

PROJECT MANUAL

**General Contractor - Exterior Painting
and Minor Repair**

for

**JERSEY
ELEMENTARY SCHOOL**

for

LITTLE LAKE CITY SCHOOL DISTRICT

10515 South Pioneer Boulevard
Santa Fe Springs, California 90670

April 2022

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SECTION 01010
SUMMARY OF WORK

PART - GENERAL

1.01 DESCRIPTION: This section includes general requirements applicable to the entire work.

A. Work in this Section: Principal items include:

1. Project description.
2. Type of contract.
3. District's right to do work separately.
4. Contractor's use of premises.
5. Existing utility services.
6. Removal of hazardous materials.
7. Compliance with regulations.
8. Certificates required.
9. Tobacco, alcohol, narcotics restrictions.
10. Conduct of workers.

B. Secure and pay for as necessary for proper execution and completion of the work, all permits, government fees and licenses. The District has paid the general plan check fee.

C. Give required notices for testing and inspection 48 hours in advance.

D. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.

E. Enforce strict discipline and good order among employees. Do not employ persons unfit for assigned work.

1.02 PROJECT DESCRIPTION:

- a. Paint or seal coat all exterior finishes on walls, door & door frames, window frames, flashing, fascias, gutters, etc.
- b. Repair replace damaged fascias, flashing, on underside of overhangs or covered walkways.
- c. Replace roof vents at underside of overhangs.
- d. Install gutters and reroute downspouts.
- e. Replace signage
- f. Replace damaged wood louvers.
- g. All other items as described in the construction documents.

1.03 CONTRACT: Perform work under a lease/lease back sum contract (refer to General Conditions for additional information).

1.04 DESIGN INTENT: The intent of the drawings and specifications is that the work of construction is to be in accordance with the 2019 California Building Code. If any existing conditions, such as deterioration or non-complying construction, be discovered which is

not covered by the contract documents, wherein the finished work will not comply with the 2019 California Building Code, a Construction Change Directive or a separate set of plans and specifications detailing and specifying the required work shall be submitted to the school district before proceeding with the work.

1.05 GENERAL INSTALLATION REQUIREMENTS:

- A. **Manufacturer's Recommendations:** Unless otherwise specified to the contrary, all materials and equipment provided for the project shall be installed in accordance with product manufacturer's instructions and recommendations. Furnish manufacturer's instructions and recommendations to Architect, whether or not specifically required under respective sections.

1.06 WORK BY OTHERS:

- A. The District reserves the right to let other contracts in accordance with the General Conditions of the Contract.
- B. The Contractor shall coordinate and cooperate with other contractors, and shall execute the work of this contract in a timely manner so as to cause no delay in the work of other contracts. Where excavations and installations to be performed and provided under this contract are in common, or conjunction or connection with the work of another contract, the Contractor shall afford such other contractors ample opportunity to execute their work, shall perform such partial backfilling and other operations as are necessary therefore, and shall not complete backfilling operations nor enclose or cover the work of other contractors until such work has been inspected, tested as required, and such backfilling, covering, or enclosing is approved.
- C. The operations of other contractors on adjacent projects may interfere with and cause some delay to the work of this contract. If Contractor is delayed by contractors on adjacent projects, or by the act of negligence of the District or the Architect, the Contractor's sole remedy shall be an extension of the time as determined by the Architect in accordance with the General Conditions. Disagreements between the Contractor and other contractors about concurrent use of work areas or access to the site which are not resolved by the participants shall be referred to the Architect and the Contractor agrees to abide by the Architect's determination as to concurrent use or priority of access, and to perform its work in compliance with the Architect's resolution at no additional cost to the District. In no event shall the Contractor be entitled to a monetary payment from District for any damages, for increased salaries, increased cost of materials and equipment, loss of anticipated profits, or increased overhead or indirect costs, caused by such delays.
- D. As required for the work of other contracts, and when as directed by the Architect, the Contractor shall relocate storage areas and roads constructed by him, and shall make such other provisions as are necessary to furnish access to the site to other contractors for the execution of their work, at no additional cost to the District. Conversely, such other contractors are required to relocate their storage areas and roads, and make such other provisions as are necessary for Contractor to perform

and provide the work of this contract in accordance with the coordinated and approved progress schedules and construction planning schedules and networks of the various contractors, all at no additional cost to the District.

1.07 CONTRACTOR USE OF PREMISES

- A. Do not unreasonably encumber site with materials or equipment.
- B. Assume all responsibility for protection and safekeeping of products stored on premises.
- C. Move all stored products which interfere with operations of District or other contractors.
- D. Obtain and pay for use of additional storage, work areas, or parking required for operations of Contractor's employees.
- E. Use of Site:
 - 1. Allow District access to maintain and operate other existing facilities.
 - 2. Permit unimpeded access by fire fighting or rescue equipment.
 - 3. Access to and egress from construction site shall be in strict conformance to prearranged routes approved by the District, with the understanding that curtailment of traffic or revision of access routes may be required on short notice if the District's operations mandate such changes because of excessive noise, or problems with safety, service or supply.
- F. Contractor shall assure that all persons working on the site use only non-permanent markers, tapes and tags to indicate construction techniques and instructions, on construction in progress, and on existing construction. This includes markings on exterior and interior of building and on walks, curbs, walls and other site surfaces. Where work is damaged or defaced by use of permanent marking devices, such work will be subject to cleaning, repair or replacement, as the Architect may require.

1.08 COMPLIANCE WITH REGULATIONS: All materials shall comply with the current rules and regulations of the local air quality management district, with the rules regarding volatile organic compounds, and with FDA rules and regulations for dangerous materials in construction materials.

1.09 CERTIFICATES REQUIRED: At time of final application for payment, Contractor shall submit the following certificates:

- A. PCB's and Asbestos: Provide certificate attesting that PCB's or asbestos containing materials have not been used in this project.
- B. Volatile Organic Compounds: Provide certificate attesting that all materials containing volatile organic components are in strict compliance with all VOC requirements and regulations of EPA, OSHA and SCAQMD.

C. Hazardous waste: Provide certificate attesting that all hazardous waste, trash, debris, etc., have been disposed of in a manner which is in strict compliance with current regulations of EPA, state, county, city and local districts and authorities.

1.10 TOBACCO/ALCOHOL/NARCOTICS: The project site is a nonsmoking environment, and smoking will not be permitted anywhere on the premises. In addition, the use of alcoholic beverages and nonprescription narcotics is strictly prohibited by Contractor. Contractor shall rigidly enforce these regulations among his employees and visitors. Violators will be subject to prosecution. Contractor shall submit at the pre-construction meeting a signed "code of work ethics" to be implemented and proactively enforced by the Contractor throughout the project.

1.11 CONDUCT OF WORKERS:

A. Contractor shall enforce good conduct among his employees. Physical violence, coercion, intimidation, physical or verbal sexual overtures, and hostile and abusive language will not be tolerated at any, towards other employees of the Contractor, or towards District's personnel and students. Persons found to engage in any of these practices will be discharged from the campus, and if the abuse is severe, the District may elect to terminate the contract with the Contractor.

B. Dress: Shirts and shoes shall be worn by all persons on the site at all times.

C. Theft: If any person working on the contract should engage in theft of money, property, supplies, equipment, food or any other item, whether from the District's personnel, students, facilities, employees, visitors or from another of the Contractor's personnel or subcontractors, they will be immediately dismissed from the site.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

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SECTION 01048

CONTRACTOR'S REQUESTS FOR INFORMATION

PART 1 - GENERAL

1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section. This Section covers the general requirements for Contractor's Requests for Information and pertains to all portions of the contract documents.

A. Related work specified elsewhere:

Plot

2. Submittals
3. Substitutions

1.02 DEFINITION:

- ##### A. Request for Information:
- A document submitted by the Contractor requesting clarification of a portion of the contract documents, hereinafter referred to as RFI.

1.03 CONTRACTOR'S REQUESTS FOR INFORMATION:

- ##### A.
- When the Contractor is unable to determine from the contract documents, the exact material, process or system to be installed, the Architect shall be requested to make a clarification of the indeterminate item. Wherever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the meeting is not possible, either because of the urgency of the need or the complexity of the item, Contractor shall prepare and submit an RFI to the Architect.
- ##### B.
- Contractor shall endeavor to keep the number of RFI's to a minimum. In the event that the process becomes unwieldy in the opinion of the Architect because of the number and frequency of RFI's submitted, the Architect may require the Contractor to abandon the process and submit all requests as either submittals, substitutions or requests for change.
- ##### C.
- RFI's shall be submitted on a form provided by or approved by the Architect. Forms shall be completely filled in and if prepared by hand, shall be fully legible after copying by xerographic process. Each page of attachments to RFI's shall bear the RFI number in the upper right corner.
- ##### D.
- RFI's from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the Architect.
- ##### E.
- Contractor shall carefully study the contract documents to assure that the requested information is not available therein. RFI's which request information available in the contract documents will not be answered by the Architect.
- ##### F.
- In all cases where RFI's are issued to request clarification of coordination issues for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically and similar items, the Contractor shall fully lay out a suggested solution

using drawings or sketches drawn to scale, and submit same with the RFI. RFI's which fail to include a suggested solution will not be answered.

G. RFI's shall not be used for the following purposes:

1. To request approval of submittals.
2. To request approval of substitutions.
3. To request changes which entail additional cost or credit.
4. To request different methods of performing work than those drawn and specified.

H. In the event the Contractor believes that a clarification by the Architect result in additional cost, Contractor shall not proceed with the work indicated by the RFI until a change order is prepared and approved. Answered RFI's shall not be construed as approval to perform extra work.

I. Unanswered RFI's will be returned with a stamp or notification: Not Reviewed.

J. Contractor shall prepare and maintain a log of RFI's and at any time requested by the Architect, and Owner. Contractor shall furnish copies of the log showing all outstanding RFI's. Contractor shall note all unanswered RFI's in the log.

K. Contractor shall allow for 7 days review and response time for RFI's.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

End of Section

REQUEST FOR INFORMATION

RFI No.: _____

Date: _____

Project

No.: 180104

Project Name: Exterior Painting for Jersey Elementary School DSA No.: _____

To: _____

From: _____

Refer to RFI procedures specified in Section 01048 – Contractor's Request for Information and the General Conditions. This RFI, when completed, is not authorization for change to the cost or duration of the project. Changes to cost and duration are authorized only by properly executed documents pursuant to the General Conditions.

Subject: _____

Inspector Review and Initial: _____ **Prior to Architect submittal**

Detail / Drawing Reference: _____

Specification Reference: _____

CONTRACTOR'S REQUEST FOR INFORMATION:

Contractor Requests Response by: _____

Architect response required within 7 calendar days.

ARCHITECT / ENGINEER RESPONSE:

Date of Receipt: _____

Architect / Engineer Signature:

By: _____

Date: _____

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SECTION 01060

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION: This Section covers the general requirements for regulatory requirements pertaining to the work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the contract documents.

1.02 REQUIREMENTS OF REGULATORY AGENCIES: All pertaining statutes, ordinances, laws, rules, codes, regulations, standards and the lawful orders of all public authorities having jurisdiction of the work are hereby incorporated into these contract documents the same as if repeated in full herein and such are intended where any reference is made in either the singular or plural to code or building code unless otherwise specified including, without limitation, those in the list below. Contractor shall make available at the site such copies of the listed documents applicable to the work as the Architect or Owner may request including mentioned portions of the California Building Code.

A. The list of applicable codes is shown on the drawings.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

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SECTION 01091

SOURCES FOR REFERENCED MATERIAL

PART 1 - GENERAL

1.01 DESCRIPTION:

All other sections of Division 1 apply to this Section. This Section covers the general information for obtaining referenced information, including standards, specifications, catalogs and other printed and electronic material pertaining to the work.

