when all plies in a joint are in firm contact.
         2) This may be attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench.
         3) If a slotted hole occurs in an outer ply, a flat hardened washer or common plate washer shall be installed over the slot.
      d. Joint Assembly and Tightening of Connections Requiring Full Pre-tensioning. Slip-critical connections shall be installed in properly aligned holes and tightened by one of the following methods.
         1) Turn-of-nut Tightening: When turn-of-nut tightening is used, hardened washers are not required except as specified in the AISC.
            a) A representative sample of not less than three bolts and nuts of each diameter, length and grade to be used in the work shall be checked at the start of work in a device capable of indicating bolt tension.
            b) The test shall demonstrate that the method of estimating the snug-tight condition and controlling turns from snug tight to be used by the

bolting crews develops a tension not less than five percent greater than the tension required for slip-critical connections.

2) Installation of Alternate Design Bolts: A representative sample of not less than three bolts of each diameter, length and grade shall be checked at the jot site in a device capable of indicating bolt tension.
   a) The test assembly shall include flat-hardened washers, if required in the actual connection, arranged as in the actual connections to be tensioned.
   b) The calibration test shall demonstrate that each bolt develops a tension not less than five percent greater than the tension required by AISC.
   c) Manufacturer's installation procedure shall be followed for installation of bolts in the calibration device and in all connections.
   d) When alternate design features of the fasteners involve an irreversible mechanism such as yield or twist-off of an element, bolts shall be installed in all holes of the connection and initially brought to a snug tight condition.
   e) All fasteners shall then be tightened, progressing systematically from the most rigid part of the connection to the free edges in a manner that will minimize relaxation of previously tightened fasteners prior to final twist-off or yielding of the control or indicator element of the individual fasteners.
   f) In some cases, proper tensioning of the bolts may require more than a single cycle of systematic tightening.

e. Mark bolts that have been completely tightened with an identifying symbol.
   1) Final tightening of high strength bolts in webs of beam to column moment connections shall be performed after completion of flange welding.

I. Welding - General:
1. General: Quality of materials and design and fabrication of all welded connections shall conform to AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Building", "AWS Code for Welding in Building Construction", and requirements of this section.
   a. Location and type of all welds shall be as shown. Make no other welded splices, except those shown on drawings, without prior approval of the architect.
2. Automatic Welding: Use electrode wire and flux for automatic and semi-automatic welding acceptable to Architect. All methods, sequences, qualification and procedures, including preheating, and post heating if necessary, shall be detailed in writing and submitted to the architect for review.
3. Qualification of Welders:
   a. Structural steel welding: Manual and automatic welds for structural steel construction shall be made only by operators who have been previously qualified by tests, as prescribed in AWS D1.1 to perform type of work required.
   b. Welders shall be checked by the welding inspector. Those not doing satisfactory work may be removed, and may be required to pass qualification tests again. All qualification testing shall be at the Contractor's expense.
   c. Only welders whose weld procedures and pre-qualification by testing that have passed shall be considered qualified for such welds.
4. Control cooling process after weld is completed by either step down post heat or thermal blankets as determined by procedures and prequalification.
5. Box columns and built-up members shall have ultrasonic testing before and after welding.

6. Flame cut surfaces shall be ground to remove contaminated steel layer to provide welds proper fusion without impurities.
7. Preparation of surface: Surfaces to be welded shall be free of loose scale, slag, rust, grease, paint and any other foreign material.
8. Welding equipment: Welding equipment to be used in each case shall be acceptable to welding inspector. Use equipment with suitable devices to regulate speed and manually adjust operating amperage and voltage. The amperage capacity shall be sufficient to overcome line drop, and to give adequate welding heat.
9. Remove runoff tabs and grind surfaces smooth where the tabs would interfere with fireproofing and architectural finishes.
10. End-welded studs:
    a. Automatic end-welded studs: Automatically end-weld in accordance with the manufacturer's written recommendations in such a manner as to provide complete fusion between the end of the stud and the plates. There shall be no porosity or evidence of lack of fusion between the welded end of the stud and the plate. The stud shall decrease in length during welding approximately 1/8 inch for 5/8 inch, and 3/16 inch for 3/4 inch diameter. Stud sizes indicated on drawings represent the finish stud height.
    b. Fillet-end welded studs: Studs may be welded using prequalified FCAW, GMAW, or SMAW processes provided the requirements of the AWS D1.1 Clause 7 "Stud Welding" are met as well as any other pertinent requirements of D1.1.
11. Provide mill camber as shown on the construction documents within AISC tolerance. Place mill tolerance upward for all beams specified no camber.

J. Railing Systems ([Guard Rails,][Hand Rails,][Stair Rails][and Queuing Rails]): Assemble railing systems in shop to the greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation. Use connections that maintain structural value of joined pieces.
1. Form changes in direction of railing members as follows:
    a. By bending (unless otherwise indicated by the contract documents).
2. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain profile of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
3. Welded Connections: Fabricate railing systems and handrails for connecting members by welding. For connections made during fabrication, weld corners and seams continuously to comply with the following:
    a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
    b. Obtain fusion without undercut or overlap.
    c. Remove welding flux immediately.
    d. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
4. Nonwelded Connections: Fabricate railing systems and handrails by connecting members with railing manufacturer's standard concealed mechanical fasteners and fittings, unless otherwise indicated. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
    a. Fabricate splice joints for field connection using epoxy structural adhesive where this represents manufacturer's standard splicing method.
5. Brackets, Flanges, Fittings, and Anchors: Provide manufacturer's standard hand rail

brackets, miscellaneous brackets, flanges, miscellaneous fittings, and anchors to connect handrail and railing members to other construction.

6. Provide inserts and other anchorage devices to connect handrails and railing systems to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by handrails and railing systems. Coordinate anchorage devices with supporting structure.
7. For railing posts set in concrete, provide preset sleeves of steel not less than 6 inches long with inside dimensions not less than 1/2 inch greater than outside dimensions of post, and steel plate forming bottom closure.
8. For removable railing posts, fabricate slip-fit sockets from steel tube whose inside diameter is sized for a close fit with posts and to limit deflection of post without lateral load, measured at top, to not more than 1/12 of post height. Provide socket covers designed and fabricated to resist being dislodged.
    a. Provide chain with eye, snap hook, and staple across gaps formed by removable railing sections at locations indicated. Fabricate from same metal as railings.
9. Shear and punch metals cleanly and accurately. Remove burrs from exposed cut edges.
10. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to the smallest radius possible without causing grain separation or otherwise impairing work.
11. Cut, reinforce, drill, and tap components, as indicated, to receive finish hardware, screws, and similar items.
12. Provide weep holes or another means to drain entrapped water in hollow sections of railing members that are exposed to exterior or to moisture from condensation or other sources.
13. Fabricate joints that will be exposed to weather in a watertight manner.
14. Close exposed ends of handrail and railing members with prefabricated end fittings.
15. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated. Close ends of returns unless clearance between end of the railing and wall is 1/4 inch or less.
16. Toe Boards: Where indicated, provide toe boards at railings around openings and at the edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.
17. Fillers: Provide steel sheet or plate fillers of thickness and size indicated or required to support structural loads of handrails where needed to transfer wall bracket loads through wall finishes to structural supports. Size fillers to suit wall finish thickness. Size fillers to produce adequate bearing to prevent bracket rotation and overstressing of substrate.

2.5 FINISHES

A. Shop Cleaning:
1. Clean all surfaces of steel. Remove all rust, mill scale, deposits of splatter, slag or flux, oil, dirt, and all other materials.
    a. Use hand tool, power tool, sandblasting, chemical cleaning, and any other method necessary to provide a smooth, sound surface.
2. Clean contact surfaces of high strength bolt of all burrs and material, which might prevent solid seating of the parts. Steel to receive bolts shall be primer painted except beneath the contact area of slip-critical bolts.

B. Shop Priming:
1. General:
    a. "Painting of structural steel shall comply with the requirements contained in AISC 360. Painting of open-web steel joist girders shall comply with the requirements

of SJI CJ-1.0, SJI JG-1.1, SJI K-1.1 and SJI LH/DLH-1.1. Individual structural members and assembled panels of cold-formed steel construction shall be protected against corrosion in accordance with the requirements contained in AISI S100. Protection of cold-formed steel light-frame construction shall also comply with the requirements contained in AISI S200", per CBC Section 2203A.1.

b. Shop prime all steel except the following:
   1) Surfaces embedded in concrete, or mortar. Extend priming of partially embedded members to a depth of 2 inches.
   2) Contact surfaces for slip-critical (sc) high strength bolts.
   3) Surfaces within 2 inches of field welds.
   4) Top of structural support members when metal deck is welded to supports.
      a) Primer is required when metal deck is mechanically attached to structural support members.
   5) Surfaces to receive sprayed-fire-resistive materials (applied fireproofing).
   6) Surfaces to be galvanized.

2. Priming:
   a. Immediately after surface preparation, apply primer according to manufacturer's written instructions and at a rate recommended by SSPC to provide minimum film thickness. Use priming methods that results in full coverage of joints, corners, edges and exposed surfaces.
      1) Strip paint corners, crevices, bolts, welds and sharp edges.
      2) Apply two shop prime coats to areas, which will be inaccessible after assembly or erection.
   b. Provide PPG PAINTS field primers; or approved equivalent, in accordance with Specification Section - SUBSTITUTION PROCEDURES. Should the Contractor substitute another paint company other than "PPG PAINTS" in Specification Section - PAINTING, then coordination of steel primers with finish coats specified in Specification Section - PAINTING is the Contractor's responsibility.
   c. Use the following shop painting systems on all normal environment interior steelwork:
      1) Surface Preparation: SSPC-SP2 "Hand Tool Cleaning" or SSPC-SP3 "Power Tool Cleaning".
      2) Application: Follow coating manufacturer's printed directions.
      3) Material: PPG PAINTS MULTI-PRIME 94-258 Primer.
      4) Number of Coats: One.
      5) Dry Film Thickness: 2.0 mils minimum.
      6) Volume Solids: 51.0 +/- 1.0% minimum.
      7) Generic Description: Modified Alkyd Resin Universal Primer.
   d. Use the following shop painting systems on all exterior steelwork and interior steelwork subjected to wet conditions or fumes.
      1) Surface Preparation: SSPC-SP6 "Commercial Blast Cleaning".
      2) Application: Follow coating manufacturer's printed directions.
      3) Material: PPG PAINTS AMERCOAT 68HS Primer.
      4) Number of Coats: One.
      5) Dry Film Thickness: 5.0 mils minimum.
      6) Volume Solids: 78% +/-2%
      7) Generic Description: Reinforced Inorganic Zinc-Rich Urethane.

C. Hot-Dip Galvanizing:
   1. Zinc coatings on iron and steel products in accordance with ASTM A 123 "Standard Specification for Zinc (Hot-Dip Galvanzied) Coatings on Iron and Steel Products".

a. Minimum thickness required shall be 3.9 mils.
b. All items that will be exposed to view (i.e. security fence, handrails, guard rails, awnings, canopies and shade structures left exposed to view), shall be Hot-Dipped Galvanized in accordance with ASTM A 385, "Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip)".

2. Zinc coatings on iron and steel hardware shall be in accordance with ASTM A 153 "Standard Specifications for Zinc Coating (Hot-Dip) on Iron and Steel Hardware".
3. Galvanized repair paint: High-Zinc-Dust-Content, in accordance with SSPC-Paint 20 or DOD-P-21035, with dry film containing a minimum of 94 percent zinc dust by weight paint for re-galvanizing welds and repair painting galvanized steel.

D. Stainless Steel Finishes:
1. Remove tool and die marks and stretch lines or blend into finish.
2. Grind and polish to produce uniform, directionally textured, polished surfaces without cross-scratches. Run grain with long dimension of each piece.
3. Bright Directional Satin Finish No.4, unless otherwise shown on drawings.
4. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

2.6 SOURCE QUALITY CONTROL

A. Fabrication Tolerances:
1. "Architecturally Exposed Structural Steel", all steel for the Custom Steel Fabrications and miscellaneous "Metal Fabrications" that are subject to view are defined as "Exposed-to-View" joints. All joints that are "Exposed to View" shall be in accordance with AISC Code of Standard Practice, Section 10, "Architecturally Exposed Structural Steel".
a. All cope, miters and butt cuts in surfaces "Exposed-to-View" are made with uniform gaps of 1/8 inch if shown to be open joints, or in reasonable contact if shown without gap, in accordance with AISC Code of Standard Practice, Section 10.3.4.

B. Tests, Inspection:
1. In accordance with Specification Section - TESTING LABORATORY SERVICES and the following:
a. Materials shall be certified, identified and tested in conformance with CBC Table 1705A.2.1. Commercial stock steel shall be identified in accordance with CBC Table 1705A.2.1.
b. Complete four-sided inspection of all steel shall be made when required by Architect.
c. Tests and inspection of Shop and field welding in accordance with CBC Table1705A.2.1. Perform shop and field welding only under supervision of welding inspector.
1) Welds shall be in accordance with CBC Table 1705A.2.1.
2) Inspection:
a) Welding inspector shall be an AWS Certified Welding Inspector (CWI).
d. Tests & Inspection for High Strength Bolts in accordance with CBC Table 1705A.2.1.
2. Testing Laboratory:
a. An inspection and testing laboratory will be selected by the Owner for testing and

inspection as required by the Contract Documents. The selected laboratory shall conform to the requirements of ASTM E 329 "Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction". Documentary evidence of such conformance shall be submitted to the Owner and the Governing Agency.

b. All materials, work, methods and equipment shall be subject to inspection at the mill, fabricating plant and at the building site. Material or workmanship not complying fully with the Contract Documents will not be accepted. The Contractor shall give the Testing Laboratory reasonable notice when ready for inspection and shall supply samples and test pieces and all facilities for inspection without extra charge. The Owner will assume the expense of making the tests and inspection except as otherwise specified in Division 1.

3. Cost of Testing and Inspection: Costs of testing and inspection of structural steel, except as specified hereunder and in Division 1, will be paid for by the Owner.
   a. All transportation costs and per diem living costs for inspection at fabricator's plant further than 75 miles from the job site will be back-charged to the Contractor.
   b. It is assumed that all fabrication will take place in one shop location only. All additional inspection costs will be back-charged to the Contractor.
   c. All mill tests and costs or re-test of plain materials shall be at the expense of the Contractor.
   d. Costs of tests required due to Contractor's failure to provide steel identifiable in accordance with the indicated ASTM designation shall be at the expense of the Contractor.
4. Structural Steel Testing and Inspection:
   a. If structural steel tests are indicated as required on the structural drawings, one tension and one bend test shall be made for each size of structural shape, plate and for each tube and pipe size. Tests to be made in accordance with requirements of appropriate ASTM designations.
   b. If structural steel tests are not indicated as required on the structural drawings, then for shapes, plates, bars, pipe and tubing, manufacturer's certified mill test reports and analysis for each heat will be acceptable for steel identifiable in accordance with indicated ASTM designation. Mill test reports shall indicate the physical and chemical properties of all structural steel used. Correlate individual heat numbers with each specified structural section.
   c. Unidentifiable Steel:
      1) For Fy less than or equal to 36.0 ksi: Provide one tension and elongation test and one bend for each 5 tons or fraction thereof for each size.
      2) For Fy greater than 36.0 ksi: Provide one tension and elongation test and one bend or flattening for each piece.
   d. Costs of re-tests and additional testing required by the use of unidentifiable steels shall be the Contractor's responsibility. Additional costs of testing incurred by the Owner shall be deducted from the Contract Final Payment.
5. Expansion Anchors: Load test as indicated on the drawings.
6. Welding Inspection:
   a. If shop or field welding inspection is indicated on the structural drawings, all shop and field welded operations shall be inspected by a qualified welding inspector employed by the Testing Laboratory. Such Inspector shall be a person trained and thoroughly experienced in inspection of welds. The inspector's ability to distinguish between sound and unsound welding will be reliably established.
   b. The Welding Inspector shall make a systematic record of all welds. This record shall include:
      1) Identification marks of welders.

2) List of defective welds.
3) Manner of correction of defects.

c. The welding inspector shall check the material, equipment and procedure, as well as the welds. He/she shall also check the ability of the welder. He/she shall furnish the Architect with a report, duly verified by him/her that the welding which is required to be inspected is proper, and has been done in conformity with the Contract Documents, and that he/she has used all means to determine the quality of the welds.

d. All full penetration groove welds shall be subject to ultrasonic testing, as per AWS D1.1, Clause 6 "Inspection, Part "C", Ultrasonic Testing of Groove Welds". All defective welds shall be repaired and re-tested with ultrasonic equipment at the Contractor's expense.

e. Column Flanges: An area extending 6 inches above and below point where girder flanges area attached shall be inspected. Column flange edges shall be inspected visually, and entire area ultrasonically for lamination, plate discontinuities, and non-metallic inclusions.

f. All partial penetration groove welds shall be tested by ultrasonic testing.

g. When ultrasonic indications arising from the weld root be interpreted as either a weld defect or the backing strip itself, the Engineer shall be notified. The Engineer may require the removal of backing strip. The backing strip shall be removed at the expense of the Contractor, and if no root defects are visible the weld shall be re-tested. If no defect is indicated on this re-test, and no significant amount of base and weld metal have been removed, no further repair of welding is necessary. If a defect is indicated, it shall be repaired and re-tested at the Contractor's expense.

h. The ultrasonic instrumentation will be calibrated by the technician to evaluate the quality of the welds in accordance with AWS D1.1.

i. Other methods of inspection, for example, X-ray, gamma ray, magnetic particle, or dye penetrant, may be used on welds if felt necessary by the inspection laboratory, and with the approval of the Engineer.

j. Base metal thicker than 1-1/2 inches, when subjected to through thickness weld shrinkage strains, shall be ultrasonically inspected for discontinuities directly behind such weld before and after joint completion.

k. End-welded studs shall be sampled, tested, and inspected per the requirements of the Structural Welding Code - Steel D1.1, published by the American Welding Society.

l. At the discretion of the Owner's testing agency, the ultrasonic testing frequency may be reduced but may not be less than the following:

1) Initially, all welds requiring ultrasonic testing will be tested at the rate of 100 percent in order to establish the qualifications of each individual welder. If the reject rate is demonstrated to be less than 5 percent of the welds tested for each welder, then the frequency of testing for that welder may be reduced to 25 percent. If the reject rate increases to 5 percent or more, 100 percent testing will be re-established until the rate is reduced to less than 5 percent. The percentage of rejects will be calculated for each welder independently.

m. A sampling of at least 40 completed welds will be made for such reduction evaluation. Reject rate is defined as the number of welds containing rejected defects divided by the number of welds completed. For evaluating the reject rate of continuous welds over 3' in length, each 12 linear inch increment of welds, 1 inch or less in thickness, will be considered as one weld. For evaluating the reject rate of continuous welds greater than 1 inch thickness, each 6 linear inches will be

considered one weld.

7. High Strength Bolting Tests and Inspection:
   a. Furnish certified test reports for each lot of bolts in accordance with Section 9 of ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength". Install bolts under the supervision of a qualified inspector in accordance with Section 9, Research Council "Specifications for Structural Joints using bolts for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
   b. If high strength bolting inspection is indicated or required on the structural drawings, the testing laboratory will visually inspect all high strength bolts.
   c. While the work is in progress, the Project Inspector shall determine that the requirements of this Specification are met in the work. The Project Inspector shall observe the calibration procedures and shall monitor the installation of bolts to determine that all plies of connected material have been drawn together and that the selected procedure is properly used to tighten all bolts.
      1) In addition to the requirement of the foregoing paragraph, for all connections specified to be slip critical (SC), the Project Inspector shall assure that the specified procedure was followed to achieve the pretension specified in the AISC. The pre-tension shall be verified by the Project Inspector for these bolts.
      2) Bolts in connections identified as not being slip-critical nor subject to direct tension need not be inspected for bolt tension other than to ensure that the piles of the connected elements have been brought into snug contact.

C. Verification of Performance:
   1. Testing Agent shall be a qualified person or Testing Laboratory listed and approved by DSA/SSS and selected by the Architect, and the Owner.
   2. Testing Agent shall make Test and Inspection Reports certifying materials and workmanship to conform with Drawings and Specifications.
      a. Cost of Testing and Inspection will be paid by Owner unless otherwise specified.
      b. Cost of cutting and machining test samples shall be paid by Contractor.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
   1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
   1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Employ a licensed land surveyor for accurate erection of structural steel.
   1. Check elevations of bearing surfaces (concrete or masonry), and locations of anchor bolts and similar devices, before erection work proceeds.
   2. Report discrepancies to Architect.
   3. Do not proceed with erection until corrections have been made or until compensating adjustments to structural steel work have been agreed upon with the Architect.

B. Erect all Structural Steel frame work in accordance with AISC Specifications "Specification for the Design, Fabrication and Erection of Structural Steel for Building", latest edition, and AISC Code unless otherwise indicated on Drawings or Specification.
   1. Framing: Carry up framing true and plumb. Provide temporary bracing wherever necessary to support all loads to which the structure may be subjected, including erection equipment and its operation. Leave bracing in place as long as may be required for safety. As erection progresses securely connect the work to take care of all dead load, wind and erection stresses.
   2. Connections:
      a. Machine Bolts shall be installed with cut washer under nut.
      b. High Strength Bolts shall be used to assemble structural joints in accordance with AISC "Specification for Structural Joints using bolts for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength", unless otherwise indicated on the drawings.
         1) Tighten nuts for Bolts in accordance with CBC Sections 1705A.2.1. Load Indicating Devices shall be pre-approved by the DSA/SSS , and certification by an independent testing laboratory stating that the devices meet AISC Specifications shall be submitted to Project Engineer and DSA/SSS.
         2) Manufacturer shall also submit installation procedures prior to incorporation into the work for approval by the Project Engineer.
         3) Once approved, manufacturer's installation instructions shall be followed for all conditions. Mark bolts that have been completely tightened with an identifying symbol.
         4) Connections shall be slip-critical (SC) type.
            a) Slip-critical connections, surfaces shall be in accordance with AISC "Specification for Structural Joints Using bolts for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi

Minimum Tensile Strength".

5) Contacting surfaces shall be painted, except for friction-type (SC) connections.

6) Provide washers in accordance with ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".

c. Welding: The details of all joints, the technique of welding employed, the appearance and quality of welds made, and the methods used in correcting defective work shall conform to "AISC Specs", "AWS Code", Table 1705A.2.1.

1) All "exposed-to-view" welds will be smooth and flush with no voids showing and still be in conformance with standards referenced herein.

2) All exposed to view butt welds shall be flush as connected members will allow. Minor defects and transitions in metal surfaces shall be filled and sanded out with an approved metal filler prior to painting.

3) Exposed fillet welds are acceptable "as is" provided the surface chevrons are shallow and have no abrupt protrusions.

3. Cutting Holes: The use of a cutting torch is permissible only if the metal being cut is not carrying stress during the operation and only with the prior approval of the Architect and DSA/SSS for each specific condition.

4. Setting Plates: Set column base plates and leveling plates to correct elevations and temporarily support on steel wedges or shims until the supported members have been plumbed, locked in place and grouted.

C. Erection Sequence: Erect steel in accordance with special erection sequences where special erection sequences are indicated on the contract documents.

D. Before and during erection, keep all structural steel clean. Ship, handle and store steel in a manner to avoid injury to members. Steel members showing evidence to rough handling or injury will be rejected.

E. Mark each member with erection identification corresponding to mark shown on erection drawings. Carefully plan erection of structural steel so that no cutting and removal of material will be necessary. Do not torch burn in the field, unless specifically permitted by Engineer.

F. Provide sufficient bracing, shoring and guys to effect safe and satisfactory erection. Provide bracing and shoring capable of holding steel work plumb and properly aligned while field connections are being made, and until lateral force resisting elements are deemed by the Architect to be capable of bracing structure. Temporary bracing shall be adequate to resist lateral forces from wind or seismic prior to the completion of the lateral resisting system.

G. Set bearing and base plates with extreme care. Bring level, to line and grade with leveling plates or by leveling nuts and bolts. Grout solid under plates with a flowable non-shrink grout per Specification Section - CAST-IN-PLACE CONCRETE prior to applying vertical load.

H. Field Assembly: Set structural framing accurately to the lines and elevations indicated. Align and adjust the various members forming a part of a complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces which will be in permanent contact. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Shimming or other adjustments not indicated on drawings shall be approved by the Engineer prior to installation. Level and plumb individual members of the structure

within specified AISC tolerances except as noted herein. Column shimming shall be 1/4 inch.

I. All welds shall be full and clean, and conform to AISC and AWS Specifications.

J. Erection Tolerances: Maintain erection tolerances of structural steel and architecturally exposed structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
1. Individual pieces shall be erected so that the deviation from plumb, level and alignment shall not exceed 1 to 500 plus:
2. The maximum displacement of the center-line of columns adjacent to elevator shafts, from the established column line, shall not be more than 1 inch at any point from the established column line in the first 20 stories.
3. In order to provide a true, flat plane for the exterior elevations, install all steel framing at the exterior walls of the building, so that the center lines of such framing does not vary by more than 1 inch for the length of the building.
    a. Also, install each vertical member on such grids so that its vertical center-line does not vary by more than 1/2 inch from a vertical line for each story and 1 inch for its full height.
4. Take special care that column base plates are parallel and perpendicular to faces of columns and that bolt holes are accurately placed.

K. Temporary Flooring:
1. Provide planking and scaffolding necessary in connection with erection of structural steel, support of erection machinery, and construction materials. Temporary floors and use of steel shall be as required by applicable Regulatory Requirements.
2. If steel decking is used as a working platform, it shall be temporarily tack-welded to supports to extent necessary for such use in accordance with applicable Regulatory Requirements. The concentrated loading from welding machines and other heavy machinery required for steel erection shall be distributed by planking or other approved means. Metal decking that becomes damaged as a result of being used as a working platform shall be replaced at no additional cost to the Owner.

L. Tower Crane: The design for the support and bracing for a tower crane shall be the responsibility of the General Contractor. The design shall be prepared by a structural engineer licensed in the state of California. Drawings and calculations shall be stamped and signed by the structural engineer. Concentric, torsional, and/or eccentric loading to the main structure shall be resolved by the addition of structural steel for shear tabs, stiffeners, drag ties, bracing struts, etc. Such items shall be designed, detailed, furnished and installed by the contractor.

M. Hoisting And Bracing:
1. Provide all hoisting and erecting equipment and power.
2. Provide and maintain any and all safety railings, toe boards, etc., required for the erection of steel framing and metal decking.
3. Brace the erected frame in a manner which will assure safety and proper alignment to receive the metal decking and until the concrete slabs have been poured and have set.
4. Erect building frame true and level. Erect columns in a manner to allow for movement due to welding shrinkage and thermal expansion and contraction of framing. Check for plumb after erection of each level. Maintain structural stability of frame during erection. Provide temporary bracing where necessary to maintain frame stability and to support required loads, including equipment and its operation.

3.4 CONSTRUCTION

A. Special Techniques:
   1. Architecturally Exposed Structural Steel and "Exposed to View" Metal Fabrications.
      a. At all exposed joints, continuous fill with Plastic Steel Putty. Sand smooth and uniform and ready to receive finishes.
         1) Clean all areas to have smooth seams with manufacturers recommended cleaner.
         2) Place Steel Putty and cure.

3.5 REPAIR / RESTORATION

A. Defective Work shall be immediately replaced with proper work. Such replaced Work and the Testing and Inspection for it shall be at the expense of the Contractor. If defects or damages cannot be corrected in the field, the material shall be returned to the shop or new parts furnished, as the Architect directs, and the Contractor shall pay all costs therefor.
   1. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780 "Practice for Repair of Damaged and Uncoated Areas of Hot-Dipped Galvanized Coatings".
   2. Primer Coat - On all hot-dip iron or steel that needs repair, provide one primer coat of the following:
      a. Zinc Rich Galvanize No. 1141 by AERVOE INDUSTRIES, INC., or approved equivalent.
      b. Provide a smooth-flowing, high-solids compound that provides a fast-drying coating that protects ferrous metals in highly corrosive environments. Coating shall be 97% pure zinc metallic flake, which leaves 94% zinc in the dry film.
      c. Overall Dry Film Thickness: 2.0 mil.
   3. Finish Coat - On all hot-dip iron or steel that needs repair, provide one finish coat over a properly cured primer coat of the following:
      a. Zinc Rich Galvanize No. 1141 by AERVOE INDUSTRIES, INC., or approved equivalent.
      b. Provide a smooth-flowing, high-solids compound that provides a fast-drying coating that protects ferrous metals in highly corrosive environments. Coating shall be 97% pure zinc metallic flake, which leaves 94% zinc in the dry film.
      c. Overall Dry Film Thickness: 2.0 mil.

B. Touch-up Primer Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop priming to comply with SSPC-PA1 "Touching Up Shop-Painted Surfaces".
   1. Clean and prepare surfaces by SSPC-SP 2 "Hand-Tool Cleaning" or SSPC-SP 3 "Power-Tool Cleaning".

3.6 FIELD QUALITY CONTROL

A. Site Tests:
   1. As required by Regulatory Requirements.

B. Tests, inspection:

1. As required by Regulatory Requirements.
2. Schedule inspections and notify the Architect, Project Inspector and any other regulatory agencies of the time at least 48 hours prior to the inspection.
3. No work shall be without the inspections required by Regulatory Requirements.
4. Tests and inspection of field welding in accordance with CBC Table 1705A.2.1. Perform field welding only under supervision of welding inspector.
    a. Welds shall be in accordance with CBC Table 1705A.2.1.
    b. Inspection shall be in accordance with CBC Table 1705A.2.1.
        1) Welding inspector shall be an AWS Certified Welding Inspector (CWI).

C. Verification of Performance:
1. Certification:
    a. The Contractor shall engage and pay for a registered Civil Engineer or Licensed Land Surveyor to check the alignment, plumbness, elevation, and overall accuracy of the erected framing at appropriate stages during construction and at completion of erection.
    b. Civil Engineer or Licensed Land Surveyor shall submit written verification and certification that the entire installation is in accordance with the Contract Documents.

3.7 SCHEDULES

A. Metal Fabrication Schedule should be used as a guide only and is not considered as a complete list. Refer to Drawings for location and details:
1. Miscellaneous backing members, brackets, and supports for work installed by other trades.
2. Countertop Bracket
3. Fence
4. Gates and Frames
5. Ladder
6. Guard Rail
7. Hand Rail
8. Handrail Bracket
9. Stair Rail
10. Queuing Rail
11. Stairs
12. Down Spouts

END OF SECTION

SECTION 092400 – CEMENT PLASTER

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all Cement Plaster materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS
   2. ALL DIVISION 01 SPECIFICATION SECTIONS
   3. 03 30 00 CAST-IN-PLACE CONCRETE
   4. 04 21 00 THIN BRICK VENEER
   5. 04 22 00 CONCRETE MASONRY UNITS
   6. 06 10 00 ROUGH CARPENTRY
   7. 05 12 00 STEEL AND FABRICATIONS
   8. 05 33 00 METAL DECK
   9. 07 21 00 INSULATION
   10. 07 60 00 SHEET METAL
   11. 07 84 00 FIRESTOPPING
   12. 07 92 00 SEALANTS
   13. 07 95 00 EXPANSION JOINTS
   14. 08 11 00 METAL DOORS AND FRAMES
   15. 08 31 13 ACCESS DOORS AND FRAMES
   16. 08 33 00 COILING DOORS
   17. 08 41 00 STOREFRONTS
   18. 08 91 00 LOUVERS
   19. 09 22 16 METAL FRAMING
   20. 09 30 00 TILE
   21. 09 50 00 ACOUSTICAL CEILINGS
   22. 09 65 10 RESILIENT BASE AND ACCESSORIES
   23. 09 91 00 PAINTING
   24. 10 05 00 MISCELLANEOUS SPECIALTIES
   25. 10 14 00 IDENTIFYING DEVICES
   26. 10 21 13 TOILET PARTITIONS
   27. 10 26 00 WALL AND CORNER GUARDS
   28. 10 28 13 TOILET ACCESSORIES
   29. 10 44 00 FIRE PROTECTION SPECIALTIES
   30. 10 51 13 METAL LOCKERS
   31. 11 40 00 FOOD SERVICE EQUIPMENT
   32. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.

1.2 REFERENCES

A. Standards:
1. In accordance with the following standards:
   a. AAMA American Architectural Manufacturers Association
   b. ASTM American Society of Testing Materials
   c. FS Federal Specification
   d. ML/SFA Metal Lath / Steel Framing Association - a Division of NAAMM.
   e. NAAMM National Association of Architectural Metal Manufacturers.
   f. PDSM Plaster and Drywall Systems Manual, ©1988 by BNI and McGraw-Hill, Inc., Third Edition.
   g. SSMA Steel Stud Manufacturer’s Association.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
1. Product Data:
   a. Manufacturer's Data for each type of product specified.
   b. Submit manufacturer’s standard color range for selection by the Architect.
   c. Manufacturer's full color range (including any standard, premium and custom colors) of integral color plaster mixes and Elastomeric Finish Coats for selection.
   d. Manufacturer's ICC ES Evaluation Reports (ESR) for fasteners as required.
2. Shop Drawings:
   a. Show location of all metal accessories: expansion joints, control joints, casing beads, corner reinforcements, separation screeds and reglets.
   b. Provide installation details of flashings at various types of penetrations, all metal accessories, metal lath, and integration with other related work.
3. Samples:
   a. 24 inch square field sample of each Cement Plaster Finish prepared on rigid backing for selection.
      1) Cement Plaster Finish of each pattern and texture selected prior to paint coat.
      2) Cement Plaster Finish of each pattern and texture for each color with type of paint coating selected. Coordinate with Specification Section – PAINTING.
   b. 6 inch lineal samples of each piece of specified Metal Accessory material as required for the project.
4. Quality Assurance/Control:
   a. Installer's experience.
   b. Manufacturer's certification of Installers.
   c. Manufacturer's installation instructions.
   d. Water Tightness Test Reports.
   e. Manufacturer's Field Reports:
      1) Confirm mixing and installation procedures of proprietary mixes for all coats of the cement plaster system were within manufacturers requirements.
   f. Tension Testing Reports.
5. Closeout Submittals in accordance with the following:
   a. In accordance with Specification Section - PROJECT CLOSEOUT.

b. Warranty in accordance with Specification Section – WARRANTIES.

1.4 QUALITY ASSURANCE

A. Qualifications:
1. Material Qualifications:
   a. Proprietary systems data sheets shall include design properties of each product.
2. Installer Qualifications:
   a. Installer shall be experienced and shall have successfully completed three (3) projects of similar scope and size to that indicated for this Project.
   b. Shall participate in a mock-up installation that was successfully tested for water tightness.
   c. Manufacturer of proprietary products shall provide written certification that the Installer is qualified to install manufacturer's systems in accordance with manufacturer's warranty requirements.
3. Manufacturer/Supplier Qualifications:
   a. Firm experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the work.

B. Regulatory Requirements:
1. In accordance with Specification Section – REGULATORY REQUIREMENTS, and the following:
   a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.

C. Field Samples:
1. Provide Field Samples for approval prior to the application of the cement plaster coats.
2. Field Samples shall be panels of a complete installation, representing each of the finish textures and colors from the approved submittal samples.
   a. The field samples shall be done by the installers for the project.
   b. The approved field samples shall establish the acceptable standards for all subsequent work.
3. When it is the Contractor's intent to incorporate the approved sample panels into the finish Project, the panels shall be located in an area relatively obscured from general view.