1.02 REFERENCE AND STANDARD SPECIFICATIONS:

- A. Specifying by reference to a reference and standard specification document or to another portion of the contract documents shall be the same as if the referenced document or portion of the contract documents referred to were exactly repeated at the place where such reference is made. In case of a conflict between the requirements of regulatory agencies and the referenced reference and standard specification documents, Contractor shall conform to the most restrictive requirement if such conformance is legal.
- B. Reference or standard specification documents shall be the current issues in effect on the date bids are received, unless otherwise specified or unless codes or statutes make reference to earlier editions. Contractor shall make available at the site such copies of reference or standard specification documents as Architect or Owner may request.

1.03 WEB SITES:

Because of the frequency of changes, web addresses are not given in the specifications. Contractor may contact specified manufacturers and trade associations by accessing 4specs.com (<http://www.4specs.com/>) and following the instructions for reaching the appropriate web site.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

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SECTION 01092

SPECIFICATION ABBREVIATIONS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers abbreviations for documents mentioned or referenced elsewhere in the contract documents, and language abbreviations used in the text of the Specifications. Abbreviations in drawings and specifications shall be interpreted according to recognized and well-known technical, industry or trade meanings.

1.02 ORGANIZATION NAME ABBREVIATIONS:

These abbreviations include but are not limited to the following:

AA	The Aluminum Association, Inc.
AABC	Associated Air Balance Council
AAIEE	American Institute of Electrical and Electronics Engineers
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Traffic Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGA	American Gas Association
AGC	Associated General Contractors
AHA	American Hardwood Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AMCA	Air Moving and Conditioning Association, Inc.
ANSI	American National Standards Institute
APA	APA – The Engineered Wood Association
ARI	Air Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineers
ASTM	ASTM International (formerly American Society for Testing and Materials)
ATBCB	Architectural & Transportation Barriers Compliance Board
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
CBM	Certified Ballast Manufacturers
CCR	California Code of Regulations
CFPA	Certified Forest Products Council
CFR	Code of Federal Regulations
CLFMI	Chain Link Fence Manufacturers Institute

CISPI	Cast-Iron Soil Pipe Institute
CRA	California Redwood Association
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard, US Department of Commerce
CSFM	California State Fire Marshal
CSI	Construction Specifications Institute
CTI	Cooling Tower Institute
CTIOA	Ceramic Tile Institute of America
DHI	Door and Hardware Institute
DOD	Department of Defense
DSA	Division of the State Architect, Office of Regulation Services
EIA	Electronic Industries Association
EPA	United States Environmental Protection Agency
ETL	Electrical Testing Laboratories
Fed Spec	Federal Specification or Standard
FIA	Factory Insurance Association
FM	Factory Mutual
FS	Federal Specifications
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
HMMA	Hollow Metal Manufacturers Association
HPVA	Hardwood Plywood & Veneer Association
IAMPO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IGMA	Insulating Glass Manufacturers Association
IPCEA	Insulated Power Cable Engineers Association
ISAT	International Seismic Application Technology
ISO	International Organization for Standardization
MFMA	Maple Flooring Manufacturers Association
MIA	Masonry Institute of America
MLMA	Metal Lath Manufacturers Association
MLSFA	Metal Lath/Steel Framing Association
NAAMM	National Association of Architectural Metal Manufacturers
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFC	National Fire Code
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health

NIST	National Institute of Standards and Technology
NLMA	National Lumber Manufacturers Association
NPDES	National Pollutant Discharge Elimination System
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NSWMA	National Solid Wastes Management Association
NUSIG	National Uniform Seismic Installation Guidelines
PCA	Portland Cement Association
PDI	Plumbing and Drainage Institute
PEI	Porcelain Enamel Institute
PS	Product Standard, US Department of Commerce
RIS	Redwood Inspection Service
SAE	Society of Automotive Engineers
SCAQMD	South Coast Air Quality Management District
SDEI	Steel Deck Institute
SDI	Steel Door Institute
SFM	State Fire Marshal
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPR	Simplified Practice Recommendations, U.S. Dept. of Commerce
SSPC	Steel Structures Painting Council
SWI	Steel Window Institute
TCA	Tile Council of America
UBC	Uniform Building Code
UBPPA	Uni-Bell PVC Pipe Association
UFAS	Uniform Federal Accessibility Standards
UL	Underwriters' Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association (formerly National Wood Window and Door Association)
WI	Woodwork Institute (formerly Woodwork Institute of California)
WWPA	Western Wood Products Association

1.03 TEXT ABBEVIATIONS:

Text abbreviations include but are not limited to the following:

ac	Alternating current
amp	ampere
BTU	British thermal unit
cfh	Cubic feet per hour
cfm	Cubic feet per minute
cm	Centimeter
Co.	Company
COP	Coefficient of performance
Corp.	Corporation
d	Penny

db.	Decibel
DB	Dry bulb
dc	Direct current
EER	Energy efficiency ratio
F	Degrees Fahrenheit
fpm	Feet per minute
ft	Foot or feet
gph	Gallons per hour
gpm	Gallons per minute
HP	Horsepower
HVAC	Heating, ventilating and air conditioning
Hz	Hertz
Inc.	Incorporated
KHz	Kilohertz
Kip	thousand pounds
Ksf	Thousand pounds per square foot
Ksi	Thousand pounds per square inch
Kv	Kilovolt
KVA	Kilovolt amperes
KW	Kilowatt
KWH	Kilowatt hour
LF	Linear foot
MPH	Miles per hour
lb	Pound
LED	Light emitting diode
MBH	1000 BTUs per hour
MHz	Mega hertz
mil	Thousandth of an inch
mm	Millimeter
mph	Miles per hour
oz.	Ounce
PCF	Pounds per cubic foot
pH	Acidity-alkalinity balance
psf	Pounds per square foot
psi	Pounds per square inch
psig	Pounds per square inch, gage
RF	Radio frequency
rpm	Revolutions per minute
SF	Square foot
SY	Square yard
V	Volt
WB	Wet bulb

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01094

DEFINITIONS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers definitions supplementary to those given in the Conditions of the contract.

1.02 DEFINITIONS:

- A. District or Owner: The term "District" or "Owner" refers to LITTLE LAKE CITY SCHOOL DISTRICT, 10515 Pioneer Blvd, Santa Fe Springs, CA 90670, or their authorized representative. The terms are used interchangeably.
- B. Architect: The term "Architect" refers to ZIEMBA + PRIETO ARCHITECTS, 601 South Glenoaks Boulevard, Suite 400, Burbank, CA 91502, or their authorized representative.
- C. References to Drawings: Words such as "shown", "indicated", "detailed", "scheduled", "noted", and words of similar meaning shall mean that reference is made to the information on the drawings unless stated otherwise.
- D. Actions of Architect: Such words as "directed", "designated", "selected", and words of similar meaning shall mean the direction, designation, selection, or similar action of the Architect is intended unless stated otherwise.
- E. Required: The word "required" and words of similar meaning shall mean "as required to complete the Work" and "required by the Architect", as is applicable to the context of the place where used, unless stated otherwise.
- F. Perform: The word "perform" shall mean that Contractor, at Contractor's expense, shall perform all the operations necessary to complete the Work or the mentioned portions of the Work, including furnishing and installing materials as are indicated, specified or required to complete such performance.
- G. Provide: The word "provide" shall mean that Contractor, at Contractor's expense, shall furnish and install the Work and mentioned portion of the Work, complete in place and ready for the intended use. These definitions apply the same to future, present and past tenses except "provided" may mean "contingent upon" where such is the context.
- H. Equal: Words such as "equal", "approved equal", "equivalent", and terms of similar meaning shall be understood to be followed by the phrase "in opinion of the Architect" unless stated otherwise.
- I. Approval: The words "approved", "approval", "acceptable", "acceptance" and other words of similar meaning shall mean that approval or acceptance of Architect, or similar meaning, is intended unless stated otherwise.

- J. Review: The word “review” and words of similar meaning shall mean the review and observation of the Architect is intended unless stated otherwise.
- K. Submit: The words “submit”, “submittal”, “submission”, and other terms of similar meaning shall include the meaning of the phrase “submit to the Architect for approval” unless otherwise stated.
- L. Expense: Such phrases as “at Contractor’s expense”, “at no extra cost to Owner”, “at no additional contract cost”, “with no extra compensation to Contractor”, or phrases of similar meaning shall mean that Contractor shall perform or provide the operation of work without increase in the contract price.
- M. Fees and Charges: District reimburses contractor for utility fees charged by jurisdictional agencies. Contractor is required to pay for all licenses and similar requirements that he must have in effect in order for him to accomplish his work.
- N. Language: Specifications are written in a modified brief style consistent with clarity. Words and phrases requiring an action or performance, such as “perform”, “provide”, “erect”, “install”, “furnish”, “connect”, “test”, “coordinate”, and words and phrases of similar meaning, shall be understood to be preceded by the phrase “The Contractor shall” unless otherwise stated. Requirements indicated and specified apply to all work of the same kind, class and type, even if the word “all” is not stated. The use of the singular number implies the plural, if more than one of an item or unit is required; likewise the use of the plural number implies the singular, if only one of an item or unit is required.
- O. Titling and Arrangement: Article, paragraph and subparagraph titles and other identifications of subject matter in the specifications are intended as an aid in locating and recognizing the various requirements in the specifications. Except where the titling forms a part of the text, such as beginning words of a sentence or where the title establishes the subject, the titles are subordinate to and do not define, limit or restrict the specification text. Underlining or capitalizing of any words in the text does not signify or mean that such words convey special or unique meanings having precedence over any other part of the contract documents. Specification text shall govern over titling and shall be understood to be and interpreted as a whole. The listings of various parts of work to be included or not included under various sections of the specifications are for convenience only and do not control the Contractor in dividing the work among the subcontractors or establish the extent of the work to be performed or provided by any subcontractor or trade. Contractor is solely responsible for providing the complete work without respect to where or how the various parts of the work may be indicated or specified. The sequence of articles, paragraphs, subparagraphs and sub-paragraphs in the specifications text is defined by the sequence 1.01A.1.a.(1)(a).

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01120

ALTERATION PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION:

The requirements of all other sections of the specifications apply to this section. This Section covers the general requirements for special project procedures pertaining to the alteration of existing construction and is complementary to similar requirements indicated or specified.

A. Work In This Section: Principal items include:

1. Alterations and repairs to existing facilities as required to complete the work.
2. Relocation and reinstallation of existing construction and finish.
3. Storage and protection of existing items to be reinstalled.

1.02 DESIGN INTENT:

The intent of the drawings and specifications is to perform all work in accordance with Title 24, California Code of Regulations. If any conditions develop which are not covered by the contract documents wherein the finished work would not comply with said Title 24, California Code of Regulations, a change order detailing and specifying the required work shall be submitted to and approved by the Architect and the District before proceeding with the work.

1.03 SUBMITTALS:

- A. Manufacturer's Data: Submit complete product data, test reports and application instructions for materials.

1.04 QUALITY ASSURANCE:

- A. Video Documentation: Refer to Division 1. Before starting work of this section, provide one video of existing conditions to be affected by the demolition work. Provide progress videos as the work progresses, at intervals as approved, illustrating substrates, connections, concealed conditions and other conditions which will benefit the Owner's permanent records.

1.05 JOB CONDITIONS:

- A. General: Coordinate work of other sections and with the Owner to assure the correct sequence, limits, methods and times of performance. Arrange the work to impose minimum of hardship on operation and use of the facilities. Install protection for existing facilities, contents and new work against dust, dirt, weather, damage and vandalism, and maintain and relocate as work progresses.
- B. Access: Confine entrance and exit operations to access routes designated by the Owner.