D. Mock-Ups:
1. Provide mock-up panels prior to application of cement plaster work and prior to installation of any exterior wall cavity and interior materials.
2. Mock-Up Assemblies:
   a. Mock-Ups shall be at exterior wall assemblies and shall integrate all other related work assemblies, including but not limited to, each type of wall openings, wall/eave interface, wall sill, parapet cap, various types of penetrations, material transitions and shall be representative of the intended end-use configuration.
      1) Mock-Ups shall be a minimum overall size of 10'-0" wide x 8'-0" high.
   b. Mock Ups will be used for establishing construction sequence, installation requirements of materials, and creating water tight assemblies without the cement plaster coats.

c. Mock Ups may become part of the completed Work upon successful testing for water tightness.

3. Installation:
   a. The Project Inspector, the Architect, Contractor’s Superintendent and Sub-contactor's Superintendent shall observe the installation of materials.
   b. Installation crew for the Mock-Ups shall be the installers of the Cement Plaster Systems for this project and installers, as necessary, of other related work assemblies.
   c. Mock Ups shall include the installation of water barriers, penetration flashing, Metal Accessories, Metal Lath, and other related work flashings and materials.
   d. Failed Mock Ups shall be removed and the assembly reinstalled until the water tightness test is successful.

E. Meetings:
1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
   a. Coordinate the work with all other related work.
   b. Identify any potential problems that may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
2. Progress: Scheduled by the Contractor during the performance of the work.
   a. Review for proper installation of work progress.
   b. Identify any installation problems and acceptable corrective measures.
   c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
   a. Inspect and identify any problems that may impede issuance of warranties or guaranties.
   b. Maintain installed work until the Notice of Substantial Completion has been executed.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packing, shipping, handling, and unloading:
1. Products shall be handled in such a manner as to assure that they are free from dents, scratches and other damage.

B. Acceptance at Site:
1. Products must be in manufacturer's original unopened containers with labels indicating brand name, model, and grade.
2. Damaged products will not be accepted.

C. Storage and protection:
1. Store materials inside and under cover on a level platform, six (6) inches above ground, to allow air circulation.
   a. Keep dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic and other causes.

1.6 PROJECT CONDITIONS

A. Environmental requirements:
1. Temperature: No plastering shall be done under unsuitable conditions of weather or temperature.

a. Exterior: No plastering shall be done when prevailing temperature is 40 degrees F. or less for the preceding 24 hours prior to plastering, during the plaster operations, and for at least 48 hours after the set of each plaster coat.
   1) Apply and cure plaster to prevent plaster drying out during the curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.
b. Factory-Prepared Finishes: Comply with manufacturers written recommendations for the environmental conditions for application of finishes.

B. Existing Conditions:
1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.

1.7 WARRANTY

A. Contractor's General Warranty:
1. In accordance with Specification Section - WARRANTIES.

B. Manufacturer's Warranty:
1. In accordance with manufacturer's written standard warranty:
   a. Warranty Period One (1) Year.

C. Installer's Warranty:
1. In accordance with the terms of the Specification Section - WARRANTIES:
   a. Warranty period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
1. Water Barriers:
   a. Building Wrap (also qualifies as an "Air Barrier"):
      1) DuPONT COMPANY.
      2) TYPAR.
   b. Sealing Tape:
      1) DuPONT COMPANY.
      2) Acceptable alternative manufacturers:
         a) CANTECH INDUSTRIES.

b) 3M COMPANY.
c) TYPAR.

c. Building Paper:
1) FORTIFIBER CORP.

2. Penetration Flashing:
a. GRACE CONSTRUCTION PRODUCTS.
b. Acceptable alternative manufacturers:
1) FORTIFIBER.

3. Expanded Metal Lath:
a. CLARK DIETRICH BUILDING SYSTEMS, LLC (CDBS).
b. Acceptable alternative manufacturers:
1) ALABAMA METAL INDUSTRIES CORPORATION (AMICO).
2) CEMCO.

4. Wire Fabric Lath :
a. Woven Wire Fabric Lath:
1) GEORGETOWN WIRE COMPANY
2) Acceptable alternative manufacturers:
a) DAVIS WIRE COMPANY.
b) JAENSON WIRE COMPANY.

b. Welded Wire Fabric Lath:
1) STRUCTA WIRE COMPANY, INC.

5. Security Metal Lath:
a. ALABAMA METAL INDUSTRIES CORPORATION (AMICO).

6. Metal Accessories:
a. Galvanized Metal Plaster Accessories:
1) CLARK DIETRICH BUILDING SYSTEMS, LLC (CDBS).
2) STOCKTON PRODUCTS (SP).
3) Acceptable alternative manufacturers:
a) ALABAMA METAL INDUSTRIES CORPORATION (AMICO).
b) CEMCO.

b. Aluminum Plaster Accessories:
1) FRY REGLET CORPORATION.
2) Acceptable alternative manufacturers:
a) FLANNERY, INC.
b) PITTCON.

c. Fastener:
1) FLANNERY, INC.

7. Elastomeric Scratch, Brown and Finish Coat Systems:
a. DRYVIT SYSTEMS, INC.
b. Acceptable alternative manufacturers:
1) SONNEBORN.
2) STO.

8. Lath Fasteners:
a. Screw Anchors:
1) POWERS FASTENERS "TAPPER +".

9. Furring Wads for Screws:
1) FLANNERY TRIM INC. "FURRING WADS".

B. Products from other manufacturers not listed must submit in accordance with Specification Section – SUBSTITUTION PROCEDURES.

2.2 MATERIALS

A. Cement Plaster System:
1. Line Wire: Galvanized steel wire, in accordance with ASTM A 641 "Specification for Zinc-Coated (Galvanized) Carbon Steel Wire".
   a. Minimum 18 gage (0.0475 inch).
2. Water Barriers: Water-Resistive Barriers shall be in accordance with CBC Sections 1404.2 and 2510.6:
   a. Building Wrap (also qualifies as an "Air Barrier"): Woven and non-woven polyolefin sheets approved per ICC ES Reports for Water-Resistive Barriers for buildings of any construction type and equivalent to Grade D paper with 60 minute water-resistant rating.
      1) "Tyvek® Commercial Wrap" by DuPONT COMPANY.
   b. Sealing Tape (3" wide minimum):
      1) "Tyvek® Housewrap Tape" by DUPONT COMPANY.
      2) Accceptable alternative manufacturer:
         a) "Clipper Tape" by CANTECH IND.
         b) "8086 Construction Sheathing Tape" by 3M.
   c. Building Paper:
      1) Number 15 Asphalt-Saturated felt complying with Type I felt in accordance with ASTM D226 "Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing".
      2) Asphalt-Saturated Kraft Waterproof Building Paper approved per ICC ES Reports for Water-Resistive Barriers for buildings of any construction type and equivalent to Grade D paper with 60 minute water-resistant rating.
3. Penetration Flashing: Self-adhered and self-healing weather barrier strips, in accordance with FS UU-B-790a, Grade A.
   a. 40 mil. minimum thickness, in 9-inch and 12-inch widths as is appropriate for barrier application.
      1) "VYCOR V40" by GRACE CONSTRUCTION PRODUCTS.
      2) Acceptable alternative manufacturer:
         a) "Fort-I-Flash 40" by FORTIFIBER
         b) "FlexWrap" and "StraightFlash" by TYVEK.
4. Metal Accessories: Zinc Alloy, Aluminum or Hot-Dipped Galvanized Steel, G-60 minimum (Coordinate depth of trim and accessories with the thicknesses and number of plaster coats).
   a. Control Joints:
      1) 28 gage galvanized steel, depth as required, AMICO No. "GripLock J Control Joint".
   b. Casing Bead:
      1) 26 gage galvanized steel, 1-1/2" x depth as required, CDBS No. 66, Short Flange Casing Bead.
   c. Corner Reinforcement:
      1) Outside Reinforcements:
         a) 26 gage galvanized steel, depth as required, CDBS #1A, Expanded Flange.
      2) Inside Joints:
         a) 28 gage galvanized steel, depth as required, CDBS #30 Construction Control Joint.

d. Drip Mold:
   1) 24 gage galvanized steel, 2-3/4" x depth as required, SP BSS Blind Spot #10 Drip.

e. Vents:
   1) 26 gage galvanized steel, 3" x depth as required, SP SBS Bug Stop Vent.
   2) 26 gage galvanized steel, 3" x depth as required, SP SES Ember Stop Soffit Vent.

f. Foundation Sill Screed: 3-1/2 inch minimum vertical attachment flange per CBC Section 2512.1.2.
   1) 26 gage galvanized steel, 3-1/2" x depth as required, CDBS #FHA7 Foundation Sill Screed, with weep holes.

g. Weep Screed:
   1) 26 gage galvanized steel, 1-1/2" x depth as required with weep holes, CDBS #66 Short Flange Casing Bead, with weep holes.

h. Special Trim Shapes, minimum 0.025 extruded aluminum alloy 6063:
   1) Channel Screeds, Reveal Moldings, & Screeds by FRY REGLET:
      a) Provide specific shapes as shown on the Drawings.
      b) Provide manufacturer's standard channel screed "+", "T", "L", and "corners", factory fabricated intersections as required for channel screeds, reveal moldings and screeds.
      c) Provide manufacturer's standard flashing connectors between straight runs and intersections.
      d) Butt Joints shall be flush and align with other metal accessories.
      e) Provide End Caps compatible for all channel screeds, reveal moldings, and screeds that terminate at opening frames and other construction.
      f) All finishes shall be "Special Anodic Coating," clear color.

i. Single Point Separation Screed:
   1) 26 gage galvanized steel, Expanded Metal Base x depth as required, SP PBS Pointed Base Screed with Keyholes.

j. Stucco Reglet: 26 gage galvanized steel:
   1) 2-1/2-inch flange by FRY REGLET "STX" Series.
   2) 1-3/4 inch flange by FRY REGLET "ST" Series.
   3) Accessories: Factory manufactured mitered and sealed corners, and polyvinyl chloride "Vinylok" flashing retainer clips.

5. Metal Lath:

a. Expanded Metal Lath: Galvanized steel in accordance with ASTM C 847 "Standard Specification for Metal Lath."
   1) "Diamond Mesh" Lath, 3.4 pounds per square yard.
   2) "Hi Rib" Lath, 3/8 inch rib, 3.4 pounds per square yard.
   3) "Self-Furred Diamond Mesh" Lath, 3.4 pounds per square yard.

b. Wire Fabric Lath:
   1) Woven: Galvanized steel in accordance with ASTM C 1032, "Specification for Woven Wire Plaster Base," and ASTM C 1066, "Specification for Installation of Lath and Furring to Receive Interior and Exterior Portland Cement-Based Plaster".
      a) 1-1/2 inch x 17 gage (0.0540 inch) hexagon shaped mesh, 1.86 lbs. per square yard.
      b) "Paper Backed" Woven Wire Fabric Lath and "Self-Furring" Woven Wire Fabric Lath are not acceptable.
   2) Welded: Galvanized steel in accordance with ASTM C 933, "Specification

for Welded Wire Lath," and ASTM C 1066, "Specification for Installation of Lath and Furring to Receive Interior and Exterior Portland Cement-Based Plaster".

a) 1-1/2 inch x 1-1/2 inch x 17 gage (0.0625 inch) square shaped mesh, 1.14 lbs. per square yard.
b) "Paper Backed" Welded Wire Fabric Lath is not acceptable.
c) "Self-Furring" Welded Wire Fabric Lath without paper backing shall be acceptable.

c. Security Metal Lath:
1) High Strength Low Alloy (HSLA) carbon steel sheet, 63 percent open area, 171 lbs. per 100 sq.ft. uncoated.
a) "Security Mesh ASM 75-9F" by AMICO.

6. Cement Plaster:
a. Cement: Type I or II Portland Cement
1) In accordance with ASTM C 150 "Standard Specification for Portland Cement."
b. Plastic Cement: Type M or S.
1) In accordance with ASTM C 1328 "Standard Specification for Plastic (Stucco) Cement."
c. Miracle Lime: Type S.
1) In accordance with ASTM C 206 Standard Specification for Finishing Hydrated Lime."
d. Sand: Clean and washed sand complying with ASTM C 897 “Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters."
1) Grading:

U.S. STANDARD SIEVE	CUMULATIVE WEIGHT MINIMUM	PERCENT RETAINED MAXIMUM
NO. 4	--	0
NO. 8	0	10
NO. 16	10	40
NO. 30	30	65
NO. 50	70	90
NO. 100	95	100
NO. 200	97	100

2) Finish Coat Sand: Washed, white silica sand, a.k.a. "Monterey Sand."
e. Surface Applied Liquid Bonding Agent: Resinous emulsion with the following minimum requirements:
1) Minimum tensile strength of 60 psi.
2) Minimum compressive shear strength of 300 psi.

7. Elastomeric Finish Coat:
a. Primer/base coat:
1) "WEATHERPRIME" as manufactured by DRYVIT.
b. Finish coat:
1) "WEATHERLASTIC Sandpebble Fine" as manufactured by DRYVIT.
a) Factory-formulated, integral color, 100 percent acrylic, "Dirt Pickup Resistant" chemistry, elastomeric binder for bridging hairline cracks.
b) Coverage: Not greater than 150 sq.ft. per 7 lb pail.
c) Accelerated Weathering: No deleterious effects after 5,000 hours

continuous exposure in accordance with ASTM G 26 "Standard Practice for Operating Light-Exposure Apparatus (Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials."

d) Resistance to wind-driven rain: Passes in accordance with Federal Test Method TT-C-555 B.

e) Resistance to Salt Spray: No deleterious effects after 500 hours continuous exposure in accordance with ASTM B 117 "Standard Practice for Operating Salt Spray (Fog) Apparatus."

f) Mildew Resistance Passes in accordance with Military Standard 810B.

g) Fungal Resistance: Passes in accordance with Federal Test Method 141, and Method 6271.

h) Elongation: 450 percent elongation at break in accordance with ASTM D 412 "Standard Test methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension."

i) Tensile Strength: 100 psi @ 72 deg. F, 488 psi @ 0 deg. F in accordance with ASTM D 412 "Standard Test methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension."

j) Flexibility: Passes - no cracking, 1/8" dia. mandrel, 180 deg. bend, done at -30 deg. F in accordance with ASTM D 522 "Standard Test Method for Mandrel Bend Test of Attached Organic Coatings."

k) Water Vapor Transmission: 15 perms @ 10 mils dry film thickness, Free film, dried 21 days @ 73 deg. F., 50 percent R.H.; Water Method: 50 percent R.H. @ 72 deg. F., non-inverted cup (Method B), in accordance with ASTM E 96 "Standard Test Methods for Water Vapor Transmission of Materials."

l) Adhesion to Concrete: 125 psi at failure end point, Pull-off test dried 21 days @ 72 deg. F., 50 percent R.H. in accordance with ASTM D 4541 "Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers."

m) Impact Resistance: 98 inch pounds at failure end point in accordance with ASTM D 2794 "Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)."

n) Shore A Hardness: 70, 20 mils dry film thickness, dried 21 days @ 72 deg. F., 55 percent R.H. in accordance with ASTM D 2240 "Standard Test Method for Rubber Property – Durometer Hardness."

o) Flame Spread: Class 1, in accordance with ASTM E 84 "Standard Test Method for Surface Burning Characteristics of Building Materials."

c. Color and Texture:

1) As selected by the Architect from the manufacturer's standard, premium, and custom color palette, and texture finish.

2.3 ACCESSORIES

A. Fasteners: Shall be in accordance with ASTM C 1063, "Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster".

1. Staples: 16 gage, galvanized steel.

a. In accordance with ASTM E1667 "Standard Specification for Driven Fasteners, Nails, Spikes and Staples."

b. Provide 1/4 inch furring wads at staple attachments for lath.

2. Nails: galvanized steel.
   a. In accordance with ASTM E1667 "Standard Specification for Driven Fasteners, Nails, Spikes and Staples."
   b. Minimum, 7/16 inch (0.437 inch) diameter head and 11 gage (0.1205 inch) barbed, roofing or common nails.
   c. Provide 1/4 inch self-sealing furring wads at nail attachments for lath.
   d. Tie Nails: 10d galvanized nails.
   e. Concrete Stub Nails: Corrosion Resistant.
      1) Minimum, 3/8 inch wide head.
3. Screws at Wood Framing: Corrosion Resistant.
   a. In accordance with ASTM C 1002, "Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs."
      1) Minimum 7/16 inch (0.437 inch) diameter pan wafer head and a 0.163 inch (#8) diameter shank with sharp-point.
   b. Provide 1/4 inch furring wads at screw attachments for lath.
4. Screws at Metal Framing: Corrosion Resistant.
   a. In accordance with ASTM C 954, "Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. to 0.122 in. in Thickness."
      1) Minimum 7/16 inch (0.437 inch) diameter pan wafer head with self-drilling and self-tapping point.
         a) [0.163 inch (#8) diameter shank w/o rigid insulation][0.22 inch (#12) diameter shank w/ rigid insulation].
   b. Provide 1/4 inch furring wads at screw attachments for lath.
5. Power or Powder Actuated Fasteners:
   a. In accordance with ASTM E 488 "Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements."
   b. Size: min. 3/8 inch wide heads with 0.145 inch shank diameter, in length as required to achieve specified penetration.
   c. Corrosion Resistant.
6. Screw Anchor Fasteners:
   a. In accordance with ASTM E 488 "Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements."
   b. In accordance with valid ICC ESR testing applicable to installation conditions.
   c. Size: 3/16 inch diameter, in length as required to achieve specified penetration.
   d. Corrosion Resistant.
   e. Accessories for Screw Anchor Fasteners:
      1) Matched tolerance drill bit, dust removal device, and other accessories in accordance with written manufacturer's instructions and ICC ES Evaluation Report.
7. Wires:
   a. Galvanized (Class 1 zinc coating) soft temper steel wire, in accordance with ASTM A 641, "Specification for Zinc-Coated (Galvanized) Carbon Steel Wire."
   b. All wire diameters specified are uncoated and corresponds with United States Steel Wire Gauge (USSWG):
      1) Member to Member: Minimum 16 gage (0.0625 inch).
      2) Lath to Support Member: Minimum 18 gage (0.0475 inch).
      3) Lath to Metal Accessories: Minimum 18 gage (0.0475 inch).
      4) Lath to Lath: Minimum 18 gage (0.0475 inch).

B. Open Corner Reinforcement:
   1. Cement Plaster: Expanded Metal Lath, AMICO "Cornalath" galvanzied steel.
   2. Elastomeric Finish Coat: 4" x 9", 15 oz/sq.yd. minimum weight, glass fiber mesh.

2.4 MIXES

A. Cement Plaster Mixes: Shall be in accordance with ASTM C 926, "Specification for Application of Portland Cement-Based Plaster."
   1. Scratch Coat Mix (No additions of plasticizing agents allowed):
      a. One half part Common Cement.
      b. One half part Plastic Cement.
      c. Four parts Sand.
   2. Brown Coat Mix (No additions of plasticizing agents allowed):
      a. One half part Common Cement.
      b. One half part Plastic Cement.
      c. Five parts Sand.
   3. Finish Coat Mix:
      a. Exterior Elastomeric:
         1) Primer/Base Coat.
         2) Finish Coat.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Site verification of conditions:
   1. Prior to the execution of the work under this specification section, inspect the installed work executed under other sections of this Project Manual, which affect the execution of work under this specification section.
   2. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
   3. Execution of work under this specification section shall constitute acceptance of existing conditions.

3.2 PREPARATION

A. Coordination:
   1. Coordinate work under this specification section with all related work specified under other sections to ensure proper and adequate interface of work.
      a. Verify and locate framing and or backing necessary for proper installation of cement plaster system.
   2. Integrate Water barriers and Penetration Flashing with all flashings from all other related work for proper shedding of water out of the building.
   3. Protection:
   4. Project Inspector shall verify that all stud cavity walls are free of moisture and dry prior to any other construction that fully closes the wall cavity.
   5. Protect all adjacent surfaces from drips, spray, air pollution of surrounding environment,

and other damage from work under this specification section.
a. Provide temporary protections and enclosures for other work.

B. Surface preparation:
1. Prepare surface in accordance with manufacturer's written instructions and recommendations.
2. Clean substrates of substances (oil, grease, rolling compounds, incompatible primers, loose mill scale, etc.) which could impair bond of materials specified within this section.

3.3 INSTALLATION

A. General:
1. It is the intent to provide a weather resistant exterior plaster system envelope upon completion.
a. Overlap and shingle fashion all substrate barriers, papers and penetration flashing with accessories in such a way as to shed water at the midpoint flashing (i.e. floor juncture flashing, or head flashing at openings and penetrations), or allow it to weep to drainage weep holes at the foundation sill screed in accordance with the requirements of the CBC Section 1403 and 1404.2.
2. In accordance with ASTM C 1063, "Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster" and ASTM C 926, "Application of Portland Cement-Based Plaster."
a. In accordance with CBC Chapter 7, Chapter 7A, Chapter 14, and Chapter 25.
b. In accordance with listed UL Assemblies at designated fire rated assemblies.
c. In accordance with "The Plaster and Drywall Systems Manual" (PDSM).
d. In accordance with Regulatory Requirements.

B. Layout:
a. Set plumb, level, and square.
b. Lines of all Metal Accessories shall be straight and true. Set accessories to create a cement plaster finish plane within a tolerance of 1/8 inch in 10 feet.
c. Apply all Brown and Finish Coats of plaster to create a finish plane with a tolerance of 1/8 inch in 10 feet.

C. Furring:
1. Install at Custom Steel Fabricated Toilet Partitions as indicated.

D. Installation of Line Wire:
1. Apply Line Wire prior to the placement of the water barriers.
2. Line Wire shall be installed at open framing of exterior vertical assembly.
3. Install Line Wire perpendicular to the framing members at 6” on center and secured to every fourth framing member with a screw.
a. Stretch Line Wire sufficiently tight to minimize bulging of the Water Barriers and to ensure a uniform thick scratch coat.

E. Installation of Water Barriers:
1. Install Water Barriers after installation of Line Wire at open framing.
2. Water barriers shall be installed at all exterior walls, exterior soffits, and at interior walls considered to be "Semi-Wet" and "Wet" exposures (i.e. Toilets, Showers, Lockers, Kitchens and etc.).
3. Install Water Barriers with Penetration Flashing, Metal Accessories, and all other related

work in "shingle" or "weatherboard" fashion.

4. Water Barriers shall be installed as required in CBC Sections 1404.2, 1404.3, 1405, and 2510.6 as follows:
    a. Provide two layers of Water Barriers.
        1) One inner layer of Building Wrap (also qualifies as an "Air Barrier"):
            a) Seal all laps and penetrations with a 3" wide minimum Sealing Tape.
        2) One outer layer of Building Paper.
    b. The Water Barrier shall be applied horizontally, with the upper layer lapped over the lower layer not less than 6 inches and free from holes and breaks.
        1) Where vertical joints occur, barrier shall be lapped not less than 6 inches.
    c. Exposure:
        1) Maximum exposure of Water Barriers shall be 30 days prior to plaster application or less as required by Water Barrier Manufacturer.
            a) Protect Water Barriers from the elements (both exposure to the sun and water) with a temporary 6-mil visqueen barrier or other material approved by the barrier manufacturer.

F. Installation of Penetration Flashing:
1. Apply Penetration Flashing in conjunction with Water Barriers, Metal Accessories and all other related work.
2. Install Penetration Flashing at all openings and penetrations at all exterior walls and at interior walls considered to be "Semi-Wet" and "Wet" exposures (i.e. Toilets, Showers, Lockers, Kitchens, etc.).
3. Install Penetration Flashings with Water Barriers, Metal Accessories and all other related work in "shingle" or "weatherboard" fashion.
4. Penetration Flashings shall be installed as required in CBC Sections 1405.3 in 9" widths and continuous to 9" past all intersections around all openings, penetrations and termination of plaster systems.
    a. Should any penetration warrant a greater width of wall flashing, provide 12" wide flashing as required.
    b. When an object extends through the Cement Plaster System, return the edge of the Penetration Flashing 1" and apply to the sides of the penetrating item.
5. Objects such as electrical back-boxes, electrical speaker enclosures, penetrations created by structural members, and the like.

G. Installation of Metal Accessories:
1. Apply Metal Accessories in conjunction with Water Barriers, Penetration Flashings and all other related work.
2. Install Metal Accessories as required to delineate cement plaster work into areas of the following maximum size and shall be in addition to locations shown on the drawings:
    a. Vertical surfaces 144 sq.ft.
    b. Horizontal and other non-vertical surfaces 100 sq.ft.
    c. Length-to-width ratios of not greater than 2-1/2:1.
    d. Distances not greater than 18 feet.
3. Install Metal Accessories with Water Barriers, Penetration Flashing Sheets and all other related work in "shingle" or "weatherboard" fashion.
4. Install all Metal Accessories in accordance with manufacturer's instructions, and the PDSM.
    a. All Metal Accessories shall be fully supported in accordance with CBC, secure flanges to framing.
    b. Installed in 10 foot lengths wherever possible.

c. All joints (butt, mitered, bent, continuing around corners, or changing directions) shall be cut accurately, welded, or folded, sealed, pop-riveted and sealed again, for a watertight joint.
   1) Special Trim Shapes joints (butt, "T", "+", "L" and inside/outside intersections) provide manufacturer's flashing connectors and factory fabricated intersections to connect shapes.
      a) Provide End Caps at all open ends and when terminated at opening frames and all other construction.
      b) Butt Joints shall be flush and align with other metal accessories.
      c) Seal all intersections and ends.
   2) Maintain the water barrier continuously behind any joint.
   3) Joints shall occur at nearest possible expansion or control joints.

d. When an object extends through the Cement Plaster System, accurately cut and install in "shingle" or "weatherboard" fashion the Metal Accessories around the penetration. Apply sealant between the metal accessories and the penetrating object.

5. Metal Accessories shall be attached to framing members along supports.
   a. [7 inches o.c. w/o rigid insulation][6 inches o.c. w/ rigid insulation].
   b. Single Point Separation Screeds can be wire tied over Metal Lath.
   c. Where dissimilar metals come into surface contact provide electrolytic protection between dissimilar metals using neoprene, plastic sheet, EPDM rubber or other protective coating.

H. Installation of Metal Lath:
   1. General:
      a. Apply Metal Lath after the installation of Line Wire, Water Barriers, Penetration Flashings and Metal Accessories.
      b. Install the various types of Metal Lath at the following conditions:
         1) Diamond Mesh Lath at horizontal and vertical surfaces over open framing members at 16 inches on center.
         2) Hi Rib Lath at horizontal and vertical surfaces over open framing members at 24 inches on center.
         3) Self Furred Diamond Mesh Lath at over Masonry and Concrete surfaces.
         4) Woven Wire Fabric Lath over Solid Sheathing.
         5) Welded Wire Fabric Lath over Solid Sheathing.
         6) Security Metal Lath at special construction and Custom Steel Fabricated Toilet Partitions.
      c. Apply Metal Lath in accordance with all applicable portions of CBC Chapters 7 and 25, and ASTM C 1063, "Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster".
         1) Metal Lath shall be applied with long dimension of sheet perpendicular to the framing members to which it is attached.
            a) All fasteners shall be corrosion resistant equal to or superior to that of the lath.
            b) All lath shall be furred out away from supports and solid substrate at least 1/4 inch.
            c) Lath shall be attached to framing members along framing members except for 3/8-in. rib metal lath shall be attached at each rib [at no more than 7 inches o.c. w/o rigid insulation][at no more than 6 inches o.c. w/ rigid insulation].
         2) The Metal Lath shall be broken at all metal accessories and cut into panels

that are defined by the edges of the cement plaster metal accessories, expansion joints and the like.

a) Perimeter of the lath panel shall be wire tied to the cement plaster metal accessories.

b) No joints shall be permitted at any angle or corner.

3) Lapping of Metal Lath.

a) Side laps shall be secured to framing members and shall be wire tied between supports with No. 18 gage (0.0475-inch) galvanized annealed steel wire at 9" o.c. maximum.

b) Where end laps occur between the framing members or between attachments, the end of the metal lath sheets shall be laced or wire tied with No. 18 gage (0.0475 inch) galvanized annealed steel wire.

c) Expanded Metal Lath shall be lapped 1/2-inch or nest the edge ribs at sides and 1" at ends.

d) Wire Fabric Lath shall be lapped one mesh at the sides and the ends.

2. Metal Framed Construction:

a. Horizontal Framing:

1) Screws shall project not less than 3/8-in. through metal framing member when the lath is installed and shall engage not less than three strands of lath.

a) Screw attachments at Hi-Rib Lath shall pass through, but not deform rib.

2) Where Water Barriers are not required, securely attach to metal framing members with No. 18 gage (0.0475 inch) wire ties, clips, hog rings or approved equivalent attachments.

a) Securely attach Hi-Rib Lath to open-web steel joists by single ties of galvanized, annealed steel wire not less than No. 18 gage (0.0475 inch), with the ends of each tie twisted together 1-1/2 times.

b. Vertical Framing:

1) Screws shall project not less than 3/8-in. through metal framing members when the lath is installed. and shall engage not less than three strands of lath.

a) Screw attachments at Hi-Rib Lath shall pass through, but not deform rib.

2) Where Water Barriers are not required (Interior Walls), securely attach to metal framing members with No. 18 gage (0.0475 inch) wire ties, clips, hog rings or approved equivalent attachments.

3. Concrete Substrates, Vertical:

a. Install power driven or power actuated fasteners:

1) Penetration, min.: 3/4 inch.

2) Location: One fastener at each corner, and one fastener at midpoint of long dimension of lath sheet. Balance of locations may be same fasteners or hardened concrete stub nails.

3) Spacing:

a) Horizontal (row), max.: 16 inches on center.

b) Vertical (column), max: 7 inches on center.

4) Wire tie laps and metal accessories with expanded metal flanges. Power/powder-actuated fasten accessories with solid flanges.

4. Masonry Substrates, Vertical:

a. Install screw anchor fasteners per ICC ES Evaluation Report installation requirements.

1) Penetration: 1-1/2 inch.

2) Spacing:
   a) End distance, min.: 3 inches.
   b) Edge distance, min.: 1-1/2 inch.
   c) Any direction, min.: 1-1/2 inch.
3) Pattern Spacing:
   a) Horizontal (row), max: 16 inches.
   b) Vertical (column), max: 7 inches.

5. Wire tie laps and metal accessories with expanded metal flanges. Screw anchor fasten accessories with solid flanges.
6. Attach accessories in such a manner as to ensure proper alignment during plaster application.
7. Installation of Security Metal Lath:
   a. Install Security Metal Lath for Custom Steel Fabricated Metal Toilet Partitions.
   b. Weld Security Metal Lath to cold rolled channels as detailed on the drawings.
      1) Security Metal Lath end joints shall be butted and occur over studs; edge joints shall be butted and wire tied between supports.

I. Cement Plaster Installation:
1. General: Each plaster coat shall be applied without interruption to entire wall or ceiling panels to eliminate cold joints and abrupt changes in the uniform appearance of succeeding coats. Panels are defined by naturally occurring interruptions in the plane of the plaster, such as corner angles, rustications, openings, and control joints.
2. Nominal Cement Plaster Thickness over Metal Lath:
   a. At open framing and sheathing substrates, Vertical and Horizontal Surfaces: 7/8" nominal.
      1) Scratch Coat thickness: 3/8".
      2) Brown Coat thickness: 3/8".
      3) Finish Coat thickness: 1/8".
   b. At concrete or masonry substrates, Vertical and Horizontal Surfaces 7/8" nominal.
      1) Scratch Coat thickness: 1/2".
      2) Brown Coat thickness: 1/4".
      3) Finish Coat thickness: 1/8".
3. Nominal Cement Plaster Thickness over Concrete or Masonry Substrates:
   a. Masonry Vertical Surfaces: 1/2" nominal.
      1) Bond Coat: N/A.
      2) Brown Coat thickness 3/8".
      3) Finish Coat thickness 1/8".
   b. Masonry Horizontal Surfaces: 3/8" nominal.
      1) Bond Coat: N/A.
      2) Brown Coat thickness 1/4".
      3) Finish Coat thickness 1/8".
   c. Concrete Vertical and Horizontal Surfaces: 3/8" nominal.
      1) Bond Coat: N/A.
      2) Brown Coat thickness 1/4".
      3) Finish Coat thickness 1/8".
   d. Where the installed plaster thickness over masonry will exceed the nominal 1/2 inch thickness, the plaster system shall be the three coat application over self-furred expanded metal lath.
   e. Where the installed plaster thickness over concrete will exceed the nominal 3/8 inch thickness, the plaster system shall be the three coat application over self-furred expanded metal lath.

4. Scratch Coat Installation:
   a. Cover Lath totally and completely with Scratch Coat Mix.
   b. Finish: Heavily scratched at right angles to framing members to provide strong mechanical key for Brown Coat.
   c. Curing: Continuously moist cure a minimum of 48 hours immediately after installation and prior to application of Brown Coat.
5. Bond Coat Installation:
   a. Apply "Surface Applied Liquid Bonding Agent" Mix solid over masonry or concrete and fill all pores completely to form bonding, water resistant finish.
   b. Cure: In accordance with Manufacturer's requirements and ASTM C 932 "Specification for Surface-Applied Bonding Compounds for Exterior Plastering".
6. Brown Coat Installation:
   a. Apply Brown Coat Mix to slightly damp, and cured Scratch Coat.
   b. Finish: Dry rod to a straight even plane.
   c. Float to densify at 1/8 inch in 10 feet and leave rough for finish.
      1) At exterior horizontal soffits with recessed light fixtures, provide a smooth and level brown coat finish around the perimeter of the light fixture housing.
         a) After installation of the brown coat, knock down any ridges and provide a smooth trowel finish within a distance of 3 inches around the light fixture housing. This level of finish is required, so that the light fixture lens (with a compression gasket) can be installed with full contact against the plaster system.
         b) Coordinate with the electrical contractor and obtain a sample fixture lens, and conduct a pre-cement plaster installation meeting to discuss this topic.
   d. Curing: Continuously moist cure a minimum of 48 hours immediately after installation and dry cure a minimum of 7 days, allow time for plaster to shrink prior to application of finish coats.
7. Finish Coat Installation:
   a. Exterior Elastomeric System:
      1) Provide Open Corner Reinforcement where cement plaster is not divided or separated at opening corners. Place diagonally at all corners of openings and apply with cement adhesive on cured Brown Coat.
      2) For application techniques refer to manufacturer's technical bulletins and recommendations. See manufacturer's recommendations for application over existing concrete surfaces.
      3) Level the brown coat surface with primer/base coat.
         a) Primer/base coat shall be applied over the cement plaster brown coat, after the brown coat is cured and before application of the finish color coat.
      4) Finish with manufacturer's finish coat in accordance with manufacturer's recommendations for application, curing times and temperature ranges.
      5) Texture: "WEATHERLASTIC Sandpebble Fine" finish.

3.4 REPAIR / RESTORATION

A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

3.5 FIELD QUALITY CONTROL

A. General: Comply with ASTM C 926 "Standard Specification for Application of Portland Cement-Based Plaster."
   1. Do not deviate more than plus or minus 1/8 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.
   2. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
   3. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

B. Site Tests:
   1. As required by Regulatory Requirements.
   2. Mock-Up Assemblies:
      a. Water Spray Test: Upon completion of the installation of the Mock-Up Assembly, conduct test for water penetration in according to AAMA 501.2 requirements.
         1) The Project Inspector, the Architect, Contractor’s Superintendent and Sub-contactor’s Superintendent shall visually inspect for water penetration.
         2) A Thermal Imagining process conducted by the Owner's Testing Laboratory Service, shall be used for additional inspection for water penetration.
         3) Cost of additional testing and inspection required due to failure for water tightness shall be borne by the Contractor.
      b. Reports:
         1) Project Inspector and/or Owner's Testing Laboratory Services shall provide a written report noting the installation and water tightness of the Mock-Up Assemblies tested.