- C. Existing Portable Items: Owner will remove portable equipment, furniture and supplies from involved existing areas prior to start of work therein. Cover and protect remaining items to remain.
- D. Verification of Conditions: Perform a detailed survey of existing site and building conditions pertaining to the work before starting work. Report to Architect discrepancies or conflicts between the drawings and actual conditions in writing for clarification and instructions and do not perform work where such discrepancies or conflicts occur prior to receipt of Architect's instructions.
- E. Building Security: Secure building entrances and exists with locking or another approved method in accordance with the Owner's instructions.
- F. Safeguarding of Owner's Property: Contractor shall assume care, custody and responsibility for safeguarding all of the Owner's property of every kind, whether fixed or portable, remaining in rooms and spaces vacated and turned over to the Contractor by the Owner for his exclusive use in performance of the work until the work therein or related thereto is completed and the rooms or spaces are reoccupied by Owner. Furnish all forms of security and protection necessary to protect the Owner's property. Regardless of cause, Contractor shall repair, replace or otherwise acceptably make good all of the Owner's property under the Contractor's care, custody and safeguarding that is damaged, injured, missing, lost or stolen from time each such room or space is turned over to the Contractor for the work until re-occupied by Owner, at Contractor's expense and as directed by Owner.
- G. Protection of Floors/Slabs: Use care to protect all floor surfaces and coverings from damage. Equip mobile equipment with pneumatic tires.

1.06 EXISTING CONDITIONS:

The intent of the drawings is to show existing site and building conditions with information developed from the original construction documents, field surveys and Owner's records, and to generally show the amount and types of demolition and removals required to prepare existing areas for new work. Contractor shall make a detailed survey of existing conditions pertaining to the work before commencing demolition. Report discrepancies between drawings and actual conditions to the Architect for instructions and do not perform any removal work where such discrepancies occur prior to receipt of the Architect's instructions.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION

3.01 CUTTING AND PATCHING:

Execute cutting, including excavation, fitting and patching of work required to make the several parts fit properly, to remove and replace defective work, to remove and replace work not conforming to requirements of the contract documents, and to install specified work in existing construction.

- A. When directed by Architect, uncover work to provide for Architect's observation of covered work, remove samples of installed materials for testing and remove work to provide for alteration of existing work.
- B. Do not damage work by cutting or altering any part of it.
- C. Do not cut or alter work of separate contractors without written consent of Architect.
- D. If it is necessary to cut work which affects the structural safety of the project, or which affects the work of a separate contractor, submit written notice to Architect requesting consent to proceed with cutting. The request shall include the following items:
 - 1. Description of affected work and necessity for cutting it.
 - 2. Effect on other work and on the structural integrity of project.
 - 3. Description of proposed work, including scope of cutting and patching, trades which will execute the work, products and materials to be used, and refinishing methods and extent.
 - 4. Alternative methods, if any, to accomplish the work without cutting and patching.
 - 5. Cost estimate, if additional cost is anticipated.
 - 6. Notification of interruption of services, if applicable.
- E. If conditions of work or schedule indicate a change of materials or methods, submit written commendations to Architect, stating the conditions which affect the change, recommendations for alternative materials or methods. Provide submittals as specified for substitutions for all materials and methods proposed to be changed.
- F. Inspect all existing conditions of work, including elements subject to movement or damage during cutting and patching.
- G. Provide shoring, bracing and coverings as required to maintain structural integrity to provide protection of project and surrounding improvements.
- H. After uncovering work, inspect conditions affecting installation of new materials and products.
- I. Restore work which has been cut or removed, install new products to provide completed work in accordance with the contract documents.
- J. Refinish patched, new and existing surfaces to match adjacent, undisturbed construction.

3.02 ALTERATIONS AND REPAIRS:

- A. Basic Requirement: Restore and refinish all new and existing construction and improvements that are cut into, altered, damaged, relocated, reinstalled or left unfinished by removals to original condition or to match adjoining work and finishes unless otherwise shown, specified, directed or required. Workmanship and materials shall conform to applicable provisions of other Sections. Provide new fasteners, connectors, adhesives and other accessory materials as required to fully complete approved reinstallations and restorations. Where restorations and refinishing are defective or are otherwise not acceptable to Owner, remove all the defective or rejected materials and provide new acceptable materials and finish at no extra cost to Owner.
- B. Patching, Repairing and Finishing:
1. Openings to be Closed: Trim edges square and straight, and dampen and grout scrub or treat with an adhesive as specified above for cut concrete edges. Provide 3,000 psi concrete. Provide reinforcement as required to match existing concrete U.N.O. Where installation of concrete is impracticable, fill openings with dry-packed non-shrink grout. Finish to match adjoining surfaces.
 2. Metal Items: Grind cut edges to remain exposed smooth and rounded.
 3. Lath and Plaster: Where old plaster is removed, provide new metal lath or gypsum lath and plaster as specified in Division 9. Where old plaster is left in place, new plaster shall be applied over the old in accordance with one of the following methods:
 - a. Apply 3.4 pound self furring diamond mesh metal lath over old surface by nailing through into framing, using 2" long, 11 gage 7/16" head barbed shank galvanized roofing nails at 6" o.c. Wire tie side and end laps. Apply plaster in three coats, as specified for new work, except using wood fibered plaster for scratch coat.
 - c. Where patching of plaster over existing lath is feasible, renail all loose lath and install new lath to match to fill holes. Nail and renail at 6" centers. Where metal lath is used, lap new lath over existing 6" and tie at 6" centers. Restore paper backings as required, shingled in existing. Spray existing gypsum lath with water over a period of several hours to wet it thoroughly. Then apply a bonding coat to the cut edges of existing plaster and replaster as specified for new work. Cracking caused by failure to wet the lath properly will be considered defective work, and the lath and plaster shall be removed and replaced as specified above.
 - d. Patching of Holes, Cracks and Gouges: All existing holes, cracks, gouges, missing sections and other defects in existing work shall be patched. For holes over 1" in size, cut small sections of lath and place in opening, attached to existing material. Apply 3 coats of plaster. For holes 1" and smaller, apply bonding agent to existing surfaces and neatly fill hole with plaster, using several coats as necessary to fill to surface, eliminate cracks and match existing surface texture. Cracks, gouges and other defects shall be filled with plaster or spackle as applicable and neatly finished to match existing work.

3.03 PREPARATION OF EXISTING WORK:

- A. Filling, Patching and Grinding: Where existing surfaces are shown or required to receive new finish materials, and where such surfaces have cracks, holes, depressions, ridges, foreign materials or other conditions which preclude proper installation of the new finish materials, the existing surfaces shall be reconditioned. Holes, cracks and depressions shall be filled with patching compounds of suitable types compatible with new materials. Ridges and "high spots" shall be ground down. Areas of different planes shall be feathered out. Foreign materials shall be removed by use of solvents where approved, or by sandblasting as specified above. Any other reconditioning as may be required shall be performed to enable existing surfaces to receive new finish materials.

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SECTION 01140

WORK RESTRICTIONS

PART 1 - GENERAL

1.01 DESCRIPTION: All other sections of Division 1 apply to this Section. This Section covers the general requirements for work restrictions, and pertains to all portions of the contract documents.

1.02 WORK SCHEDULE: Perform work adjacent to existing facilities by methods as are approved by the District. Submit proposed schedules itemizing dates and hours that the various items of work at each area will be started and completed. The District reserves the rights to modify the proposed schedules to eliminate conflicts and ensure use of the existing facilities during the work. Exactly follow the schedule as finally approved by the District. Revise and resubmit schedules when timing or sequence changes occur or are ordered by the District.

1.02 USE OF PREMISES

- A. Use of site: Limit use of premises to work areas indicated. Do not disturb portions of site beyond areas in which the work is indicated:
 - 1. Limits: Confine constructions operations to limit of work shown on documents.
 - 2. District Occupancy: Allow for District occupancy of site.
 - 3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to the District, the District's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
- B. Use of Existing Buildings: Maintain existing buildings in a weather tight condition throughout construction period. Repair damage caused by construction operations. from construction equipment on public streets. Sweep clean turning areas and pavement entrances as necessary.

1.03 USE OF SITE:

- A. Do not block entrances. Where walkways to entrances are impeded, provide properly barricaded alternate entranceways. Do not use these areas for storage of materials.
- B. Provide temporary sign banners, from design and materials approved by the District, to identify areas during time that signage is removed and until signage is replaced.
- C. Keep the site clean and free from construction debris at all times. Provide trash containers, located where directed, and place trash in the containers as it is generated. Do not allow trash to accumulate on the site. Do not allow workers to leave lunch pails and debris on the site at any time.

- D. Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the work is indicated.
- E. Confine constructions operations to limit of work shown on documents.
- F. Driveways and Parking: Parking for Contractor's employees shall be limited to area of the work.
- G. Deliveries: District will designate one entrance and one location for delivery vehicles. Restrict access to areas so designated.
 - 1. Schedule deliveries to minimize use of driveways and entrances.
 - 2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.05 CONSTRUCTION STORAGE AREAS:

Storage of construction equipment and materials shall be limited to designated work areas. Store and service equipment at the designated areas where oil wastes shall be collected. Oily wastes shall not be allowed to flow on to the ground or to enter surface waters.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION

SECTION 01200
PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers the general requirements for the project meetings.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION

3.01 PROJECT MEETINGS:

- A. Attendees: Unless otherwise specified or required by the District, meetings shall be attended by the District, Architect, Contractor, Contractor's Superintendent and the Inspector of Record. Subcontractors may attend the meetings when involved in matters to be discussed or resolved but only when requested by the District, Architect or Contractor.
- B. Meeting Records: The Contractor will record minutes of each meeting and furnish copies within a reasonable time thereafter to the District, Architect, Inspector of Record and other attendees. Unless written objection to contents of the meeting minutes is received by Contractor within 3 days after presentation, it shall be understood and agreed that the minutes are a true and complete record of the meeting.
- C. Meeting Schedule: Dates, times and locations for various meetings shall be agreed upon and recorded at pre-construction meeting. Thereafter, changes to the meeting schedule shall be agreed between the District and the Contractor, with appropriate written notice to all parties involved.

3.02 PRE-CONSTRUCTION MEETING:

- A. General: Before issuance of Notice to Proceed, a pre-construction meeting shall be held at the location, date and time designated by District. In addition to attendees named herein, this meeting shall be attended by representatives of the regulatory agencies having jurisdiction, if required, and such other persons the District may designate.
- B. Agenda: The matters to be discussed or resolved and the instructions and information to be furnished to or given by the Contractor at the preconstruction conference include:
 - 1. Schedule of progress meetings.
 - 2. Progress schedule and schedule of values submitted by Contractor.
 - 3. Communication procedures between the parties.
 - 4. Names and titles of all persons authorized by Contractor to represent and execute documents for Contractor, with samples of all authorized signatures.

5. The names, addresses and telephone numbers of all those authorized to act for the Contractor in emergencies.
6. Construction permit requirements, procedures and posting.
7. Public notice of starting Work.
8. Forms and procedures for Contractor's submittals.
9. Change Order forms and procedures.
10. Payment application forms and procedures and revised progress schedule reports to accompany the applications.
11. Contractor's designation of his organization's accident prevention member and his qualifications if other than the Superintendent.
12. Contractor's provisions for barricades, traffic control, utilities, sanitary facilities and other temporary facilities and controls.
13. Consultants and professionals employed by District and their duties.
14. Construction surveyor and initiation of surveying services. (If required.)
15. Testing Laboratory or Agency and testing procedures.
16. Procedures for payroll and labor cost reporting by the Contractor.
17. Procedures to ensure nondiscrimination in employment.
18. Warranties and guarantees.
19. Long lead item status. (If applicable.)
20. Other administrative and general matters as needed.