C. Inspection:
   1. As required by Regulatory Requirements and in accordance with CBC Section 2503.
   2. Schedule inspections and notify the Architect, Project Inspector and any other regulatory agencies of the time at least 48 hours prior to the inspection.
   3. No work shall be without the inspections required by Regulatory Requirements.

3.6 CLEANING

A. Clean in accordance with Specification Section – PROJECT CLOSEOUT.
   1. Clean any soiled surfaces immediately.
   2. Finish shall be clean and ready for the application of any additional finishes.
   3. In accordance with manufacturer’s written instructions and recommendations.

B. Remove temporary protection and enclosure of other work.

C. Promptly remove plaster from door frames, window and other surfaces not indicated to be plastered.

D. Repair floors, walls and other surfaces stained, marred or other wise damaged during plastering

END OF SECTION

SECTION 099100 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to furnish and install Painting, accessories and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded.
      a. Material and Equipment to be Painted: Paint all piping, unwrapped ductwork, electric conduits where exposed to view. Prime and paint all exposed, factory finished, mechanical and electrical equipment and accessories which, are exposed to view on the exterior and/or in the interior of buildings except as specifically excluded.
      b. Material and Equipment not to be Painted: Do not paint piping, ductwork, equipment and machinery located in attic spaces, above furred or suspended ceilings, in furred pipe or duct spaces. Do not paint factory finished equipment or machinery located in mechanical rooms or mechanical buildings, attics (unless specifically scheduled), furred or suspended ceilings.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. 04 21 30 THIN BRICK VENEER
   4. 04 22 00 CONCRETE MASONRY UNITS
   5. 05 12 00 STEEL AND FABRICATIONS
   6. 05 30 00 METAL DECK
   7. 05 52 00 RAILING SYSTEMS
   8. 06 41 23 MODULAR CASEWORK
   9. 07 40 00 METAL PANELS
   10. 07 60 00 SHEET METAL (Shop Priming)
   11. 07 72 00 ROOF ACCESSORIES
   12. 07 92 00 SEALANTS
   13. 08 11 00 METAL DOORS AND FRAMES
   14. 08 14 16 WOOD DOORS
   15. 08 31 13 ACCESS DOORS AND FRAMES
   16. 08 33 00 COILING DOORS
   17. 08 80 00 GLASS
   18. 09 24 00 CEMENT PLASTER
   19. 09 29 00 GYPSUM BOARD
   20. 09 50 00 ACOUSTICAL CEILINGS
   21. 09 65 10 RESILIENT BASE AND ACCESSORIES
   22. 09 67 23 RESINOUS FLOORING
   23. 09 68 40 CARPET
   24. 10 05 00 MISCELLANEOUS SPECIALTIES
   25. 10 21 13 TOILET PARTITIONS
   26. 10 26 00 WALL AND CORNER GUARDS

27. 10 44 00 FIRE PROTECTION SPECIALTIES
28. 32 12 00 PAVEMENT
29. 32 19 19 ORNAMENTAL METAL
30. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.

1.2 REFERENCES

A. Standards:
1. In accordance with the following standards:
a. CA-CHPS - California High Performance Schools
1) 2011-CA-CHPS Addendum.
b. MPI Master Painters Institute (MPI - Architectural Painting Specification Manual, MPI – Maintenance Repainting Manual, and the MPI – Glossary, and all recent amendments).
c. PDCA Painting and Decorating Contractors of America, latest edition of the Architectural Specification Manual, as prepared by Specification Services, Inc., Washington State Council of the PDCA.

1.3 DEFINITIONS

A. The following definitions are just some of the more important definitions used within this section, and were taken from the MPI Glossary Manual, or used to simplify language used by the Architect. These definitions and others stated within the Manual apply for this Specification Section.
1. Acrylic Latex An aqueous dispersion of acrylic resins.
2. Acrylic Resin A/R - Synthetic resins made by polymerizing esters of acrylic acid.
3. A/U Aliphatic Urethane
4. A/A/U Aliphatic Acrylic Urethane
5. Blocking Sticking or bonding together of two painted surfaces that are in direct contact. Most often caused by stacking painted articles before dry or reaching a "block free" (or "non-blocking") stage.
6. DFT Dry Film Thickness – the depth or thickness of a coating in the dry state. Expressed in mils (1/1000 inch) or microns.
7. DRY FALL A Fog Paint designed to be applied by spray and dries fast enough that the overspray will be a dry powder after falling a certain distance. The dust can then be swept or vacummed up.
8. ODFT "Overall Dry Film Thickness" – the depth or thickness of a complete coating system in the dry state. Expressed in mils (1/1000 inch) or microns.

1.4 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
1. Product Data.
a. Submit manufacturer's full color range (including any standard, premium and custom colors) for selection by the Architect.
b. Material Safety Data Sheets will be turned over to the Owner in compliance with local rules and regulations, but will not be reviewed.
c. Materials Lists:
1) Format in accordance with Article in this section titled "Paint Finish

Schedule".

d. Additional submittals to substantiate proposed equivalent systems.

2. Samples.
   a. Brushouts: In accordance with Specification Section - SUBMITTAL PROCEDURES.
   b. For each color and finish selected provide paint brushouts showing color tint graduation of each coat to and including the final color coat.
      1) Selected colors and finishes:
         a) Size:8 1/2" x 11" boards.
         b) Quantity: 3 boards of each color and finish.
         c) Board material wherever possible and for transparent finishes shall be same as material to be finished. Opaque finishes may be on heavy card stock.

3. Closeout Submittals in accordance with the following:
   a. Maintenance Data in accordance with Specification Section - PROJECT CLOSEOUT.
   b. Project Documents in accordance with Specification Section - PROJECT DOCUMENTS.
   c. Warranty in accordance with Specification Section - WARRANTIES.

1.5 QUALITY ASSURANCE

A. Qualifications:
   1. Material Qualifications:
      a. Where possible (except for specified materials), paint materials shall be products of only one manufacturer.
      b. All materials, preparation and workmanship shall conform to requirements of the specified edition of the Architectural Painting Specification Manual by the Master Painters Institute (hereafter referred to as the MPI Painting Manual), unless otherwise indicated.
      c. Flame Spread Ratings in accordance with ASTM E 84 "Standard Test Method for Surface Burining Characteristics of Building Materials":
         1) Paint finishes in required exit stairways, corridors and exitways must meet flame spread ratings as required by regulatory agencies.
         2) Class A - Tunnel Test 0-25 for enclosed required exit stairways and other exit ways.
         3) No interior paint or wall finish will be permitted having a tunnel test in excess of 200. All paint materials must be certified that materials meet these requirements.
      d. Manufacturer's Written Instructions - One for the Architect, Contractor and the Owner:
         1) Submit three (3) copies of manufacturer's written instructions.
      e. Compatibility:
         1) Paint materials and equipment shall be compatible in use.
         2) Finish coats shall be compatible with prime coat.
         3) Prime coats shall be compatible with surface to be coated.
         4) Tools and materials shall be compatible with coating to be applied.
      f. Air Quality:
         1) Paint materials and equipment used for application will comply with CARB Air Quality Control Standards in effect at the Project Site and at the time of

application.

2. Installer Qualifications:
    a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
        1) Only qualified journeypersons, as defined by local jurisdiction, shall be engaged in painting and decorating work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyperson in accordance with trade regulations.
3. Manufacturer/Supplier Qualifications:
    a. Firm experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the work.

B. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
    a. CAL/OSHA California/Occupational Safety and Health Act
    b. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.
    c. CBC California Building Code (CBC 803.1.1)

C. Mockups: Provide a full-coat benchmark finish sample for each type of coating and substrate required for Architect's review. Duplicate finish of approved sample Submittals.
1. Wall Finishes shall be at least 100 sq. ft., suitably marked "MOCKUPS" and protected for the duration of the construction Project.
2. Small areas and items can be selected by the Contractor, suitably marked "MOCKUPS" and protected for the duration of the construction Project.
3. Apply benchmark samples, according to requirements for the completed Work, after permanent lighting and other environmental services have been activated. Provide required sheen, color, and texture on each surface.
4. Approved mockups (wall areas and small areas or items) may become part of the completed Work if undisturbed at time of Substantial Completion.

D. Meetings:
1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
    a. Coordinate the work with all other related work.
    b. Identify any potential problems that may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
2. Progress: Scheduled by the Contractor during the performance of the work.
    a. Review for proper installation of work progress.
    b. Identify any installation problems and acceptable corrective measures.
    c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
    a. Inspect and identify any problems that may impede issuance of warranties and guaranties.
    b. Maintain installed work until the Notice of Substantial Completion has been executed.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Acceptance at Site:
1. Products must be in manufacturer's original unopened containers with labels indicating brand name, model, and grade.
2. Damaged products will not be accepted.

B. Storage and protection:
1. Products shall be stored above ground on level platforms, six (6) inches above ground, allowing air circulation under stacked units, in a locked, clean and neat, well ventilated area.
a. All receiving, opening and mixing shall be done in this area.
b. Oily rags and waste shall be removed from area each night and all other precautions shall be taken to avoid danger of fire.
c. Empty containers shall not be removed from site, unless otherwise approved by the Architect.
d. Cover materials with protective waterproof covering providing for adequate air circulation and ventilation.

1.7 PROJECT CONDITIONS

A. Environmental requirements:
1. Rain or Fog:
a. No work under this section shall be started or maintained under threat of rain.
b. Surfaces shall be painted only when they are free from moisture.
c. No painting of exterior surfaces shall be done less than 72 hours of actual drying weather after a rain or during periods of dew or fog.
d. Perform no painting or decorating work when the maximum moisture content of the substrate exceeds:
1) 12 percent for concrete and masonry (clay and concrete brick / block).
2) 15 percent for wood.
3) 12 percent for plaster and gypsum board.
e. Perform no painting or decorating work when the relative humidity is above 85 percent or when the dew point is less than 5 degrees F variance between the air / substrate temperature.
2. Temperature: No painting shall be done when ambient air and substrate temperatures are below 50 degrees F for both interior and exterior work.
3. Alkalinity: An alkali level of between 7.0 and 8.5 pH is suitable for painting. Any reading above that level, then the surface shall be neutralized as required for the surface to be painted.
a. Methods shall be consistent with MPI - Architectural Painting Specification Manual, and shall not result in any adverse condition causing inadequate adhesion, improper curing and drying, or durability of paint system.
4. No exterior painting shall be done during winds or dusty conditions.
5. Perform no exterior painting and decorating work unless environmental conditions are within MPI and paint manufacturer's requirements or until adequate weather protection is provided.
a. Where required to meet project schedules, suitable weatherproof covering and sufficient heating facilities shall be in place to maintain minimum ambient air and

substrate temperatures for 24 hours before, during and after paint application.

6. Perform no interior painting or decorating work unless adequate continuous ventilation and sufficient heating facilities are in place to maintain minimum ambient air and substrate temperatures above minimum requirements for 24 hours before, during and after paint application.
    a. Where required to meet project schedules, provide supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.

B. Existing Conditions:
1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Concrete and masonry surfaces shall be installed at least 28 days prior to painting and decorating work and shall be visually dry on both sides.
3. Conduct all moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple cover patch test.
4. Test concrete, masonry and plaster surfaces for alkalinity as required.
5. Contractor shall provide a minimum lighting level of 323 Lux (30 foot candles) on surfaces to be painted or decorated.

1.8 WARRANTY

A. Contractor's General Warranty:
1. In accordance with Specification Section - WARRANTIES.
    a. Original adherence of all materials and no evidence of any surface defect shall be maintained during warranty period.
    b. Color at end of warranty period shall remain free from serious fading and any discernible variations shall be uniform.

B. Manufacturer's Warranty:
1. In accordance with manufacturer's written standard warranty:
2. Provide Paint Manufacturer's special ten (10) year Material Warranty co-endorsed by the installer for exterior paint application of cement plaster surfaces.
    a. Warranty period Ten (10) Years.
3. Provide Water-Repellant Manufacturer's special Weatherproofing Warranty co-endorsed by the installer for exterior sealer application of concrete or concrete block surfaces.
    a. Warranty period Ten (10) Years.

C. Installer's Warranty:
1. Paint Installer's Warranty:
    a. Installer will certify that a Paint Manufacturer's Representative tested the substrate according to Paint Manufacturer's standard procedures and have submitted project information and test patch forms.
    b. Installer shall certify that Paint Manufacturer's products were installed on the structure in accordance with manufacturer's specification requirements.
    c. Installer further agrees that if installer fails to fulfill their obligation under this certification statement within 30 days notice of the complaint, Paint Manufacturer may proceed with the investigation and repairs and shall pay the entire material

cost, providing it wasn't the installer's responsibility.

2. Water-Repellant Installer's Warranty:
   a. Warranty period Two (2) Years.
   b. Installer will certify that a Water-Repellant Manufacturer's Representative tested the substrate according to Water-Repellant Manufacturer's standard procedures and have submitted project information and test patch forms.
   c. Installer shall certify that Water-Repellant Manufacturer's products were installed on the structure in accordance with manufacturer's specification requirements.
   d. Installer agrees:
      1) Investigate all complaints of leakage and/or water absorption on surfaces to which Water-Repellant Manufacturer's weatherproofing products were applied and provide a written report of the cause to Water-Repellant Manufacturer within thirty (30) days of the complaint.
      2) Re-apply Water-Repellant Manufacturer's weatherproofing products according to Water-Repellant Manufacturer's standard procedures at installer's cost for labor and material if the leakage and/or water absorption is due to improper surface preparation, application and/or improper use of material.
      3) Request authority from Water-Repellant Manufacturer to re-apply Water-Repellant Manufacturer's weatherproofing products at Water-Repellant Manufacturer's expense to areas, which were not rendered hydrophobic due to imperfect weatherproofing materials.
   e. Installer further agrees that if installer fails to fulfill their obligation under this certification statement within 30 days notice of the complaint, Water-Repellant Manufacturer may proceed with the investigation and repairs and shall pay the entire cost, providing it wasn't the installer's responsibility.

1.9 MAINTENANCE

A. Extra Materials:
   1. Quantity: 10 percent of quantity needed to paint Project, but not to exceed one gallon, of each type and color of finish coat used.
   2. Identification: At project completion, provide an itemized list complete with manufacturer, paint type and color coding for all colors used, and locations within the Project for Owner's later use in maintenance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products specified are from companies listed below, or approved equivalent. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers listed as acceptable alternative manufacturers must still comply with the requirements of the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed are not approved during the Submittal Process due to non-compliance with the written documents, then the Contractor shall submit product specified.
   1. Specified paint coating product manufacturer, or approved equivalent:
      a. PPG PAINTS (formerly AKZO NOBEL, makers of GLIDDEN

PROFESSIONAL, or ICI DULUX PAINTS).
1) Composed of the following companies: AMERITONE PAINT, DECRATREND, DEVOE COATINGS, DEVOE PAINT, FLOOD WOOD CARE, FULLER O'BRIEN, GLIDDEN, and SINCLAIR PAINT.
b. Also specified: GEMINI and MONOPOLE.
c. Acceptable alternative manufacturers:
1) DUNN EDWARDS, FRAZEE PAINTS, KELLY MOORE PAINTS, SHERWIN WILLIAMS and VISTA PAINT. Submittals by these manufacturers, subject to specification requirements, must be in accordance with Section - SUBMITTAL PROCEDURES.
a) Paint material quality and systems shall be equal to numbers and systems listed in Paint Finish Schedule at the end of this section.
b) If submitted paint numbers differ from Darden Architects, Inc. Paint Equivalency List, additionally submit explanation of difference and certification letter from the installer attesting that the different product is equal to or better than specified; i.e. equivalent or better percentage of solids, system ODFT, and VOC compliant. Paint Equivalency List published by Darden Architects, Inc. is available only for this project at written request.
2. Specified water-borne Alkyltrialkoxy Silane water repellent product manufacturer, or approved equivalent:
a. EVONIK DEGUSSA CORPORATION.
3. Specified Graffiti coating manufacturer, or approved equivalent:
a. Sacrificial:
1) VISUAL POLLUTION TECH, INC.
b. Non-sacrificial:
1) BASF HYDROZO.
2) EVONIK DEGUSSA CORPORATION.
3) THIS STUFF WORKS - TSW
4. Specified Decorative Metal Wall Panel Finish manufacturer, or approved equivalent:
a. Clear Laquer on plain metal surface:
1) PEACOCK LABORATORIES, INC. "Permalac EF".
5. Specified Intumescent Paint Manufacturer, or approved equivalent:
a. ISOLATEK INTERNATIONAL.

B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
1. Shop Primers or Coil-Coated Primers: It shall be assumed that all Shop Primed or Coil-Coated primed metals do not meet the requirements for primer material and mil thickness as defined herein. As such, all Shop Primed or Coil-Coated primed metals shall be field primed as indicated in the schedule.

B. Material Quality: Provide manufacturer's best-quality coating material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will

not be acceptable.

1. All materials used shall be lead and mercury free and shall have low VOC content to meet the applicable CARB standards in the area where the Project is located.
2. All paint materials shall have good flowing and brushing properties and shall dry or cure free of blemishes, sags, air entrapment, etc.
3. All Water-Repellant Coatings shall comply with the following:
   a. Provide Alkyltrialkoxy Silane combination with a ratio concentration and application procedure as recommended by the manufacturer with the ability to cover in one or more applications for a ten year warranty in accordance with the following substrates:
      1) Thin Brick.
      2) Concrete.
      3) Concrete Masonry Units
      4) Split-Faced Concrete Masonry Units.
   b. Color Clear.
   c. Active Substance Alkyltrialkoxy Silane.
   d. Active Content 100 percent.
   e. Solvent Water.
   f. Flash Point (Concentrate) 93 degrees F.
   g. Flash Point (Mixed) 200 degrees F.
   h. Density 7.77 lbs./gallon.
   i. VOC (19:1) 50 g/liter (Maximum).
   j. VOC (9:1) 100 g/liter (Maximum).
   k. VOC (6:1) 200 g/liter (Maximum).
4. All Bituminous Paint:
   a. Shall comply with Cold-Applied Asphalt-Mastic paint complying with SSPC-Paint 12 requirements, except containing no asbestos, formulated for 30-mil thickness per coat.
5. Decorative Metal Wall Panel Finish:
   a. 170 grams per liter Maximum for a Clear Lacquer Finish.