3.03 CONSTRUCTION PROGRESS MEETINGS:

Progress meetings shall be held according to the agreed schedule. All matters bearing on progress and performance of the work since preceding progress meeting shall be discussed and resolved including, without limitation, any previously unresolved matters, deficiencies in the work or methods being employed for the work and problems, difficulties or delays which may be encountered.

3.04 PROGRESS MEETINGS:

Conduct progress meetings at the project site at regularly scheduled intervals. Notify the District and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.

- A. Attendees: In addition to representatives of the District and Architect each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by personnel familiar with the project and authorized to conclude matters relating to progress.
- B. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the project.
- C. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's construction schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss

whether schedule revisions are required to ensure that current and subsequent activities will be completed within the contract time.

- D. Look Ahead Schedule: Provide a 2 week "look ahead" schedule at each construction progress meeting. Look ahead schedule shall outline upcoming activities over the course of the upcoming 2 weeks. Schedule shall correlate with the project construction schedule and provide sufficient detail to outline all activities expected to be found on the job site.
- E. Review the present and future needs of each entity present, including such items as interface requirements, time, sequences, deliveries, off-site fabrication problems, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, quality and work standards, change orders, documentation of information for payment requests.
- F. Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary of progress since the previous meeting and report.
- G. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

3.05 SPECIAL MEETINGS:

After notice to other parties, special meetings may be called by the District, Architect or Contractor. Special meetings shall be held where and when designated by the District. Other special meetings, such as the pre-roofing conference, shall be conducted as specified in the various sections of the specifications.

3.06 POST-CONSTRUCTION MEETING:

This meeting shall be held prior to the final inspection of the work to discuss and resolve all unsettled matters. Bonds and insurance to remain in force and the other documents required to be submitted by the Contractor will be reviewed and any deficiencies determined. Schedule and procedures for the final inspection and for final correction of defects and deficiencies shall be agreed.

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SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. Provide shop drawings, product data, samples, certificates, and other required submittal, in accordance with procedures specified herein, complete.

- A. Work Specified in this Section:
1. Submittal procedures for electronic and hard copy process.
 2. Proposed products list.
 3. Product data.
 4. Shop drawings.
 5. Samples.
 6. Design data.
 7. Test reports.
 8. Certificates.
 9. Manufacturer's instructions.
 10. Manufacturer's field reports.
- B. Contractor has the option of providing either hard copy or electronic sets of the following, all as specified hereafter:
1. Proposed products list.
 2. Product data.
 3. Shop drawings.
 4. Design data.
 5. Test reports.
 6. Certificates.
 7. Manufacturer's instructions.
 8. Manufacturer's field reports.
- C. Submit for approval of Architect shop drawings, product data, and samples required by specification sections. Refer to General Conditions for additional requirements, including limitation of Architect's review responsibilities.
- D. Prepare and submit, with construction schedule, a separate schedule listing dates for submission and dates reviewed shop drawings, product data and samples will be needed for each product.
- E. Requests for substitutions of materials and processes shall not be submitted as part of the submittal process specified herein. All requests for substitutions shall be separately submitted as specified in Section 01630.
- F. Submittal shall not be made by use of RFI's. Submittals shall be separately made as specified herein.
- G. Processing Time: Allow sufficient time for submittal review, including re-submittal as required. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittal sufficiently in advance of the work to permit review and re-submittal if required. Times as noted below are minimum; increase as required to assure conformance with project schedule.

1. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

2. Re-submittal Review: Allow 5 days for review of each re-submittal.

1.02 SUBMITTAL PROCEDURES: GENERAL

- A. Transmit each submittal with Architect accepted form. Sequentially number transmittal forms. Mark revised submittals with original number and sequential numerical suffix.
- B. Identify project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the work and contract documents.
- D. Schedule submittals to expedite project, and deliver to Architect at business address, except for electronic submittal as specified hereafter. Coordinate submission of related items.
- E. When revised for resubmission, identify changes made since previous submission. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- F. Submittals not requested will not be recognized or processed.
- G. Submittals shall be made for each individual specification section. Do not combine.
- H. Submittals for each specification section shall be complete. Do not piecemeal submittals into more than one submittal for each section. Incomplete submittals will be returned without review.
- I. For items required to be of selected and approved colors, patterns, textures or other finish sufficient samples to show the range of shades, tones, values, patterns, texture, or other features corresponding to the instructions, shall be submitted. Submit color samples of field-applied paint materials as specified for painting work. Selection of colors will not be made until all related items requiring selection have been submitted.

1.03 ELECTRONIC SUBMITTAL PROCEDURES:

- A. Shop drawing and product data submittals shall be transmitted to Architect in electronic (PDF) format using email and Dropbox (Architect's Folder).
- B. Submittal Preparation: Contractor may use either, or a combination, of the following options:
 - 1. Subcontractors and Suppliers provide electronic (PDF) submittals to Contractor.
 - 2. Subcontractors and Suppliers provide paper submittals to General Contractor, who electronically scans and converts to PDF format.
- C. Contractor shall review and apply electronic stamp certifying that the submittal complies with the requirements of the contract documents including verification of manufacturer, product, dimensions and coordination of information with other parts of the work.

- D. Contractor shall transmit each submittal to Architect using email or Dropbox. Dropbox submittals require an email notification to Architect.
- E. Architect review comments will be made available on Dropbox for downloading. Contractor will receive an email notice of completed review.
- F. Distribution of reviewed submittals to subcontractors and suppliers is the responsibility of the Contractor.

1.04 HARD COPY SUBMITTAL PROCEDURES:

- A. Transmittals: Submittal of submittals to the Architect shall be made by the Contractor with a dated transmittal form or letter (not by sub-contractor or supplier) at least 7 days before dates reviewed submittals will be needed.
- B. Provide shop drawings. Comments will be noted on the reproducible which will be returned to the Contractor. Contractor shall revise the documents and resubmit them in the same manner. When approved, the reproducible will be stamped and returned to the Contractor, who shall make distribution of copies as specified hereinafter.
- C. Number of Copies: Contractor shall submit copies and make distribution as follows:
 - 1. Initial Submittal: Reproducible and 3 copies to the Architect.
 - 2. Re-submittals: Reproducible of revised original and 3 copies to the Architect.
 - 3. Final Distribution: 3 copies to the Architect, and copies to those concerned.

1.05 SHOP DRAWINGS AND SCHEDULES:

- A. Drawings and schedules shall be certified by the Contractor that they have been checked by him and conform to the Contract requirements. Drawings not dated, signed, certified, and/or completed by the Contractor will be returned unchecked.
- B. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings. Include signed and sealed calculations to support design. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction. Make revisions and provide additional information when required by authorities having jurisdiction. Make revisions and provide additional information when required by authorities having jurisdiction.
- C. When the Contractor's drawings indicate previously approved deviations or approved changes from the contract drawings and specifications, the Contractor shall clearly indicate in the drawings all other changes required to correlate the work, and shall state in writing, his assumption of the costs of all other related changed.
- D. Drawings shall include:
 - 1. Details of fabrication, assembly, erection and connection.
 - 2. Material used, including fasteners and attachments.
 - 3. Dimensions, including variations between dimensions shown on the contract drawings and actual conditions.
 - 4. Complete schedules, as applicable.

5. All protective coatings and factory finishes, fully described as to materials, number of coats, plated finishes, treatments, ad similar information.

- E. No changes shall be made to re-submittal drawings and schedules except those corrections noted by the Architect unless the resubmitted drawings are accompanied by a separate written notice from the Contractor precisely setting forth such additional changes and stating his assumption of costs as specified for deviations; and/or such changes as are approved by the Architect.

1.06 PROPOSED PRODUCT LIST:

- A. Within 10 days after notice to proceed, submit list of major products proposed to use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards

1.07 PRODUCT DATA:

- A. A bound list of products to be used in the work shall be submitted according to the following procedure:
 1. Within 15 days after agreement between District and Contractor is executed, submit bound copies to the Architect.
 2. The Architect will notify the Contractor in writing of any disapproved items. Within 15 days after receipt of such notice, the Contractor shall submit proposed substitutions for disapproved items, number of copies, and distribution of the same as initial submittal for each re-submittal until approval is obtained for proposed substitutions. Re-submittals need not be bound, but the transmittal shall indentify each disapproved item and the proposed substitute therefore. The Architect will notify the Contractor in writing or approved substitutions.
 3. Within 10 days after receipt of notice of approval, the Contractor shall submit corrected bound copies, 3 copies to the Architect, and copies to others concerned.
 4. In determination of acceptability, the Architect will consider the ready availability of maintenance and replacement parts and materials, the availability of manufacturer's technical representative, and such other factors that relate to the maintenance and repair of installed items without excessive inconvenience to the District, as well as determination of conformance with the Contract Documents.
 5. The Contractor shall provide those items included in the approved lists, without deviation, unless subsequently revised by change order procedure.
- B. Manufacturer's standard schematic drawings shall be modified delete information which in not applicable to project. Supplement the standard information to provide additional information applicable to project.
- C. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data.
 1. Clearly mark each copy to identify pertinent materials, products, or models. Show dimensions and clearances required. Show performance characteristics and capacities.

Show wiring diagrams and controls. Clearly show each option, color selection, and accessory to be furnished.

2. All items shall be neatly bound in a loose leaf binder with a project identification label and a table of contents.

1.08 SAMPLES:

- A. Submittal of samples, where specified or directed, shall be made by Contractor with a dated transmittal for or letter, and not by subcontractor or supplier. Samples of manufactured or process materials and equipment will be submitted within 7 days after receipt of approved material list. Samples of field-applied paint materials and colors shall be submitted not less than 10 days prior to start of field painting work. Unless otherwise specified, samples shall be submitted in triplicate; two to the Architect and one to the District, with copy of letter of transmittal.
- B. Samples for selection as specified in product sections:
 1. Submit to Architect for aesthetic, color, or finish selection.
 2. Submit samples of finishes from full range of manufacturer's standard colors, textures, and patterns for Architect selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full project information.
- E. Submit number of samples specified in individual specifications sections; Architect will retain one sample.
- F. Reviewed samples which may be used in the work are indicated in individual specification sections.
- G. Samples will not be used for testing purposes unless specifically stated in specification section.
- H. After review, produce duplicates and distribute in accordance with Submittal Procedures article and for record documents purposes described in Section 01720.
- I. Maintain one of each approved sample onsite.

1.09 DESIGN DATA:

- A. Submit for Architect's knowledge as contract administrator or for District.

1.10 TEST REPORTS:

- A. Submit for Architect's knowledge as contract administrator or for District.

1.11 CERTIFICATES:

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect in quantities specified for production data.

- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- D. Submit electronically as specified above.

1.12 MANUFACTURER'S INSTRUCTIONS:

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Architect for delivery to District in quantities specified for product data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- C. Submit electronically as specified above.

1.13 MANUFACTURER'S FIELD REPORTS:

- A. Submit report within 30 days of observation to Architect for information.

1.14 ERECTION DRAWINGS:

- A. Data indicating inappropriate or unacceptable work may be subject to action by Architect or District.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION

SECTION 01310

CONSTRUCTION SCHEDULES AND REPORTS

PART 1 - GENERAL

- 1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. This Section covers the general requirements for providing construction schedules and reports, and includes schedule and coordination requirements applicable to the entire work.
- 1.02 BAR CHART SCHEDULE: Prepare a schedule in the form of a horizontal bar chart. Provide separate horizontal bar columns for each trade of operation. Arrange the schedule in chronological order of beginning of each item of work. Identify each column by major specification section number, and by distinct graphic delineation. Provide a horizontal time scale showing each week of the construction process. The scale and spacing shall accommodate 2 parallel bars, one to show scheduled progress and one to show actual progress. Keep the schedule current at all times, by indicating actual progress on the lines provided. If the schedule becomes obsolete because of delay, changes or other job-related conditions, prepare a new schedule if directed by the Architect or District.
- 1.03 CONTENT OF SCHEDULES:
- A. Provide complete sequence of construction including decision dates by activity. Indicate equipment product procurement (lead times) and delivery dates. Show dates for beginning and completion of each element of construction, and each subcontractor's work.
 - B. Show projected percentage of completion of each item of work as of the first day of each month.
 - C. Provide subschedules to define critical portions of entire schedule.
 - D. Show dates when each submittal required by the specifications will be furnished to the Architect for review, and the dates when each submittal is required to be received by the Contractor, in order to avoid delaying the work. The schedule shall show at least 15 days for review of submittals by the Architect.
- 1.04 DISTRIBUTION:
- A. Following response to initial submittal, print and distribute copies to the District, Architect, subcontractors, Inspector of Record, and other parties required to comply with submittal dates indicated. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
 - B. Keep a copy of the schedule on the site at all times.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION:

3.01 SCHEDULE: Comply with the following specific mandatory coordination requirements:

A. Specific Mandatory Coordination Requirements:

1. Contractor shall coordinate with District prior to the placement of any temporary fencing for construction. All temporary fencing requirements shall be coordinated between the District and Contractor, but all final determination shall be by the District. No temporary fencing shall be placed in such a manner that it would isolate any faculty or students from having safe access to any occupied site area, occupied building space or egress from the project site. Contractor shall provide all temporary fencing for the project as required by coordination with the District at no additional cost to the District.
2. Contractor shall coordinate with all other District contractors that may be associated with the project. Failure by the Contractor to coordinate with other District contractors shall be the responsibility of the Contractor. Any additional cost associated with the Contractor not coordinating with other District contractors shall be the full responsibility of the Contractor. Any additional cost associated with this shall be the responsibility of the Contractor.
3. District shall make every attempt reasonable as determined by the District to ensure that timely move-ons and move-offs occur to facilitate the construction period. District shall coordinate with the Contractor as required to ensure as smooth as possible transition from project area to project area.
4. District shall make every reasonable attempt as determined by the District to ensure that construction activities are allowed to proceed during school activities. District shall coordinate with the Contractor as required to ensure that as much work as possible is able to proceed during school activities. Contractor shall understand that this is an occupied school site and that school shall remain in session throughout portions of the construction period.

END OF SECTION

SECTION 01326

APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. This Section covers the general requirements for applications for payment.

A. Related Work Specified Elsewhere:

1. Construction schedules and reports.
2. Schedule of values.

1.02 SUBMITTALS: Applications for payment shall be submitted as one original and 2 copies or as required by Owner. The Architect will review the application, will retain one copy, and will transmit the original and one copy to the Owner.

1.03 FORMAT: Applications for payment shall be submitted on AIA Documents G702 and G703, unless another format is approved. Computer generated applications may be submitted for approval, providing all information required by G702 and G703 is contained thereon.

A. Line items on the applications for payment shall match line items on the construction schedule, and on the schedule of values.

B. Applications shall be signed by an authorized representative of the contractor, shall be notarized, and shall be accompanied by the conditional releases of lien for all work for which payment is requested, together with final releases of lien for all previously paid applications.

1.04 PROGRESS PAYMENTS:

A. On or about the 25th of each month, provide a draft application for payment for review by Architect and Owner at the regularly scheduled construction meeting. This review is intended to ascertain that the proper form, procedure, schedule of values, percentages of completion and change orders are included, to prevent delays in processing the application.

B. Make all changes required as a result of the review, and submit the application on or about the last day of the month.

1.05 FINAL PAYMENT: The final application for payment will not be made until all project closeout requirements specified in Section 01700 are complete. The final application shall be accompanied by a complete release of lien for all work performed under the contract. In any case, final payment will not be made until 35 days following recording of the notice of completion.

1.06 LIEN RELEASES: An unconditional progress lien release must be submitted with each progress application in the amount of the previous payment, and with the final application for the amount of all previous payments. A conditional final lien release must be submitted within 10 days of the receipt of final payment. Releases will be required of all subcontractors, material suppliers and labor. Retention will not be paid until all lien releases are in order.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION

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SECTION 01327
SCHEDULE OF VALUES

PART 1 - GENERAL

- 1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. This Section covers the general requirements for providing a detailed breakdown of the contract price showing values allocated to the various parts of the work.
- 1.02 QUALITY ASSURANCE: If required by Architect, provide copies of subcontracts or other data acceptable to the Architect, substantiating the prices listed.
- 1.03 SUBMITTALS:
- A. Within 3 days after award of the contract, submit a proposed schedule of values to the Architect and the District.
 - B. Meet with the Architect and the District and determine additional data, if any, required to be submitted.
 - C. Secure the Architect's and the District's approval of the schedule of values prior to submitting the first application for payment. The approved schedule shall serve as a basis for computing values for progress payments during construction.
- 1.04 FORM AND CONTENT:
- A. Submit in form, acceptable to the Architect and District, proposed for submitting breakdown of costs on applications for payment.
 - B. Identify the schedule with the name of the project, location and nature of work. Provide the name of the Architect, District and Contractor, and the date of submission.
 - C. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction. Line items shall be listed in the order indicated on the Table of Contents of the Project Manual, with subsections as proposed by Contractor, and approved by Architect, to delineate completely each portion of the work.
 - D. Each item shall include a proportional amount of the Contractor's overhead and profit.
 - E. Line items on schedule of values shall match line items on the construction schedule required under Section 01310, and line items on the applications for payment required by Section 01326, unless otherwise approved by the Architect.
 - F. Where payment will be requested for stored material, indicate the costs of the materials, including delivery, handling and taxes. Show as a separate item the cost of installation, including labor and equipment.
 - G. The sum of all values listed in the schedule shall equal the contract price.
 - H. Materials shall be stored in a bonded warehouse,

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

END OF SECTION

SECTION 01350

RESOURCE CONSERVATION

PART 1 - GENERAL

1.01 SUMMARY: Provide conservation of resources, complete as shown and specified.

A. Work Specified in this Section:

1. Procedures for an environmental program at the project site.
2. Use of recycled, toxic-free, and environmentally sensitive materials, equipment, products, and procedures.
3. Recycling program for waste materials generated by demolition and construction.

1.02 DEFINITIONS RELATIVE TO THIS SECTION:

- A. Environmental pollution: The presence of chemical, physical, or biological elements which adversely impact human health or welfare, alter ecological balances of significance to human life or impact or alter the future viability of any species deemed to be of importance to human life or health.
- B. Inert fill: Non-liquid solid waste such as soil and concrete, free of hazardous wastes or soluble pollutants.
- C. Class III landfill: A landfill that accepts non-hazardous wastes such as household waste, industrial waste, construction waste and demolition waste.
- D. Inorganic Landfill: Non-reusable items such as solid wastes, such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair, and demolition repairs.
- E. Rubbish: Combustible and non-combustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans and bones.
- F. Debris: Combustible and non-combustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.
- G. Chemical waste: Substances such as petroleum products, bituminous materials, salts, acids, alkalis, herbicides, organic chemicals and inorganic wastes.
- H. Garbage: Refuse and scraps resulting from preparation, cooking, distribution, or consumption of food.
- I. Sewage: Domestic sanitary sewage.
- J. VOC: Volatile organic compounds.
- K. MSDS: Material Safety Data Sheets.

1.03 SUBMITTALS:

- A. Site Management Plan: Submit a plan for proposed solid waste management and environmental protection, including items such as the following:
 - 1. List of federal, state and local laws, regulations and permits concerning environmental protection, pollution control and abatement that are applicable to the work of the contract.
 - 2. Procedures to be implemented to provide the required environmental protection.
 - 3. The location of the solid waste disposal areas.
 - 4. Procedures for recycling and re-use program.
- B. Documentation: Submit documentation in the form of a summary of solid wastes generated by construction and demolition operations of the work. Include manifests, weight tickets, receipts, and invoices from recycling centers and landfills.

1.04 QUALITY ASSURANCE:

- A. Recycling Requirements: Implement a recycling program that includes separate collection of waste materials such as concrete, porcelain fixtures, ferrous and non-ferrous metals, wood, debris, glass and paper.
- B. Handling: Clean materials contaminated with dirt, adhesives, solvents and other substances deleterious to the recycling processes. Arrange for delivery to recycling centers or salvage yards.
- C. Environmental Controls:
 - 1. Comply with federal, state and local regulations for water, air, solid waste, chemical waste, sanitary waste and sediment pollution.
 - 2. Protection of Natural Resources: Preserve the natural resources within the project site. Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water in such quantities as to affect normal use, aesthetics, or produce a measurable ecological impact on the area.
- D. Project Site Administration:
 - 1. Post MSDS sheets on the project site. Discuss alternatives to minimize exposure to potentially harmful substances.
 - 2. Schedule work so that potentially harmful substances or VOC-releasing work is completed at least 72 hours prior to installation of materials or systems that may absorb these substances.

1.05 DELIVERY, STORAGE AND HANDLING: Recycle containers and packaging after delivery and uncrating.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION

- 3.01 EXCESS MATERIALS: Where excess materials, in excess of the minimum quantities specified for maintenance materials, remain unused after completion of the work, Contractor shall make such materials available to Owner, unless such materials can and will be returned to suppliers for their subsequent reuse. In no event shall such materials be discarded.

3.02 PACKAGING:

- A. Provide reusable or recycled packaging for project site delivered items such as operations and maintenance materials, furniture, equipment, large objects. Generally applies to items over 75 pounds or larger than 120 cubic feet.
- B. Polystyrene “peanuts” will be acceptable, provided they are collected and recycled.
- C. Plastic sheets or films will be acceptable if labeled with recycling symbol indicating type of plastic.
- D. Reusable packaging: Items such as blankets, skids and crates that will be returned to the manufacturer or transportation company for future reuse as packaging materials.
- E. Recyclable packaging: Items such as boxes, cardboard and paper that will be delivered to a recycling center.
- F. After packaging has been removed and prior to application for payment, provide documentation to substantiate that packaging materials have been reused or recycled, and that other requirements have been met.

END OF SECTION

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SECTION 01380

DIGITAL CONSTRUCTION PHOTOGRAPHS

PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. Provide digital construction photographs, complete.

1.02 SUBMITTALS:

- A. Digital Photographs: Maintain in project files and deliver to Architect and District as specified.

1.03 QUALITY ASSURANCE:

- A. Digital Camera Operator: May be a member of the Contractor's staff, such as the superintendent or one of his assistants. Digital camera operator shall be able to demonstrate familiarity with the equipment and an understanding of the ongoing construction process, so that digital camera images can be made of all significant operations.
- B. Associated Services: Cooperate with the digital photographer's work. Provide reasonable auxiliary services as requested, including access and use of temporary facilities including temporary lighting.
- B. Ownership: Digital photographs become the property of the District.

PART 2 – PRODUCTS

2.01 EQUIPMENT:

- A. Digital Camera: High resolution. Cell phone cameras may be used where the quality of the photographs is acceptable to Architect and District. Provide samples to review.
- B. Provide pdf software and provisions to enable digital camera images to be sent by email to District and Architect. Label each image or set of images with the following information:
 - 1. Name of the Project.
 - 2. Date or dates the digital photo was taken.
 - 3. Name of person taking the digital photo.
 - 4. Description of vantage points, in terms of location and direction (by compass point).

PART 3 – EXECUTION

3.01 PRE-CONSTRUCTION PHOTOGRAPHS: Before starting construction, take digital photographs of the site and surrounding properties from different points of view as directed.

Take digital photographs in sufficient number to show existing conditions adjacent to the property before starting work. Take photographs of existing buildings either on or adjoining the property in sufficient detail to record accurately the physical conditions at the start of construction.