2.3 MIXES

A. Mixing and Tinting:
1. Unless otherwise specified herein or pre-approved, all paint shall be ready-mixed and pre-tinted at the factory. Re-mix all paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and color and gloss uniformity.
2. Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.
3. Where thinner is used, addition shall not exceed paint manufacturer's written recommendations.
4. Do not use kerosene or any such organic solvents to thin water-based paints.
5. Thin paint for spraying in strict accordance with paint manufacturer's written instructions. If directions are not on the container, obtain instructions in writing from the manufacturer and provide one copy of instructions to the Project Inspector.

2.4 FINISHES

A. Finish Colors:

1. Unless otherwise specified herein, all painting work shall be in accordance with MPI Premium Grade finish requirements as a minimum.
2. Determined by Architect prior to or as work progresses.
   a. Colors to be selected from paint manufacturer's full color systems, including standard, premium and custom colors.
3. When deep or 'Ultra colors' are selected, submit to Architect proposed revision to specified system product numbers, according to manufacturer's written recommendations.
   a. When deep or ultra colors are selected for use on walls or special color treatments such as graphics or many color changes are desired, the areas and extent of use will be clarified upon request of the Contractor.
4. Gloss standards, in accordance with MPI standards, using the ASTM D 523 "Test for Specular Gloss", are as follows:
5.

Gloss Level	Description	Units at 60 degrees	Units at 85 degrees
G1	Matte or Flat Finish	0 to 5	10 max.
G2	Velvet Finish	0 to 10	10 to 35
G3	Eggshell Finish	10 to 25	10 to 35
G4	Low Sheen or Satin Finish	20 to 35	35 min.
G5	Semi-Gloss Finish	35 to 70	
G6	Gloss Finish	70 to 85	
G7	High-Gloss Finish	Greater than 85	

PART 3 - EXECUTION

3.1 EXAMINATION

A. Site verification of conditions:
   1. Prior to the execution of the work under this specification section, inspect the installed work executed under other sections of this Project Manual that affects the execution of work under this specification section.
      a. Thoroughly examine (and test as required, if necessary) all conditions and surfaces to be painted and report in writing to the Contractor and the Architect any conditions or surfaces that will adversely affect the work of this section.
      b. The Installer is responsible for verifying the compatibility of items primed by others and the finish coat or coats required by the Contract Documents. Should an incompatibility occur, the Installer (along with the manufacturer's technical representative) will recommend compatible alternatives for the Architect's approval.
   2. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
   3. Execution of work under this specification section shall constitute acceptance of existing conditions.

3.2 PREPARATION

A. Protection before Application:
   1. Protect all adjacent surfaces from drips, spray, air pollution of surrounding environment,

and other damage from work under this specification section.

2. Removal of Hardware and Miscellaneous Items:
   a. Coordinate the work with other trades so that they remove electrical outlet and switch plates, mechanical diffusers, escutcheons, registers, surface hardware, fittings, fastenings, and the like prior to starting work under this Section.
   b. Store during painting work. Coordinate cleaning and reinstallation after painting work is finished.
   c. Do not use solvent or cleaning agents detrimental to permanent finishes.
   d. Remove doors before painting to paint bottom and top edges, and then re-hang.
3. Protect adjacent surfaces against damage from painting operations. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
   a. Protective means include: Drop cloths, shields, masking templates, etc.
   b. Exterior surfaces include: landscaping, walks, drives, adjacent building surfaces, glazing, aluminum surfaces, etc.
   c. Interior surfaces include: rating and instruction labels on doors, frames, equipment, piping, etc.

B. Surface preparation:
1. General:
   a. In accordance with MPI Standards.
   b. Surfaces to be finished shall be clean, dry and free of dirt, passivators, oils, loose paint and any other contamination that would adversely affect adhesion, protective properties or appearance of the coating.
   c. All oil, grease, dirt or other foreign matter shall be removed by washing with a solution of cleaner and water, rinse and allow to dry.
   d. If efflorescence, alkali or glazed surfaces exist, neutralize with acid wash followed by thorough water rinsing.
      1) Protect all adjacent substrates or materials that could be affected by acid washing or water rinsing. Collect all washing & rinsing residue and dispose of away from structures.
2. Wood Substrates - (New and Repaint Surfaces):
   a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
   b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
   c. Fill holes and other imperfections with putty or plastic wood to match natural finish before and after application of prime or seal coat.
   d. Provide necessary extra treatment over knots, pitch pockets, sappy portions and other defects to produce a proper base for painting.
   e. Sand down raised grain or rough surfaces.
   f. Clean surfaces free of dust, soil and other foreign material.
3. Gypsum Board Substrates - (New and Repaint Surfaces):
   a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
   b. Clean surfaces of dirt, laitance, excess mortar and foreign matter.
   c. Do all necessary minor sanding.
   d. Fill minor cracks, scratches, holes and nail heads.
4. Plaster Substrates - (New and Repaint Surfaces):
   a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
   b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
   c. Clean surfaces of dirt, laitance, excess mortar and foreign matter.
   d. Neatly patch, flush and smooth, minor cracks, holes, pits and other imperfections in plaster or concrete surfaces.
5. Concrete Substrates - (New and Repaint Surfaces):

a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
c. Clean surfaces of dirt, laitance, excess mortar and foreign matter.
d. Neatly patch, flush and smooth, minor cracks, holes, pits and other imperfections in plaster or concrete surfaces.

6. Metal Substrates - (New and Repaint Surfaces):
   a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
   b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
   c. Shop Primed or Factory Primed Surfaces:
      1) Shop Primed or Factory Primed Surfaces are considered "un-primed" due to their mil thicknesses provided, and common incompatibility issues with specified coating system; and are suitable only for protection during transite (shipment and storage) until incorporated into the Project.
      2) Remove dust, oil and rust.
      3) Sand surface lightly.
      4) Touch up imperfections, scratches, surface damage, etc. with the appropriate primer.
      5) Field connection welds, soldered joints, burned and abraded portions shall be spot primed with the appropriate primer.
   d. Coil-Coated Product Surfaces:
      1) Coil-Coated Product Surfaces are considered "un-primed" due to their mil thicknesses provided, and the common incompatibility issues with specified coating system; and are suitable only for protection during shipment and storage until incorporated into the Project.
      2) Remove dust, oil and rust.
      3) Touch up imperfections, scratches, surface damage, etc. with the appropriate primer.
      4) Field connection welds, burned and abraded portions shall be spot primed with the appropriate primer.
      5) Field apply manufacturer's written recommended primer coat over entire surface compatible with substrate finish and finish coats indicated on the paint schedule.
   e. Un-primed Surfaces:
      1) Remove dust, rust, mill scale, grease and foreign matter by sand blasting or wire brushing.
      2) Surfaces to be smooth and ready to receive coatings.
   f. Non-Ferrous Metal, Galvanized, Aluminum, and Copper Surfaces:
      1) Metal Etch and Solvent Clean per SSPC-SP 1 or clean with TSP or other appropriate cleaner followed by thorough water rinsing.
      2) Brush Blast to standards of SSPC-SP 16, or if blasting is not feasible, sand thoroughly, wipe clean and apply a test patch for the coating specified.
      3) Allow system to cure at least one week, then test adhesion per ASTM D 3359 “Standard Test Methods for Measuring Adhesion by Tape Test”.

7. Concrete Block Surfaces - (New and Repaint Surfaces):
   a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
   b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
   c. Clean and free of all dirt, dust, rust, oil and free from all foreign matter.
   d. Test for moisture content.
      1) Do not coat if moisture is present.
      2) Concrete Blocks to be thoroughly dry and cured prior to coating.
   e. Do not coat Masonry wall if joints are not properly pointed, has excessive mortar

drippings cracked units or shows signs of excessive efflorescence.
1) Notify Architect promptly through General Contractor.
2) Do not coat until unsatisfactory and unacceptable Concrete Block surfaces are corrected suitable for coating.

f. Do not apply opaque finishes to Concrete Block with airless sprayer unless "backrolled".

3.3 APPLICATION

A. Standards:
1. In accordance with MPI Painting Manual.
2. In accordance with manufacturer's specifications.

B. Method:
1. Apply by brush, roller or spray in accordance with MPI Painting Manual and the coating manufacturer's written recommendations except where specified otherwise in Schedule of Paint Finishes.
2. Painting of doors by rollers shall only be allowed only if the applicator uses a 1/4 inch nap or less roller.

C. Coatings:
1. All coatings shall be applied without reduction except as specifically required by label directions, or required to be reduced by this Specification. In such cases, reduction shall be the minimum permitted and shall not exceed VOC limits.
2. Apply each coat evenly and allow each coat to dry prior to applying succeeding coats. Each coat to have enough consistency to conceal work to which it is applied.
   a. Follow manufacturer's recommendations for recoat windows when using high performance coatings, epoxys, and urethanes.
3. Cut into a true line and leave smooth and clean without overlapping. Coat doors and windows in open position.
4. Sand finishes on smooth surfaces to assure proper adhesion of subsequent coats.
5. Tint each undercoat a lighter shade to facilitate identification of each coat, if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
6. Apply coating systems so as to obtain not less than the dry film mil thickness recommended by the manufacturer.
7. Sand metal work only as necessary to provide for the complete bonding of coats.
8. Project Inspector to inspect and approve each coat and operation before succeeding coats are applied.
9. Finish work to be free from runs, sags, defective application and improper workmanship.
10. Back prime all woodwork and casework coming in contact with plaster, masonry or concrete immediately upon delivery to project.
11. Post sign promptly following application of coatings.

3.4 FIELD QUALITY CONTROL

A. All surfaces, preparation and paint applications shall be inspected by the Project Inspector:
1. Painted exterior and interior surfaces shall be considered to lack uniformity and soundness if any of the following defects are apparent to the Painting Inspection by the Project Inspector:

a. Brush / Roller marks, streaks, laps, runs, sags, drips, heavy stippling, hiding or shadowing by inefficient application methods, skipped or missed areas, and foreign materials in paint coatings.
b. Evidence of poor coverage at rivet heads, plate edges, lap joints, crevices, pockets, corners and re-entrant angles.
c. Damage due to touching before paint is sufficiently dry or any other contributory cause.
d. Damage due to application on moist surfaces or caused by inadequate protection from the weather.
e. Damage and / or contamination of paint due to blown contaminants (dust, spray paint, etc.).

2. Painted surfaces shall be considered unacceptable if any of the following are evident under natural lighting source for exterior surfaces and final lighting source (including daylight) for interior surfaces:
a. Visible defects are evident on vertical surfaces when viewed at normal viewing angles from a distance of not less than 39 inches.
b. Visible defects are evident on horizontal surfaces when viewed at normal viewing angles from a distance of not less than 39 inches.
c. Visible defects are evident on ceiling, soffit and other overhead surfaces when viewed at normal viewing angles.
d. When the final coat on any surface exhibits a lack of uniformity of color, sheen, texture, and hiding across full surface area.
3. Painted surfaces rejected by the Project Inspector shall be made good at the expense of the Contractor. Small affected areas may be touched up; large affected areas or areas without sufficient dry film thickness of paint shall be repainted. Runs, sags of damaged paint shall be removed by scraper or by sanding prior to application of paint.

3.5 CLEANING

A. Clean in accordance with Specification Section - TEMPORARY FACILITIES AND CONTROLS and PROJECT CLOSEOUT.
1. Remove all paint where spilled, splashed, splattered or sprayed as work progresses using means and materials that are not detrimental to affected surfaces.
2. Keep work area free from unnecessary accumulation of tools, equipment, surplus materials and debris.
3. Remove combustible rubbish materials and empty paint cans each day and safely dispose of same in accordance with requirements of authorities having jurisdiction.
4. Clean equipment and dispose of wash water / solvents as well as all other cleaning and protective materials (e.g., rags, drop cloths, masking papers, etc.), paints, thinners, paint removers / strippers in accordance with the safety requirements of authorities having jurisdiction in the place where the Project is located.
5. Protect and safeguard work of other trades.

3.6 PROTECTION

A. Protection from Weather:
1. Protect newly installed work from moisture for a period of time as recommended by the manufacturer after application.

B. Protection from Traffic:

1. Erect barriers or screens and post signs to warn of or limit or direct traffic away or around work area as required.

C. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, which ensures the work of this section being without damage or deterioration until the time of Substantial Completion.

3.7 SCHEDULES

A. Refer to Exterior and Interior Finish Schedules on Drawings for applicable finishes used. This is a guide only and paint sub-contractor is responsible to check all drawings and be responsible for all paint work required to cover the complete painting and finishing of the interior and exterior including specialty items.

B. It is the intent of the specifications and drawings to cover the complete painting and finishing of the Project whether or not it is specifically called for in the Specifications, Schedule of Paint Finishes, or indicated on the Drawings. Surfaces not specified in Paint Finishes Schedule shall be in accordance with manufacturer's written recommendations.
   a. The following schedule was compliant with CARB Air Quality Standards at press time.
      1) Inform the Architect of any changes caused by stricter Air Quality Standards as part of the submittal process.
      2) Provide products compliant with CARB Air Quality Standards and Local Air Quality Control District requirements at the time of installation.

C. Exception: When the Project involves remodel work, the scope of work is limited to the remodel area and adjacent existing substrates to minimize visible color incompatibility.

D. Provide coating system minimum ODFT specified.
   1. Provide DFT per coat specified.
      a. Do not apply thicker coats than specified to achieve ODFT. Apply additional coats if necessary.
   2. "Ultra Color" Note: A fourth and/or fifth coat may be required to achieve uniform chromatic hue without ghosting from undercoat or substrate.
      a. The Contractor shall consider all Metal Paint Finishes noted "Ultra-color" as requiring as many as five (5) total coats.

E. INTERIOR PAINT FINISHES:
   1. INTERIOR WOODWORK
      a. W-1 Flat Latex Minimum ODFT 4.3 MILS.
         1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
         2) 2nd Coat Flat Latex Velvet Sheen Finish GP 1200N DFT 1.5 mils.
         3) 3rd Coat Flat Latex Velvet Sheen Finish GP 1200N DFT 1.5 mils.
      b. W-2 Semi-Gloss Acrylic Non-Blocking Enamel Minimum ODFT 4.3 MILS.
         1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
         2) 2nd Coat Acrylic Semi-Gloss Fin. GP 1407V DFT 1.5 mils.
         3) 3rd Coat Acrylic Semi-Gloss Fin. GP 1407V DFT 1.5 mils.
      c. W-3 Gloss Waterborne Acrylic Non-Blocking Enamel Minimum ODFT 4.3 MILS.
         1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
         2) 2nd Coat Gloss Acrylic Finish. DEVOE 4208 DFT 1.5 mils.

3) 3rd Coat Gloss Acrylic Finish. DEVOE 4208 DFT1.5 mils.

d. W-4 Semi-Transparent Resin Stain Minimum ODFT 2.0 MILS.
   1) 1st Coat Resin Wiping Stain GEM GLO DFT 1.0 mils.
   2) 2nd Coat Clear Acrylic Finish GP 1808 DFT 1.0 mils.

e. W-5 Semi-Transparent Resin Stain Minimum ODFT 3.0 MILS.
   1) 1st Coat Resin Wiping Stain GEM GLO DFT 1.0 mils.
   2) 2nd Coat Clear Acrylic Finish GP 1808 DFT 1.0 mils.
   3) 3rd Coat Clear Acrylic Finish GP 1808 DFT 1.0 mils.

f. W-6 Stained and Velvet Lacquered (Wax-like Finish) Minimum ODFT 4.0 MILS.
   1) 1st Coat Resin Wiping Stain GEM GLO DFT 1.0 mils.
   2) 2nd Coat Lacquer Sanding Sealer GEMINI 200-0013 DFT 1.0 mils.
   3) 3rd Coat Velvet Lacquer Finish GEMINI 500-0062 DFT 1.0 mil.
   4) 4th Coat Velvet Lacquer Finish GEMINI 500-0062 DFT 1.0 mil.

g. W-6a: A Stained and Pre-Catalized Lacquer below which can achieve higher protection for heavily used wood doors, cabinets and trim.
   1) Pre-Catalized Lacquer Minimum ODFT 4.0 MILS.
   2) 1st Coat Resin Wiping Stain GEM GLO DFT 1.0 mils.
   3) 2nd Coat Lacquer Sanding Sealer GEMINI 210-0222 DFT 1.0 mils.
   4) 3rd Coat Velvet Lacquer Finish GEMINI 510-0276 DFT 1.0 mil.
   5) 4th Coat Velvet Lacquer Finish GEMINI 510-0276 DFT 1.0 mil.

h. W-7 Filled and Sealed Floor Finish Minimum ODFT 3.0 MILS.
   1) 1st Coat Paste Filler As recommended by Flooring Manufacturer
   2) 2nd Coat Satin Varnish GP1802 DFT 1.5 mils.
   3) 3rd Coat Satin Varnish GP 1802 DFT 1.5 mils.

i. W-8 Velvet Lacquered Finish Minimum ODFT 4.0 MILS.
   1) 1st Coat Lacquer Sanding Sealer GEMINI 200-0027 DFT 1.0 mils.
   2) 2nd Coat Velvet Lacquer Finish GEMINI 500-0082 DFT 1.0 mils.
   3) 3rd Coat Velvet Lacquer Finish GEMINI 500-0082 DFT 1.0 mils.
   4) 4th Coat Velvet Lacquer Finish GEMINI 500-0082 DFT 1.0 mils.