3.02 CONSTRUCTION RECORDS:

- A. Provide an ongoing digital photographic record of construction progress. Provide photographs to indicate locations of buried utilities, concealed conditions within floors, walls and ceilings, and ongoing progress of the work.
 - B. In addition, during each of the following construction phases take not less than 2 of the required shots from the same vantage point each time to create a time lapse sequence:
 - 1. Initial conditions, prior to start of work.
 - 2. Demolition, each phase or portion.
 - 3. Structural framing.
 - 4. Exterior building enclosure.
 - 5. Concealed anchors, blocking and framing for attachment of finish.
 - 6. Substrates prior to application of finish.
 - 7. Roofing and flashing, before and after installation.
 - 8. Completion of each area.
 - C. When RFI's are submitted to Architect, when change order or field order conditions arise during the work, and at other times when action by the Architect is required for clarification of conditions, provide digital photographs together with written documentation required for each instance, to indicate and define applicable conditions.
- 3.03 DELIVERY OF RECORDS: Transmit digital construction photographs to Architect and District at monthly intervals, or more frequently as required. In addition, transmit images electronically whenever required for immediate consideration.

END OF SECTION

SECTION 01400

TESTS AND INSPECTIONS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers testing and inspection procedures.

A. Requirements not in this Section:

1. Specific test requirements are specified in each section where they occur.
2. Verification of conditions.
3. Tolerances nomenclature.

1.02 PAYMENT FOR TESTING:

A. District will employ and pay for services of an independent testing laboratory approved by DSA to perform specified inspection and testing, including required continuous inspection. Contractor shall reimburse the District for excessive inspection costs incurred by the District because of the following:

1. Contractor's failure to complete entire work within the contract time stated in Agreement, and any previously authorized extensions thereof.
2. Claims between separate contractors.
3. Covering of work before required inspections or tests are performed.
4. Extra inspections for Contractor's correction of defective work.
5. Overtime costs for acceleration of work for Contractor's convenience.

B. Contractor shall pay cost of the following:

1. Additional tests necessitated if materials fail to meet contract requirements.
2. Tests required by Architect to substantiate proposed substitutions.
3. Tests required to determine code compliance.
4. Costs of concrete mix designs.

1.03 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY:

A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on the requirements of the contract documents.
2. Approve or accept portion of the work.
3. Perform any duties of the Contractor.
4. Stop work.

B. Work of the testing laboratory shall in no way limit Contractor's quality control procedures or relieve Contractor of his obligation to perform work in accordance with the contract documents.

1.04 ADDITIONAL TESTING:

- A. If the Architect determines that any work requires additional inspection, testing or approval, District will direct the Contractor to order such special inspection, testing or approval.
- B. If special inspection, testing or approval reveals a failure of the work to comply with the contract documents, the Contractor shall reimburse the District for the costs, including additional services made necessary by such failure.
- C. If special inspection, testing or approval indicates that the work complies with the contract documents, the District will bear the costs.

1.05 GENERAL QUALITY CONTROL REQUIREMENTS:

- A. General Test Requirements: Materials to be furnished under the Contract are subject to testing and inspection for compliance with the requirements of drawings and inspections.
- B. Testing laboratory: The licensed testing laboratory certified as meeting requirements of ASTM D3666, D3740, E329, E543 and E548, as applicable to work involved and approved by District, referred to hereafter as the testing laboratory. Perform testing under the supervision and control of a California registered professional engineer employed by testing laboratory.
- C. Disqualified Material: Material shipped or delivered to the site by Contractor from the source of supply prior to having satisfactorily passed the required testing and inspection, or prior to the receipt of a notice from the Architect that such testing and inspection will not be required, shall not be incorporated in the work.
- D. Notification of Field Tests: Architect and District reserve the right to be present at field testing as required by the contract documents. Contractor shall notify the Architect not less than 24 hours in advance of field testing.
- E. Disqualified Work: Work in place which fails to conform to test requirements shall be removed and replaced without cost to the District. Where feasible, and subject to the approval of the Architect, disqualified work may be repaired, strengthened or otherwise modified to bring it into conformance with test requirements.

1.06 TEST PROCEDURES:

- A. Materials to be furnished under the Contract shall be subject to testing for compliance with the contract documents. Tests will be made in accordance with the applicable standard methods of the ASTM, AASHTO or procedure herein specified.
- B. Materials so specified herein, including such others as the Architect may direct, shall be tested. The Contractor shall furnish samples of the materials prepared for tests as required to the testing laboratory providing adequate time for testing before need at the project. The materials represented by samples under tests shall not be incorporated in the work without the approval of the Architect.

- C. Test Procedures: Testing laboratory shall perform tests according to ASTM or other methods of test specified for various materials in other sections. If no procedure or test method is specified, testing shall conform to the material specification referenced except as otherwise directed. Testing laboratory shall tag, seal, label, record or otherwise adequately identify materials for testing and no such materials, shall be used or installed in the work until test result reports are submitted and approved, excepting only those materials specified to be placed or installed prior to testing.
- D. Test Repeating: Repeat applicable tests at specified intervals, whenever source of supply is changed, or whenever the characteristics of materials change or vary in the opinion of District or Architect.

1.07 COORDINATION AND COOPERATION:

The Contractor shall initiate and coordinate testing and inspections required by the contract documents and public authorities having jurisdiction of the work. Notify the testing laboratory sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but not limited to:

- A. Providing access to the work and furnishing incidental labor and facilities necessary for inspections and tests.
- B. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
- C. Providing facilities for storage and curing of test samples and delivery of samples to testing laboratories.
- D. Providing testing laboratory with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
- E. Security and protection of samples and test equipment at the project site.
- D. Furnish copies of mill test reports.

1.08 TEST REPORTS:

- A. Reports shall be provided of tests. Such reports shall include tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of CBC and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements.
- B. Furnish and deliver copies of each test report, signed and certified by the testing laboratory professional engineer, as follows:

No. of Copies:

1	District
1	Architect
2	Contractor

- C. Promptly notify the Architect of observed irregularities or deficiencies in the work or in products to be used in the work.
- D. Each report shall include:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Testing laboratory name, address and telephone number.
 - 4. Name and signature of laboratory inspector.
 - 5. Date and time of sampling or inspection.
 - 6. Record of temperature and weather conditions.
 - 7. Date of test.
 - 8. Identification of product and specification section.
 - 9. Location of sample or test in the project.
 - 10. Type of inspection or test.
 - 11. Results of tests and compliance with contract documents.
 - 12. Interpretation of test results, when requested.

1.09 VERIFICATION OF TEST REPORTS:

Each testing agency shall submit to DSA a verified report in duplicate covering the tests which are required to be made by that agency during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering the tests.

1.10 REPORTING TEST FAILURES:

Immediately upon determination of a test failure, the laboratory will telephone the results of the test to the Architect. On the same day, the laboratory will send written test results to those named on the above distribution list.

1.11 AVAILABILITY OF SAMPLES:

- A. Contractor shall make materials available to the laboratory and assist in acquiring these materials as directed by the District's Inspector. The samples shall be taken under the immediate direction and supervision of the testing laboratory or inspector.
- B. If work which is required to be tested or inspected is covered up without prior notice or approval, such work may be uncovered at the discretion of the Architect at no additional cost to the District.
- C. Unless otherwise specified, the Contractor shall notify the testing laboratory a minimum to 10 working days in advance of required tests and a minimum of 2 working days in

advance of required inspections. Extra laboratory expenses resulting from a failure to notify the laboratory will be paid by the District and reimbursed by the Contractor.

- D. The Contractor shall give sufficient advance notice to the testing laboratory in the event of cancellation or time extension of a scheduled test or inspection. Charges due to insufficient advance notice of cancellations or time extension will be paid for by the District and reimbursed by the Contractor.

1.12 REMOVAL OF MATERIALS:

Unless otherwise directed, materials not conforming to the requirements of the contract documents shall be promptly removed from the site.

1.13 INSPECTOR - DISTRICT'S:

- A. A Project Inspector and special inspectors employed by the District, and approved by DSA, in accordance with the requirements of the current edition of the CBC will be assigned to the work.
- B. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the work at any time. The Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this contract.

1.14 SPECIAL INSPECTIONS:

- A. Special inspections shall be performed by an inspection agency approved by the code officials and paid for by the District. The special inspection agency shall be accredited, approved special inspection agency, in accordance with CBC. The special inspector shall be responsible to the EOR. Accreditation of the agency shall be as specified in ASTM E 329, unless code requires another means of accreditation.
- B. The special inspections shall be performed in accordance with documented methods and procedures which establish acceptance criteria. Instructions, standards, procedures and checklists relevant to the work shall be maintained continuously and kept available for use.
- C. Inspections or tests shall not be performed if the safety of the special inspector is in question because of job site conditions. Contractor is responsible for maintaining a safe work site at all times.
- D. Prior to the commencement of special inspections, the special inspector shall confer with and obtain approval of, the EOR regarding the inspection and testing procedures or specifications to be followed, including appropriate ASTM methods, code requirements, and project specification requirements.
- E. The special inspector shall observe the appropriate work for conformance with the contract drawings and specifications.

- F. The special inspector shall furnish daily reports to the Architect, the District and the building department at not more than weekly intervals. The reports shall include the following as a minimum:
1. Building name and address.
 2. Architect's name and address.
 3. District's name and address.
 4. Name of municipal building inspector, if available, and of the governing agency.
 5. Unique identification of the report and of each page.
 6. Description of the type of special inspection performed.
 7. Unresolved deviations, exclusions and additions to or from the approved drawings and specifications relevant to the specific inspection or test.
 8. Compliance findings and references.
 9. Description of the location where the inspection was performed within the project.
 10. Time and date of the inspection.
 11. Measurements, examinations and derived results supported by tables, graphs, sketches or photographs as appropriate.
 12. The name, title, signature and identification number, as appropriate, of the special inspector performing the inspection.
 13. Identification of subcontractors employed to carry out the tests or parts of tests.
- G. Discrepancies shall be brought to the immediate attention of the contractor for correction. The Architect and the EOR shall be notified of discrepancies which are not corrected.
- H. Upon completion of the portion of the work under inspection, the special inspector shall submit a final, signed report stating whether the work requiring special inspection was, to the best of the special inspector's knowledge, completed in conformance with the approved drawings and specifications and the applicable workmanship provisions of the building code.
- I. Approved Fabricators: Special inspections are not required when the work is performed on the premises of a fabricator registered and approved by the building department to perform such work without special inspection. The certificate of registration shall be subject to revocation by the building department if it is determined that the work done pursuant to the approval is in violation of the building code. The approved fabricator shall submit a certificate of compliance that the work was performed in accordance with the approved drawings and specifications. The certificate shall be submitted to the

Architect and the building department. The approved fabricator's qualifications shall be contingent on compliance with the following:

1. The fabricator has developed and submitted a detailed fabrication procedural manual reflecting key quality control procedures. The manual will provide a basis for inspection control of the fabrication plan and workmanship.
2. Verification of the fabricator's quality control procedures, capabilities, plan and personnel as outlined in the fabrication procedural manual shall be by an approved inspector or quality control agency.

1.15 REQUIRED TESTS AND INSPECTIONS: Tests and inspections, as set forth in the California Building Code (CBC) of the following will be required. (Where applicable.)

- A. EXTERIOR WALL COVERINGS – CBC CHAPTER 14
- B. SAFEGUARDS DURING CONSTRUCTION – CBC CHAPTER 33

TITLE 24, PART 2 VOLUME 2

A. CONCRETE CHAPTER 19A

1. MATERIALS

- PORTLAND CEMENT 1705A3.1; 1913A.1
- CONCRETE AGGREGATES 1705A.3 .1; 1903A.4
- REINFORCING BARS 1705A.3 .1; 1913A.2

2. QUALITY

- PROPORTIONS OF CONCRETE ACI 318-11, SEC. 5.2, 5.3, & 5.4
- STRENGTH TESTS OF CONCRETE 1905A.1.1; ACI 318-11, SEC. 5.6
- SPLITTING TENSILE TESTS
- COMPOSITE CONSTRUCTION CORES 1913A.4
- GYPSUM CONCRETE STRENGTH TEST 1911A; 1913A.6

3. INSPECTION

- JOB SITE ACI318-11 SEC.5.7
- BATCH PLANT 1705A.3.2
- WAIVER OF BATCH PLANT 1705A.3.3
- REINFORCING BAR WELDING 1903A.8; Table 1705A.2.1
- POST-INSTALLED ANCHORS IN CONCRETE 1913A.7

B. LIGHT WEIGHT METALS – CBC CHAPTER 20

1. MATERIALS

- ALLOYS 2002.1
- IDENTIFICATION 2002.1

2. INSPECTION

- WELDING 2003.1

C. MASONRY - CBC CHAPTER 21A

1. MATERIALS

- MASONRY UNITS 2103A.1
- PORTLAND CEMENT, LIME 2103A
- MORTAR AND GROUT AGGREGATES 2103A.9; 2103A.13; 2103A.13.3
- REINFORCING BARS 2103A.14

2. QUALITY

- PORTLAND CEMENT TESTS 1913A.1
- MORTAR AND GROUT TESTS 2105A.2.2.1.4
- MASONRY PRISM TESTS 2105A.2.2.2
- MASONRY CORE TESTS 2105A.4
- MASONRY UNIT TESTS 2105A.2.2.1
- REINFORCING BAR TESTS 1913A.2

3. INSPECTION

- REINFORCED MASONRY 1705A.4
- REINFORCED BAR WELDING 1705A.2.2.1.2; 1903A.8

D. STEEL – CBC CHAPTER 22A

1. MATERIALS

- STRUCTURAL STEEL 2205A.1
- COLD FORMED STEEL 2210A.1
- IDENTIFICATION 2203A.1

2. QUALITY

- TESTS OF STRUCTURAL AND COLD FORMED STEEL 221 IA.1
- TESTS OF HIGH STRENGTH BOLTS, NUTS WASHERS 2213A.1
- TESTS OF END WELDED STUDS 2213A.2
- STEEL JOISTS 2207 A; 1705A.2.2.3
- NON-DESTRUCTIVE WELD TESTS 1705A.2.2.1

3. INSPECTION

- SHOP FABRICATION 1704A.2.5; 1705A.2
- WELDING I 705A.2.2.1
- NELSON STUD WELDING 1705A.2.2
- HIGH STRENGTH BOLT INSTALLATION 1705A.2.2; Table 1705A.2.1

E. WOOD – CBC CHAPTER 23

1. MATERIALS

- LUMBER AND PLYWOOD 2303.1

2. INSPECTION

- TIMBER CONNECTORS 1705A.5.6

PART 2 – PRODUCTS Not applicable.

PART 3 – EXECUTION Not applicable.

END OF SECTION

SECTION 01412
QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION: All other Sections of Division 1 apply to this Section. The Contractor is responsible for implementing a Quality Control program that will ensure the timely and cost effective completion of this project.

1.02 RESPONSIBILITIES OF CONTRACTOR:

- A. Coordinate work of all subcontractors and of separate contracts, if any, assigned to this Contract.
- B. Cooperate with other contractors, if any, performing work on the site under separate contracts.
- C. Cooperate with the Owner in accommodating Owner-furnished material, furnishings, equipment and their installation.
- D. Establish onsite lines of authority and communication.
 - 1. Schedule and conduct progress meetings with Owner's representatives and the Architect.
 - 2. Utilize sequentially numbered and dated forms to document requests for information and clarification.
- E. Provide and maintain a competent staff of experienced construction, administrative and supervisory personnel in sufficient numbers to meet the contract completion date.
- F. Furnish detailed time schedule of operations for all work on the project. Monitor schedule as work progresses, and revise schedule at appropriate intervals to reflect actual progress.
- G. Furnish detailed breakdown of total contract amount organized by construction activity or Table of Contents in a timely manner.
- H. Verify that applications for permits, inspections, temporary facilities and permanent utilities are processed in a timely manner.
- I. Unless otherwise indicated or specified, perform the following items of work;
 - 1. Locate, identify, protect and maintain existing water, gas, sewer, irrigation and storm drain lines; lighting, power and telephone conduits and wires; and all other existing surface or subsurface structures.
 - 2. Do not disturb, disconnect or damage utilities during the progress of the work.

3. Maintain all existing plants and trees which are to remain.
 4. Repair or replace to satisfaction of Architect, all damage to existing improvements and to adjacent public or private property and rights-of-way, resulting directly or indirectly from operations under the contract.
- J. Coordinate furnishing and placing of embedded items, sleeves and blockouts with for formwork and reinforcing steel.
- K. Resolve conflicts that may develop among subcontractors and vendors over access to, and utilization of, the restricted spaces available for construction activities, materials and equipment.

1.03 VERIFICATION OF CONDITIONS: Prior to installing any portion of the work, inspect the work in place to receive the work to be installed and arrange for correction of defects in the existing workmanship, material, or conditions that may adversely affect work to be installed. Such inspections shall include test applications of the materials to be installed as required to establish the correct condition of surfaces involved. Installation of materials on work in place constitutes acceptance of such work in place as being in proper condition to receive the materials to be applied and waiver of claim that the work in place is defective as pertains to warranty requirements, excluding unascertainable or concealed conditions. Where the specifications require a material to be installed under the supervision or inspection of the material manufacturer or his representative, the manufacturer or his representative also shall inspect the work in place and issue a letter of approval to Architect.

1.04 TOLERANCES NOMENCLATURE:

- A. Tolerances and Numbers: Unless other tolerances are indicated or specified elsewhere, specified numbers such as gauges, weights, temperatures, and similar references, but specifically not including dimensions and time, will be acceptable if within formally established, written and recognized commercial tolerances established for the affected trade. In the absence of formally written and recognized commercial tolerances, plus or minus 1 percent will be acceptable. If a specified number cannot be obtained, the number shall be interpreted as the next larger, provided it meets other requirements of the contract documents including sufficient space being available as indicated on the drawings.
- B. Tolerances of Specified Words: Unless otherwise specified, the following words shall have the following meanings. Construction executed with these tolerances will be considered acceptable.
1. "Straight": Allowed deviations from an absolutely straight line of sight shall be plus or minus 1/16" in one foot, plus or minus 1/8" in 10 feet, and plus or minus 1/4" for the entire length of a particular construction. These deviations shall be non-accumulative. Straight lines or planes on drawings shall conform to these tolerances.
 2. "Flat": Allowed deviations from an absolutely flat plane shall be plus or minus 1/1000 inch in one square inch, within plus or minus 1/16 inch in one square foot, within plus or minus 1/8 inch in an area ten feet by ten feet, and within plus or

minus 1/4 inch for the entire area of a particular construction item. Flat planes on drawings shall conform to these tolerances.

3. "Level": Allowed deviation from an absolutely horizontal plane shall be 1/2 degree of angle. Horizontal lines or planes on drawings shall conform to this tolerance.
4. "Plumb": Allowed deviation from an absolutely vertical plane of plus or minus 1/2 degree of angle. Vertical lines or planes on drawings shall conform to this tolerance.
5. "Angle": Allowed deviation from an absolutely vertical plane of plus or minus 1/2 degree of specified degree of angle. Angled lines or planes on drawings shall conform to this tolerance.

PART 2 – PRODUCTS Not applicable to this Section.

PART 3 – EXECUTION Not applicable to this Section.

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SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION:

Provide temporary facilities and controls, complete.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION

3.01 TEMPORARY UTILITIES:

Except as otherwise specified below, District will furnish electrical power, water and gas from existing outlets designated by the District without charge to Contractor for quantities used for the work. Provide all temporary piping, fittings, wiring and lighting necessary to supply utilities in sufficient quantities at locations required by the work. Contractor shall carefully conserve utilities, and if, in the opinion of the District, the usage is excessive, Contractor may be required to provide separate services from serving utility companies.

- A. Electrical Power for in the Building: Characteristics of current furnished by the District is limited to that existing and available; if current of other characteristics or quantity is required by Contractor, the Contractor shall supply the power as necessary at no extra cost to the District. Power for small tools and lighting may be taken from the existing 120-volt 60 Hz 1-phase convenience receptacles provided there is no disturbance to occupants and functions, cables and conductors do not prevent or interfere with closing of fire-labeled doors, and load connected to any single or duplex outlet does not exceed 12 amperes. Total load connected to any circuit shall not exceed 25% of circuit capacity as labeled in panelboard. Contractor shall repair and make good damage to existing electrical facilities caused by his use, as directed and approved, at no extra cost of the District.
 - 1. Temporary Lighting: Provide lighting and outlets wherever necessary for proper performance and inspection of work. If operations are performed during hours of darkness and whenever natural lighting is deemed insufficient by Architect, provide adequate floodlights, clusters and spot illumination, as required to facilitate reading of drawings and specifications.
- B. Water:
 - 1. Construction Water: District will furnish water from such existing outlets as do not interfere with the normal operation of the facilities. In general, obtain water from outlets in janitor, mechanical and similar utility rooms. If used, do not run water hoses down corridors or across doorways in use by occupants. Provide temporary backflow prevention devices as required by Code or directed by the District.

2. Drinking Water: Maintain on the site at all times, adequate supply of drinking water. Provide bottled water, dispenser and disposable cups. Keep the equipment and the area around the equipment clean and dry at all times.

- C. Gas: Limit quantity used to the amount that causes no interference to existing gas-fired devices and equipment.

3.02 TEMPORARY HEAT AND VENTILATION:

Provide heat, fuel and services to protect the work against injury from dampness and cold until final acceptance of all work of the Contract.

- A. For not less than 7 days prior to plastering during application, setting and curing thereof, sufficient heat to maintain building temperature of not less than 55 degrees F while maintaining adequate ventilation for drying of plaster.

3.03 TEMPORARY TELEPHONE SERVICE:

Provide, maintain and pay for duration of work, two line telephone service (one for voice, one for FAX and data) in the Owner's and Architect's office for use of Owner and Architect only. Long distance calls will be paid by Owner. However, phone calls by Owner or Architect to Contractor, subcontractors or suppliers located in Los Angeles, San Bernardino and Orange Counties are not considered as long distance calls regardless of tolls, and Owner is not liable for additional payment for such phone calls. Provide separate telephone service for Contractor and subcontractor use.

3.04 TEMPORARY SANITARY FACILITIES:

- A. Provide and maintain temporary portable chemical toilet facilities for duration of operation. Properly proportion number of units for number of workers employed. Provide weathertight and floored structures, maintained in clean and sanitary condition acceptable to the District and Architect.
- B. Handwash Facility: Near each temporary toilet, provide hand sanitizer and paper towel dispenser, mounted at a convenient height and a minimum 50 gallon trash can. Keep dispensers filled, and trash can be emptied at frequent intervals.

3.05 TEMPORARY FIRE PROTECTION AND SAFETY REQUIREMENTS:

- A. The Contractor shall take necessary precautions to guard against and eliminate fire hazards and to prevent damage to construction work, building materials, equipment, temporary field offices, storage sheds and public and private property. The Contractor shall be responsible for providing, maintaining and enforcing the following conditions and requirements during the entire construction period. Comply with 2001 CFC Article 87 during all phases of the project.
 1. Fire Inspection: The Contractor's Superintendent shall inspect the entire project at least once each week to make certain that the conditions and requirements are being adhered to.