2. INTERIOR GYPSUM BOARD

a. DW-1 Flat Latex Minimum ODFT 4.3 MILS.
   1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
   2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
   3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT1.5 mils.

b. DW-2 Semi-Gloss Acrylic Non-Blocking Enamel Minimum ODFT 4.3 MILS.
   1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
   2) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
   3) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.

c. DW-3 Gloss Acrylic Non-Blocking Enamel Minimum ODFT 5.3 MILS.
   1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
   2) 2nd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.
   3) 3rd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.

d. DW-4 Gloss Epoxy Polyamide (Corrosion Resistant) Minimum ODFT 7.6 MILS.
   1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
   2) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
   3) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.

e. DW-4 WB Semi-Gloss Epoxy (Corrosion Resistant) Minimum ODFT 7.6 MILS.
   1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
   2) 2nd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 3.0

mils.

3) 3rd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 3.0 mils.

3. INTERIOR CEMENT PLASTER, VENEER PLASTER OR GYPSUM PLASTER
   a. P-1 Flat Latex Minimum ODFT 4.5 MILS.
      1) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 1.5 mils.
      2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
      3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
   b. P-2 Semi-Gloss Acrylic Non-Blocking Enamel Minimum ODFT 5.0 MILS.
      1) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 2.0 mils.
      2) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
      3) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
   c. P-3 Gloss Acrylic Non-Blocking Enamel Minimum ODFT 6.0 MILS.
      1) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 2.0 mils.
      2) 2nd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.
      3) 3rd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.
   d. P-4 Gloss Epoxy Polyamide (Corrosion Resistant) Minimum ODFT 7.6 MILS.
      1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
      2) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
      3) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
   e. P-4 Water Base S/G Epoxy (Corrosion Resistant) Minimum ODFT 7.6 MILS.
      1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
      2) 2nd Coat WB Epoxy Semi-Gloss Fin. PITT-GLAZE 16-510 DFT 3.0 mils.
      3) 3rd Coat WB Epoxy Semi-Gloss Fin. PITT-GLAZE 16-510 DFT 3.0 mils.
4. INTERIOR CONCRETE OR CONCRETE MASONRY UNITS
   a. CB-1 Clear Water Repellent Sealer
      1) One Coat Alkyltrialkoxy Silane
         a) EVONIK DEGUSSA "Aqua-Trete®CONCENTRATE".
      2) Follow manufacturer's recommended coverage rate and installation recommendations for type of substrate to be covered.
      3) Provide manufacturer's 10 year warranty for Concrete Masonry Units and Split Faced Concrete Masonry Units.
   b. CB-2 Flat Latex - Fine Texture Minimum ODFT 9.5 MILS.
      1) 1st Coat Acrylic Block Filler GP 3010 DFT 6.5 mils.
         a) Omit at concrete surfaces.
      2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
      3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
   c. CB-3 Semi-Gloss Acrylic Enamel:
      1) Concrete Masonry Units: Minimum ODFT 9.5 MILS.
         a) 1st Coat Acrylic Block Filler GP 3010 DFT 6.5 mils.
         b) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
         c) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
      2) Concrete Surfaces: Minimum ODFT 5.0 MILS.
         a) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 2.0 mils.
         b) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
         c) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.

d. CB-4 Color High-Gloss Polyamide Epoxy:
   1) Concrete Masonry Units: Minimum ODFT 14.6 MILS.
      a) 1st Coat W/B Epoxy Block FillerSPEEDHIDE 6-15 DFT 7.0 mils.
      b) 2nd Coat Acrylic Primer SEAL-GRIP 17-921 DFT 1.6 mils.
      c) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
      d) 4th Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
   2) Concrete Surfaces: Minimum ODFT 7.6 MILS.
      a) 1st Coat Epoxy Primer SEAL-GRIP 17-921 DFT 1.6 mils.
      b) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
      c) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.

e. CB-4 Color Water Base Semi-Gloss Epoxy:
   1) Concrete Masonry Units: Minimum ODFT 11.6 MILS.
      a) 1st Coat W/B Epoxy Block FillerSPEEDHIDE 6-15 DFT 7.0 mils.
      b) 2nd Coat Epoxy Primer SEAL-GRIP 17-921 DFT 1.6 mils.
      c) 3rd Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.
      d) 4th Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.
   2) Concrete Surfaces: Minimum ODFT 4.6 MILS.
      a) 1st Coat Epoxy Primer SEAL-GRIP 17-921 DFT 1.6 mils.
      b) 2nd Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.
      c) 3rd Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.

f. CB-5 Clear High-Gloss Polyamide Epoxy Minimum ODFT 5.0 MILS.
   1) 1st Coat Epoxy Gloss Fin. MONOPOLE Permashield 200 DFT 2.5 mils.
   2) 2nd Coat Epoxy Gloss Fin. MONOPOLE Permashield 200 DFT 2.5 mils.

5. INTERIOR METALS
   a. PRIMER NOTE: Metals that are shop primed shall be considered “un-primed” and shall be primed with appropriate primer and thicknesses listed below:
      1) Ferrous Metal:
         a) DEVOE 4020 "Red" Multi-Purpose Metal Primer DFT 3.0 mils.
      2) Non-Ferrous Metal, Galvanized Metal or Aluminum:
         a) DEVOE 4020 "White" Multi-Purpose Metal Primer DFT 3.0 mils.
   b. COIL-COATED PRODUCTS NOTE: Metal products primed with coil-coated products are to be assumed to be “un-primed” products and shall be additionally coated (or primed again) as follows:
      1) Coil-Coated Products:
         a) Field apply manufacturer's recommended primer coat and mil thickness over entire surface compatible with substrate finish and finish coats indicated on paint schedule.
   c. M-1 Flat Latex Minimum ODFT 6.0 MILS.
      1) 1st Coat Primer See primer note above.
      2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
      3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
   d. M-2 Semi-Gloss "Ultra Color" Industrial Acrylic Minimum ODFT 7.0 MILS.
      1) 1st Coat Primer See primer note above.
      2) 2nd Coat Acrylic Semi-Gloss Finish DEVOE 4216 DFT 2.0 mils.

3) 3rd Coat Acrylic Semi-Gloss Finish DEVOE 4216 DFT 2.0 mils.

e. M-3 Gloss "Ultra Color" Waterborne Acrylic Minimum ODFT 7.0 MILS.
   1) 1st Coat Primer See primer note above.
   2) 2nd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.
   3) 3rd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.

f. M-4 Semi-Gloss Epoxy Polyamide Minimum ODFT 6.0 MILS.
   1) 1st Coat Satin Epoxy Primer PITT-GLAZE 90-712 DFT 3.0 mils.
   2) 2nd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 1.5 mils.
   3) 3rd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 1.5 mils.

g. M-5 Gloss Epoxy Polyamide Minimum ODFT 9.0 MILS.
   1) 1st Coat Satin Epoxy Primer PITT-GLAZE 90-712 DFT 3.0 mils.
   2) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 3.0 mils.
   3) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 3.0 mils.

h. M-5 Water Base S/G Epoxy (Corrosion Resistant) Minimum ODFT 7.6 MILS.
   1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
   2) 2nd Coat WB Epoxy S/G Fin. PITT-GLAZE 16-510 DFT 3.0 mils.
   3) 3rd Coat WB Epoxy S/G Fin. PITT-GLAZE 16-510 DFT 3.0 mils.

i. M-6 Flat Waterborne Paint Minimum ODFT 3.0 MILS.
   1) 1st Coat Waterborne Flat Dry Fall Prime GP 1280 DFT 1.5 mils.
   2) 2nd Coat Waterborne Flat Dry Fall Finish GP 1280 DFT 1.5 mils.

j. M-7 Semi-Gloss Waterborne Paint Minimum ODFT 3.0 MILS.
   1) 1st Coat Waterborne Semi-Gloss Dry Fall Primer GP 1486 DFT 1.5 mils.
   2) 2nd Coat Waterborne Semi-Gloss Dry Fall Finish GP 1486 DFT 1.5 mils.

6. INTERIOR ACOUSTICAL TILE
   a. A-1 Matte Flat Vinyl Acrylic Minimum ODFT 1.2 MILS.
      1) 1st Coat Vinyl Acrylic Matte Flat Fin. GP 1251 DFT 1.2 mils.

F. EXTERIOR PAINT FINISHES
1. EXTERIOR WOOD
   a. EW-1 Flat 100 percent Acrylic Minimum ODFT 4.5 MILS.
      1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
      2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
      3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
   b. EW-2 Semi-Gloss percent Acrylic Minimum ODFT 4.5 MILS.
      1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
      2) 2nd Coat 100 percent Acrylic Semi-Gloss GP 2406V DFT 1.5 mils.
      3) 3rd Coat 100 percent Acrylic Semi-Gloss GP 2406V DFT 1.5 mils.
   c. EW-3 100 percent Acrylic Resin (A/R) Stain Minimum ODFT 3.0 MILS.
      1) 1st Coat 100 percent A/R Stain Coat FLOOD SWF DFT 1.5 mils.
      2) 2nd Coat 100 percent A/R Stain Coat FLOOD SWF DFT 1.5 mils.
2. EXTERIOR SOFFIT BOARD
   a. ESB-1 Lo-Sheen 100 percent Acrylic Resin (A/R)-Heavy StippleMinimum ODFT 19.0 MILS.
      1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
      2) 2nd Coat* 100 percent A/R Heavy Stipple GP 2290 DFT 15.0 mils.
      3) 3rd Coat: 100 percent A/R Lo Sheen GP 2402V DFT 1.5 mils.
      4) *Note: 2nd Coat to have medium size aggregate added to achieve heavy stipple texture.
3. EXTERIOR CEMENT PLASTER
   a. EP-1 Flat 100 percent Acrylic Minimum ODFT 4.5 MILS.

1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.

b. EP-2 Semi-Gloss 100 percent Acrylic Minimum ODFT 9.5 MILS.
1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
2) 2nd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 4.0 mils.
3) 3rd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 4.0 mils.

c. EP-3 Gloss Acrylic Minimum ODFT 9.5 MILS.
1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
2) 2nd Coat Gloss Acrylic Finish DEVOE 4208 DFT 4.0 mils.
3) 3rd Coat Gloss Acrylic Finish DEVOE 4208 DFT 4.0 mils.

d. EP-4 Smooth Elastomeric, Lo Sheen Acrylic/Resin (A/R) - Minimum ODFT 18 MILS.
1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
2) 2nd Coat Smooth Elastomeric Finish GP 2260 DFT 15.0 mils.
a) Spray and Backroll
3) 3rd Coat 100 percent Acrylic Resin Satin Finish GP 2402V DFT 1.5 mils.

e. EP-5 Sand Float Elastomeric, S/G Acrylic/Resin (A/R) - Minimum ODFT 18 MILS.
1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
2) 2nd Coat Sand Float Elastomeric Finish GP 2270 DFT 15.0 mils.
a) Spray and Backroll
3) 3rd Coat 100 percent Acrylic S/G Finish GP 2406 DFT 1.5 mils.

f. EP-6 Coarse Elastomeric, S/G Acrylic/Resin (A/R) Minimum ODFT 18.0 MILS.
1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
2) 2nd Coat Elastomeric Finish GP 2290 DFT 15.0 mils.
a) Spray and Backroll
3) 3rd Coat 100 percent Acrylic S/G Finish GP 2406V DFT 1.5 mils.

4. EXTERIOR CONCRETE OR CONCRETE MASONRY UNITS:

a. ECB-1 Clear Water Repellent Sealer:
1) One Coat Alkyltrialkoxy Silane:
a) EVONIK DEGUSSA "Aqua-Trete® CONCENTRATE"
2) Provide manufacturer's 10 year warranty for Concrete Masonry Units and Split Faced Concrete Masonry Units.

b. ECB-2 Flat 100 percent Acrylic Minimum ODFT 9.5 MILS.
1) 1st Coat Acrylic Block Filler GP 3010 DFT 6.5 mils.
a) Omit at concrete surfaces
2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.

c. ECB-3 Flat 100 percent Acrylic Minimum ODFT 4.5 MILS.
1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.

5. EXTERIOR METAL

a. PRIMER NOTE: Metals shop primed shall be considered “un-primed” and shall be primed with appropriate primer and thicknesses listed below:
1) Ferrous Metal, Type 1 Typical:
a) DEVOE 4020 "Red" Multi-Purpose Metal primer DFT 3.0 mils.

2) Ferrous Metal, Type 2 as specified in Specification Section – STEEL AND FABRICATIONS:
   a) DIMETCOAT 302H Reinforced Inorganic Zinc-Rich Urethane Metal Primer DFT 3.0 mils.
3) Ferrous Metal, Type 3 when Urethane is used as a finish.
   a) AMERLOCK 2VOC/400 VOC Epoxy Metal Primer DFT 6.0 mils.
4) Non-Ferrous Metal, Type 4 Galvanized Metal or Aluminum
   a) DEVOE 4020 "White" Multi- Purpose Metal Primer DFT 3.0 mils.
5) Non-Ferrous Metal, Type 5 Galvanized Metal or Aluminum, when Urethane is used as a finish.
   a) AMERLOCK 2VOC/400 VOC Epoxy Metal Primer DFT 6.0 mils.

b. COIL-COATED PRODUCTS NOTE: Metal products primed with coil-coated products are to be assumed to be unprimed products and shall be re-primed as follows:
1) Coil-Coated Products:
   a) Field apply manufacturer's recommended primer coat and mil thickness over entire surface compatible with substrate finish and finish coats indicated on paint schedule.

c. EM-1 Flat 100 percent Acrylic Minimum ODFT 6.0 MILS.
1) 1st Coat Primer See primer note above.
2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.

d. EM-2 Semi-Gloss "Ultra Color" 100 percent Acrylic Minimum ODFT 7.0 MILS.
1) 1st Coat Primer See primer note above.
2) 2nd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 2.0 mils.
3) 3rd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 2.0 mils.

e. EM-3 Gloss "Ultra Color" 100 percent Acrylic WaterborneMinimum ODFT 7.0 MILS.
1) 1st Coat Primer See primer note above.
2) 2nd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.
3) 3rd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.

f. EM-4 Gloss "Ultra Color" Aliphatic Acrylic Urethane (A/A/U) Finish, Spray Applied, Deep Tone, Custom Color Minimum ODFT 18.0 MILS.
1) 1st Coat Primer AMERLOCK 2VOC/400 VOC Epoxy Metal Primer DFT 6.0 mils.
2) 2nd Coat A/A/U Gloss Color Finish AMERSHIELD VOC DFT 4.0 mils.
3) 3rd Coat A/A/U Gloss Color Finish AMERSHIELD VOC DFT 4.0 mils.
4) 3rd Coat A/A/U Gloss Color Finish AMERSHIELD VOC DFT 4.0 mils.

g. EM-5 Satin "Ultra Color" Aliphatic High Solids Finish, Spray Applied, Deep Tone, Custom Color Minimum ODFT 14.0 MILS. (Used on ORNAMENTAL IRON)
1) 1st Coat AMERLOCK SEALER DFT 2.0 mils.
2) 2nd Coat A/A/U Satin Color Finish PSX 805 4.0 mils.
3) 3rd Coat A/A/U Satin Color Finish PSX 805 4.0 mils.
4) 4th Coat A/A/U Satin Clear Finish PSX 805 4.0 mils.
5) 5th Coat A/A/U Gloss Clear Finish PSX 805 4.0 mils.

h. EM-6 Semi-Gloss "Ultra Color" Aliphatic Urethane (A/U) Finish, Spray Applied,

Deep Tone, Custom Color Finish Minimum ODFT 16.0 MILS.

1) 1st Coat Primer See primer note above.
2) 2nd Coat A/A/U Semi-Gloss AMERCOAT 450HSG A/U DFT 5.0 mils.
3) 3rd Coat A/A/U Semi-Gloss AMERCOAT 450HSG A/U DFT 5.0 mils.

G. SPECIALTY PAINT FINISHES:

1. PROVIDE SPECIALTY PAINT FINISHES AS SHOWN OR AS FOLLOWS:
   a. Finish No. X-1: Minimum ODFT 15.0 MILS.
      1) Lines on Concrete or Asphaltic Concrete Paving Exit and Entrance Signs - 10" width lines, maximum. Reflectorize as required:
      2) Traffic Paint ENNIS-FLINTTraffic Paint DFT 15.0 mils.
   b. Finish No. X-2: Minimum ODFT 15.0 MILS.
      1) Lines on Walk Top. Colors as selected by Architect:
      2) Line Paint ENNIS-FLINT Traffic Paint DFT 15.0 mils.
   c. Finish No. X-3: Minimum ODFT 1.5 MILS.
      1) Space above Vents or Grilles:
      2) 1st Coat 100 percent Acrylic Flat Black GP 2200V DFT 1.5 mils.
   d. Finish No. X-4: Minimum ODFT 4.0 MILS.
      1) Piping Black Steel or Cast Iron:
      2) 1st Coat Multi-Purpose Metal Primer:
         a) DEVOE 4020 "Red" DFT 2.0 mils.
      3) 2nd Coat Acrylic Gloss Finish GP 2406V DFT 2.0 mils.
   e. Finish No. X-5: Minimum ODFT 5.0 MILS.
      1) Piping Galvanized:
      2) 1st Coat General Purpose Metal Primer:
         a) DEVOE 4020 "White" DFT 3.0 mils.
      3) 2nd Coat Gloss Enamel Finish:
         a) DEVOE 4208 DFT 2.0 mils.
   f. Finish No. X-6: Minimum ODFT 7.0 MILS.
      1) Machinery and Equipment (Coil Coated Products):
      2) 1st Coat General Purpose Metal Primer:
         a) DEVOE 4020 "White" DFT 3.0 mils.
      3) 2nd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
      4) 3rd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
   g. Finish No. X-7: Minimum ODFT 5.0 MILS.
      1) Sheet Metal Ducts:
      2) 1st Coat General Purpose Metal Primer:
         a) DEVOE 4020 "White" DFT 3.0 mils.
      3) 2nd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
   h. Finish No. X-8: Minimum ODFT 5.0 MILS.
      1) Fire Hydrants:
      2) 1st Coat General Purpose Metal Primer
         a) DEVOE 4020 "White" DFT 3.0 mils.
      3) 2nd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
   i. Finish No. X-9: Minimum ODFT 6.0 MILS.
      1) Following items listed will receive Finish No. X-9 (including, but not limited to), Louvers, Grilles, or Access Panels:
      2) 1st Coat General Purpose Metal Primer:
         a) DEVOE 4020 "White" DFT 2.0 mils.
      3) 2nd Coat 100 percent Acrylic Flat Fin. GP 2200V DFT 1.5 mils.

4) 3rd Coat 100 percent Acrylic Flat Fin. GP 2200V DFT 1.5 mils.

j. Finish No. X-10: Minimum ODFT 1.5 MILS.
   1) Striping under Acoustical Board Surrounding Structure:
   2) 1st Coat 100 percent Acrylic Flat Black GP 2200V DFT 1.5 mils.

k. Finish No. X-11: Minimum ODFT 1.5 MILS.
   1) Acoustical Board and Exposed Striping and Structural:
   2) 1st Coat 100 percent Acrylic Flat Black GP 2200V DFT 1.5 mils.

l. Finish No. X-12:
   1) Minimum ODFT as recommended by graffiti coating manufacturer.
   2) Graffiti Coating, non-toxic, liquid, sacrificial wax-based Coating:
   3) 1st Coat Graffiti Coating:
      a) Graffiti-Pruf by VISUAL POLUTION TECH, INC.
   4) 2nd Coat Graffiti Coating:
      a) Only if recommended by manufacturer for substrate material type.
      b) Graffiti-Pruf by VISUAL POLUTION TECH, INC.

m. Finish No. X-13 (NOT APPLICABLE ANYMORE):

n. Finish No. X-14 (NOT APPLICABLE ANYMORE):

o. Finish No. X-15:
   1) Clear Graffiti Coating, non-toxic, liquid, multi-polymer, non-sacrificial, single component sealer by BASF, or approved equivalent: One Coat
      a) **NOTE #1:** Test a small area of the existing substrate in an out-of-the-way spot, as determined by the Architect, for compatibility. Inform the Architect if an incompatibility is found for further direction. If found to be compatible, proceed as follows:
   2) 1st Coat Clear, flat matte coat TAGGUARD by BASF
      a) **NOTE #2**: Follow manufacturer's recommendations for proper installation over various substrates. Applicator must be certified by the manufacturer as an approved applicator for this product over various substrate materials. Protect at least 24 hours minimum the treated surface until manufacturer's recommended curing time has been achieved against graffiti.
   3) REMOVAL COAT: TAGGUARD Cleaner
      a) **NOTE #3:** Provide remover in small containers equal to 8-16 oz. containers of material for the Owner's use. Instruct the designated representative of the Owner as to proper application of the remover, and all procedures for removing graffiti.

p. Finish No. X-16: Non-sacraficial, aqueous, silane chemistry, ready-to-use, zero VOC high performance anti-graffiti treatment for masonry, concrete and natural stone, dries clear and will not yellow.
   1) Follow manufacturer's printed recommendations prior to use.
   2) Do not apply to wet surfaces. If surface is wet, let dry for a minimu of 24 hours prior to application. Do not use if temperature is below 40 degrees F or above 100 degrees F.
   3) Protect non-porous surface substrates from overspray. Always do a test patch to confirm the treatment before using to deterimine if there is any problems prior to full coverage of the porous surfaces.
   4) Concrete shall be allowed to cure a minimum of 28 days. All pointing or re-pointing shall be completed and allowed to cure for at least 3 days prior to coverage. All patching materials, caulking, sealing materials and traffic paint shall be fully cured before application.
   5) 1st Coat Clear, flat matte coat PROTECTOSIL ANTIGRAFFITI

a) 175 to 250 sq. ft. per gallon, diluted by 14 parts of water, using a 1" nap roller.

6) 2nd Coat Clear, flat matte coat PROTECTOSIL ANTIGRAFFITI
   a) 175 to 250 sq. ft. per gallon, un-diluted, using a 1" nap roller.

7) 3rd Coat Clear, flat matte coat PROTECTOSIL ANTIGRAFFITI
   a) 175 to 250 sq. ft. per gallon, un-diluted, using a 1" nap roller.
   b) 3rd Coat shall always be figured in as part of the Base Bid. 3rd Coat may be deleted if it is determined by all concerned that the two coats were sufficient to protect the surfaces. If not needed, then figure on a credit back to the Owner.

8) Most graffiti removal can be achieved with standard non-hazardous cleaners and low-pressure waterblasting. Contact manufacturer for stubborn markings for removal.

q. Finish No. X-17: Non-sacraficial, 100 percent active silane treatment with oleophobic additive, clear penetrating breathable VOC Compliant (400 g/L) surface treatment for use on concrete, brick masonry, concrete masonry units and natural stone.

1) For flat (horizontal) concrete walks.
   a) Manufacturer's printed recommendations for rate of coverage, and type of application method to protect porous surfaces from graffiti and for ease of walk-way clean-up.
   b) Follow manufacturer's printed recommendations prior to use.
   c) Do not apply to wet surfaces. If surface is wet, let dry for a minimu of 24 hours prior to application. Do not use if temperature is below 40 degrees F or above 100 degrees F.
   d) Protect non-porous surface substrates from overspray. Always do a test patch to confirm the treatment before using to deterimine if there is any problems prior to full coverage of the porous surfaces.
   e) Concrete surfaces shall be allowed to cure a minimum of 28 days. All pointing or re-pointing shall be completed and allowed to cure for at least 3 days prior to coverage. All patching materials, caulking, sealing materials and paint shall be fully cured before application.

2) 1st Coat Clear, flat matte coat PROTECTOSIL BHN PLUS

r. Finish No. X-18: Non-sacraficial, Graffiti Coating, non-toxic, liquid, semi-permanent, acrylic based Coating - Minimum ODFT as recommended by graffiti coating manufacturer.

1) For application on sealed surface, including but not limited to CMU scheduled to be sealed, verify compatibility with sealer manufacturer prior to application of Sealer.
   a) Only if recommended by manufacturer for substrate material type.
   b) For application on natural porous surface, thin first coat with 40 percent water. All other coats shall be full strength.

2) 1st Coat Graffiti Coating TSW4
3) 2nd Coat Graffiti Coating TSW4
4) 3rd Coat Graffiti Coating TSW4
5) 4th Coat Graffiti Coating TSW4
6) Provide Manufacturer's recommended TSW2G Graffiti Removal Kit.

s. Finish No. X-19: Finish for Natural-Appearing Steel.

1) Cleaner Acetone Cleaner
   a) 1st Coat Clear Matte Finish Lacquer.

2) "Permalac EF" Finish Mil thickness per manufacturer's

recommendations.

a) 2nd Coat Clear Matte Finish Lacquer.

3) "Permalac EF" Finish Mil thickness per manufacturer's recommendations.

t. Finish No. X-20 Intumescent Paint - Minimum ODFT per fire rating required.

1) Primer Per manufacturer's Written Recommendations ODFT as required.

2) 1sr Coat Water Based Polymer ISOLATEK INTERNATIONAL "CAFCO Spray Film WB3".

3) 2nd Coat As required if needed - no greater than 62 mils per coat.

4) 3rd Coat As required if needed - no greater than 62 mils per coat.

5) Finish Coat GP Premium Exterior Latex Semi-Gloss GL68XX in thickness as recommended by manufacturer, and in color as selected by the Architect.

END OF SECTION

SECTION 100500 – MISCELLANEOUS SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provision for and installation of specialty and built-in items required for this Work as indicated on the Drawings.

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. 03 30 00 CAST-IN-PLACE CONCRETE
   4. 04 22 00 CONCRETE MASONRY UNITS
   5. 05 12 00 STEEL AND FABRICATIONS
   6. 05 30 00 METAL DECK
   7. 06 10 00 ROUGH CARPENTRY
   8. 06 22 00 MILLWORK
   9. 06 41 23 MODULAR CASEWORK
   10. 06 61 16 SOLID SURFACING
   11. 07 60 00 SHEET METAL
   12. 08 11 10 METAL DOORS AND FRAMES
   13. 08 34 73 ACOUSTICAL DOORS AND FRAMES
   14. 08 56 59 SERVICE WINDOWS
   15. 08 70 00 HARDWARE
   16. 08 80 00 GLASS
   17. 09 11 00 METAL FRAMING
   18. 09 24 00 CEMENT PLASTER
   19. 09 26 13 VENEER PLASTER
   20. 09 29 00 GYPSUM BOARD
   21. 09 50 00 ACOUSTICAL CEILINGS
   22. 09 65 10 RESILIENT BASE AND ACCESSORIES
   23. 09 65 16 RESILIENT SHEET
   24. 09 65 19 RESILIENT TILE
   25. 09 72 00 WALL COVERINGS
   26. 09 91 00 PAINTING
   27. 10 25 00 SERVICE WALLS
   28. 10 26 00 WALL AND CORNER GUARDS
   29. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   30. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SYSTEM DESCRIPTION

A. Performance Requirements: It is the intention of this section and the drawings to form a guide for a complete and operable system of all products or systems listed within this specification section. Any items not specifically noted but necessary for a complete and operable product or

system shall be provided under this section.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Shop Drawings:
      a. Submit Shop Drawings and catalog cuts to the architect showing all details of installation and assembly and all requirements for work by other trades.
   2. Product Data:
      a. Submit manufacturer's full color range (including any standard, premium and custom colors) for selection by the Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Storage and protection:
   1. Use all means necessary to protect all specialty items before, during and after installation and to protect the installed work and materials of all other trades.

B. Replacements:
   1. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

1.5 PROJECT CONDITIONS

A. Existing Conditions:
   1. Surface Conditions:
      a. Coordination: Coordinate with all other trades as required to ensure proper and adequate provision in framing and wall finish for the installation of the selected specialties in the locations required.
   2. Inspection:
      a. Prior to Installation, inspect all specific locations and verify that all necessary provisions have been made.
      b. In the event of discrepancy, immediately notify the Architect.
      c. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

1.6 WARRANTY

A. Contractor's General Warranty:
   1. In accordance with Specification Section - WARRANTIES.

B. Manufacturers Warranty:
   1. In accordance with manufacturer's written standard warranty:
      a. Warranty Period One (1) Year.

C. Installer's Warranty:
   1. In accordance with the terms of the Specification Section - WARRANTIES:

a. Warranty period One (1) Year.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install all specialty items where indicated on the Drawings and in full accordance with all pertinent regulations and the manufacturer's written recommendations, anchoring all components firmly in place for long life under hard use, and in accordance with IR (Interpretation of Regulations, “Division of the State Architect)Manual.

3.2 ADJUSTING

A. Upon completion of the installation, and as a condition of its acceptance, visually inspect the entire work of this Section, adjust all components for proper alignment and use, and touch up all abrasions and scratches to make them completely invisible.

3.3 SCHEDULES

A. All items shall be as scheduled or approved equivalent items as set forth in the Substitution Section of these specifications, and all provisions of Division 01, and the General Conditions.

B. Appliances:
1. See Specification Section - OWNER FURNISHED ITEMS.

C. Rainscreen Panel:
1. Trex Transcend horizontal cladding for rainscreens.
2. Board Dimensions: 0.94" x 5.5".
3. Board Length: 20-feet.
4. Color: To be selected with sample submittal.
5. Fastener: Starborn Industries Cap-Tor xd 316 stainless steel with Pro Plug System in matching color.

D. Ground Mounted Drinking Fountain:
1. HAWS 3300
   a. Color: Silver
   b. Hi-Lo, barrier-free pedestal drinking fountain shall include an 11-gauge galvanized substrate steel pedestal with powder-coating, polished stainless steel basins, push-button operated stainless steel valves with front-accessible cartridge and flow adjustment, polished chrome-plated brass bubbler heads with patented contaminate protective pop-up canopy backed against pedestal guards, polished chrome-plated vandal-resistant access plates, integral mounting feet, and 1-1/2 slip waste
   c. Plumbing Accessories
      1) 1-1/2 inch • waste, with a clean-out.

2) Locate a hose bib near each site drinking fountain, used to flush clogged filters
3) Provide a shutoff valve between 10-feet to 15-feet away from fountain, with exposed screw-stop ball valve with loose key

d. Pipe Rails for access protection
1) Creative Pipe Inc, Inverted U Bike Rack Inverted U Bike Racks
2) Model WU15-F-P-CB: 30" wide x 36" tall, with 6" bend radius,
3) Provide cross bar rail at 12" above grade
4) Finish: Hot dipped galvanized finish

E. Dimensional Letters:
1. "Letters":
a. Provide and install, where shown on the drawings, Dimensional Letters as manufactured by SPANJER SIGN COMPANY, INC., or approved equivalent.
1) Dimensional Letters shall be fabricated from #304 Stainless Steel with 18-gage "Cut and Fabricated" letters and 22-gage backer plate.
2) Letter style shall be a "Cut and Fabricated" height as indicated on drawings by 1" thick Levenim MT
3) Letters shall have straight edges and buckle free faces.
4) Dimensional Letters shall have #4 Satin Stainless Steel finish, unless otherwise noted.
b. Letters shall be mounted with stud and spacer for 1/2" clearance.
c. Coordinate solid wood backing at location receiving Dimensional Letters.
1) Submit a sample Dimensional Letter and mounting device in the finish selected. Approval by the Architect is required prior to fabrication and installation of all other letters. Sample, upon approval of the Architect, may be incorporated into the work.

F. Elevator Shaft Vent:
1. Unless otherwise indicated, provide one vent per elevator shaft.
2. Provide extruded aluminum penthouse Model #480XP, 24" high x 48" x 48", and have a free area in sq. ft. of 3.658, as manufactured by INDUSTRIAL LOUVERS, INC. Frames and blades shall be ILI Model #455XP storm-resistant design 0.081" extruded aluminum 6063 alloy. Corners shall be mitered and welded on all four sides. The roof shall be 0.080" aluminum sheet and be mounted on rafters made of 2" x 2" x 1/4" aluminum angles spaced 24"o.c. The roof shall be mechanically fastened for easy access to the interior. The underside of the roof shall be covered with a sound-absorbing material.
3. Louvers shall bear the AMCA Certified Ratings Seal for both air performance and water penetration. The rating shall show a maximum water penetration of 0.01 oz. At an air flow of 678 FPM. Static Pressure Loss shall be no more than 0.15 inch of water gage at an air flow of 910 FPM free air velocity.
4. Provide manufacturer's standard KYNAR 2-coat finish conforming to AAMA 605 in a standard color as selected by the Architect. Minimum dry film thickness shall be 1.2 mil.

G. Ground Mounted Drinking Fountain
1. HAWS 3300
a. Color: Silver
b. Hi-Lo, barrier-free pedestal drinking fountain shall include an 11-gage galvanized substrate steel pedestal with powder-coating, polished stainless steel basins, push-button operated stainless steel valves with front-accessible cartridge and flow

adjustment, polished chrome-plated brass bubbler heads with patented contaminate protective pop-up canopy backed against pedestal guards, polished chrome-plated vandal-resistant access plates, integral mounting feet, and 1-1/2 slip waste

c. Plumbing Accessories
   1) 1 ½•waste, with a clean-out.
   2) Locate a hose bib near each site drinking fountain, used to flush clogged filters
   3) Provide a shutoff valve between 10-feet to 15-feet away from fountain, with exposed screw-stop ball valve with loose key

d. Pipe Rails for access protection
   1) Creative Pipe Inc, Inverted U Bike Rack.
   2) Model WU15-F-P-CB: 30" wide x 36" tall, with 6" bend radius,
   3) Provide cross bar rail at 12" above grade
   4) Finish: Hot dipped galvanized finish

H. Lock Box: Provide Rapid Entry System Recessed Lock Box as manufactured by KNOX CO. Model #3200-R, Heavy-Duty, Medium Capacity, holds 10 keys maximum, 4" W x 5" H x 3-1/4" D.

I. "Unistrut" Support System:
1. UNISTRUT CHANNEL SYSTEM - The metal framing shall be by UNISTRUT CORPORATION or approved equivalent. Provide Model #P 5500 (and #P 3300SL - Stainless Steel) channels or as noted on the Drawings. Channels shall be 1-5/8" wide with 7/8" continuous slot opening and with in-turned edges to engage spring mounted gripping nuts. Nuts shall be made of hardened steel with serrated grooves to prevent longitudinal movement. Fittings shall be accurately formed from 1/4" thick steel. Channels and fittings shall be cleaned, phosphated and coated with a rust inhibiting custom color enamel paint. Hardware shall be zinc plated in accordance with ASTM B 633 “Specification for Electrodeposited Coatings of Zinc on Iron and Steel”, Type SC-1.
2. Materials used in the manufacture of framing components shall be in accordance with the following:
   a. Channel Members in accordance with ASTM A 1011 “Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength”, SS Grade 33.
   b. Fittings in accordance with ASTM A 575 “Specification for Steel Bars, Carbon, Merchant Quality, M-Grades”.
   c. Fitting Steel conforms to ASTM A 1011 “Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength”, SS Grade 33.
   d. Channel Nuts in accordance with ASTM A 675 “Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties• ,Grade 60.
   e. Bolts in accordance with ASTM A 1011 “Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength”, SS Grade 33.
   f. Screws, SAE J429 Grade 2, and ASTM A 307 “Specification for Carbon Steel Bolts and Standards, 60,000 PSI Tensile Strength”.
3. All Nuts and Bolts 1/2 inch in diameter and greater shall be torqued to a minimum of 50 ft-lbs each.

J. Custom Graphic:

1. Provide Die-Cut 3M High Performance Vinyl applied to painted interior wall.
   a. Refer to ID-Sheets.
   b. CAD drawings available upon request.

END OF SECTION