2. Hose: The number of outlets, supply of hose and proper hose size to protect the construction area shall be determined by the local Fire Marshal and provided by the Contractor.
 3. Fires: Employees shall not be allowed to start fires with gasoline or kerosene or other highly flammable materials. No open fires shall be allowed.
 4. Flammable Building Materials: Only a reasonable working supply of flammable building material shall be located inside of, or on the roof of, any storage facility.
 5. Combustible Waste Materials: Oil-soaked rags, papers and other highly combustible materials must be stored in closed metal containers at all times, and shall be removed from the site at the close of each day's work and more often where necessary, and placed in metal containers with tight hinged lids.
 6. Gasoline and other flammable or polluting liquids/materials shall not be poured into sewers, manholes or traps, but shall be disposed of, together with flammable or waste material subject to spontaneous combustion, in a safe manner meeting all applicable laws and ordinances. Make appropriate arrangements for storing these materials outside of the building.
 7. Provide and maintain fire extinguishers during construction, conveniently located for proper protection, one fire extinguisher for each 5,000 square feet of floor area or less, but not less than four extinguishers. Fire extinguishers shall be ten-pound ABC type. Extinguishers shall meet approval of Underwriters' Laboratory, and shall be inspected at regular intervals and recharged as necessary.
- B. All self-propelled construction equipment, except light service trucks, panels, pickups, station wagons, crawler type cranes, power shovels and draglines, whether moving alone or in combination, shall be equipped with a reverse signal alarm (hub-cap type).

3.06 TEMPORARY ELECTRONIC COMMUNICATIONS:

Contractor shall provide at the site, in the office, an experienced data processing and digital camera operator, and the following equipment for the use of the Contractor, Owner and Architect:

- A. CPU
1. Intel Core i5 processor
 2. 4 GB RAM
 3. 300 GB hard drive
 4. High Speed Internet Service Capable
 5. Ports for digital camera connection
 6. Read/write/DVD drive
 7. Battery backup system
 8. Windows 7
 9. Office 2013
- B. Digital Camera
1. 1152 x 864 minimum image resolution

2. Built in flash
3. Software to download images to on-site CPU
4. Software to optimize images for speedy e-mail transmission
5. Battery supply sufficient for continuous use of camera

C. Internet Service

1. E-mail address for use at the job site
2. Internet software installed for use by the Architect during site visits
3. High speed internet service.

3.08 TEMPORARY SCAFFOLDING, STAIRS AND HOISTS:

Provide and maintain for duration of work, in accordance with CAL-OSHA and applicable laws and ordinances, all required temporary standing scaffolding and temporary stairs, ladders, ramps, runways and hoists for use during construction, unless otherwise specified in contract documents.

3.09 TEMPORARY GUARDS, BARRICADES AND LIGHTS:

- A. Provide construction canopies, barricades, fences, guards, railings, lights and warning signs necessary and required by law, and take necessary precautions required to avoid injury or damage to any and all persons and property.
- C. Construction Site Fencing: Construct fence around construction site at exact location as indicated or directed, of chain link fence fabric not less than 6 feet high. Use 1-3/4" mesh not lighter than 9 gauge galvanized fabric with knuckled selvages. Use round posts, top tension wire and bottom tension wire, and bracing as required for rigidity. Provide steel gates and frames of not less than 1.90" OD, 0.120" minimum wall thickness galvanized tubing. Provide gates as required for access of vehicles and pedestrians. Equip swinging gates with galvanized hinges and latch. Provide change and double padlocks, arranged so that unlocking of either padlock will open the gate. Contractor provide on padlock for his use. District will provide the other padlock. Set posts for support of fences into sleeves or buried direct in ground. Hold posts aligned and plumb.

3.10 PROTECTION OF WORK AND FACILITIES:

- A. Protect all adjacent property, roads, streets, curbs, shrubbery, lawns, erosion control materials and planting during construction operations. All damaged material shall be replaced and/or repaired at the expense of the Contractor.
- B. Upon completion deliver the entire work to the Owner in proper, whole and unblemished condition.
 1. Parts of work in place that are subject to injury, because of operations being carried on adjacent thereto, shall be covered, boarded up, or substantially enclosed with adequate protection.
- C. The Contractor shall be responsible for preventing the overloading of any part of the facilities beyond their safe calculated carrying capacity by the placing of materials and/or equipment, tools, machinery, or any other items thereon.

- D. The Owner may provide such watchman services deemed necessary to protect the Owner's interest, but any protection so provided by the Owner shall not relieve the Contractor of the responsibility for the safety and condition of the work and material until the completion and acceptance thereof. The Contractor shall employ such watchman services as he may deem necessary to properly protect and safeguard the work and material.

3.11 DUST CONTROL:

Throughout the entire Contract period, effectively dust-palliate the working area, roads and storage areas constructed under this Contract and involved portions of the site, except during such periods that other contractors may be performing work of separate contracts in these areas. Such application shall consist of intermittent watering and sprinkling of such frequency as will satisfactorily allay the dust during all hours that work is being performed. At no time shall water be allowed to pond or puddle. Ponds and puddles shall be removed immediately and steps taken to remove or dry the mud resulting from the ponds or puddles.

3.12 WATER CONTROL:

Surface or subsurface water or other fluid shall not be permitted to accumulate in excavations or under the structures. Should such conditions develop or be encountered, the water or other fluid shall be controlled and suitably disposed of by means of temporary pumps, piping, drainage lines and ditches, dams or other methods approved by the Architect.

3.13 PROJECT IDENTIFICATION:

Provide and maintain one sign only on the property at location as directed by Architect. Signboard shall contain information and be of size as detailed on the drawings. Small direction signs may be installed if specifically approved by Architect. Signs by subcontractors and material suppliers will not be permitted.

3.14 CONTRACTOR VEHICLES ON CAMPUS:

Contractor's vehicles shall be restricted to access routes established by the Owner. Parking of Contractor's employees vehicles will be limited to offsite parking areas as arranged by Contractor, not necessarily adjacent to the site.

3.15 REMOVAL OF TEMPORARY CONSTRUCTION:

Remove temporary office facilities, toilets, storage sheds, fences and other construction of temporary nature from site as soon as progress of work permits. Recondition and restore portions of site occupied by same to a condition acceptable to Architect.

END OF SECTION

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SECTION 01630

SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. This Section covers provisions for, and restrictions on, substitutions of material, equipment and processes.

1.02 DISTRICT STANDARDS: Wherever products are identified as being a "District Standard", the District has established that these products are required in order to accommodate maintenance, stocking of parts and training of personnel. Substitutions for these items will not be permitted.

1.03 SUBSTITUTIONS:

- A. Wherever catalog numbers and specific brands or trade names, whether or not followed by the designation "or equal" are used in conjunction with a designated material, product, thing or service mentioned in these specifications, they are used to establish the standards of quality, utility and appearance required.
- B. Substitutions which are considered equal in quality, utility, performance and appearance to those specified will be reviewed, subject to the following provisions:
 - 1. All substitutions must be reviewed and approved by the Architect in writing prior to fabrication and installation.
 - 2. For this purpose, submit to the Architect 10 days prior to the bid due date, a typewritten list containing a description of each proposed substitute item, material or assembly.
 - 3. No substitutions will be allowed within 10 days of the bid date for review.
 - 4. Contractor shall comply with the General Conditions in regard to submittal of substitutions.
 - 5. Append to the list, a complete side-by-side comparison between the specified item and the substitute item; include sufficient data, drawings, samples, long lead status, literature, guranry, warranty, or other detailed information as will demonstrate to the Architect that the proposed substitute is equal or better in quality, utility, performance and appearance to the material specified.
 - 6. The Architect will approve, in writing, such proposed substitutions as are in the Architect's opinion, equal in quality, utility, performance and appearance to the items or material specified.

7. Such approval shall not relieve the Contractor from complying with the requirements of the drawings and specifications, and the Contractor's own expense for any changes resulting from the Contractor's proposed substitutions which affect other parts of the Contractor's own work or the work of others, time required to review the drawings and details.
 8. If such substitutions impact the design of the project, the Contractor shall reimburse the District for the cost of revisions of contract documents by the Architect.
- C. Failure of the Contractor to submit proposed substitutions for review and approval in the manner described above, and within the time prescribed, shall be sufficient cause for disapproval by the Architect of any substitutions otherwise proposed.
- D. If specified items are listed in the following format or similar format: "First manufacturer and model number, equivalent second manufacturer and model number, or equal" the Contractor wishing to submit any "equivalent named manufacturer" shall so do in accordance with this provision.
- E. Wherever catalog numbers and specific bands or trade names not followed by the designation "or equal" are used in conjunction with a designated material, product, assembly, thing or service mentioned in these Specifications, no substitutions will be approved.
- F. Contractor shall discuss at the time of bid if the product being supplied is per the plans and specifications or if it is intended to be and or equal substitution.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01650

PRODUCT HANDLING AND PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers the requirements for handling and protection of materials and equipment to be incorporated into the work.

- A. Transport, deliver, handle and store materials and equipment at the job site in such manner as to prevent damage, including damage which might result from the intrusions of foreign matter or moisture from any source. Comply with:
 - 1. Material and equipment manufacturer's instructions regarding temperature limitations.
 - 2. Other environmental conditions which are required to maintain the original quality of the materials and equipment.
 - 3. Handle materials to prevent damage to products and finishes.
- B. Packaging:
 - 1. Maintain packaged materials in manufacturer's original containers with seals unbroken and labels intact until they are incorporated into the work.
 - 2. Packaged material shall bear the name of the manufacturer, the product, including brand name, color, stock number and all other complete identifying information.
- C. Remove all damaged or otherwise unsuitable materials and equipment promptly from the job site.
- D. Storing:
 - 1. Locate storage piles, stacks or bins so as to avoid being disturbed. Provide barricades as required to protect storage from damage.
 - 2. Store all materials and equipment in accord with manufacturer's instructions, above grade and properly protected from weather and construction activities. Provide space heaters to prevent condensation where required.
- E. Protection:
 - 1. Protect all finished surfaces, including jambs and soffits of all openings used as passage-ways through which materials and equipment are handled.

2. Provide protection for all finished flooring surfaces in traffic areas before allowing any materials and equipment to be moved over those finished surfaces.
3. Maintain all finished surfaces clean, unmarred and suitably protected until occupied by Owner.
4. Consult individual Specification Sections for any additional specific product handling and protection requirements.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

END OF SECTION

SECTION 01700
PROJECT COMPLETION

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Perform duties specified herein for project completion, complete.

1.02 SUBSTANTIAL COMPLETION:

- A. When the work is considered substantially complete, submit to Architect a written notice that the work, or designated portion thereof, is substantially complete, and a list of items to be completed or corrected.
- B. After receipt of such notice, Architect will make an inspection to determine the status of completion.
- C. If Architect determines that the work is not substantially complete, Architect will promptly notify the Contractor in writing, giving the reasons therefore. Contractor shall remedy the deficiencies in the work and send a second written notice of substantial completion to the Architect. Architect will revisit the work.
- D. When Architect concurs that the work is substantially complete, he will prepare a Certificate of Substantial Completion on AIA Form G704, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Architect. Architect will submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

1.03 FINAL COMPLETION:

- A. When the work is considered complete, submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Work is completed and ready for final inspection.
- B. Architect will make a visitation to verify the status of completion with reasonable promptness after receipt of such certification.
- C. If Architect considers that the work is incomplete or defective, he will promptly notify the Contractor in writing, listing the incomplete or defective work. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to Architect that the work is complete. Architect will reinspect the work.

- D. When the Architect finds that the work is acceptable to the requirements of the Contract Documents, he will request the Contractor to make closeout submittals.

1.04 PROJECT CLOSEOUT:

The following items shall be completed and approved prior to the approval of the final certificate of payment.

- A. Warranties and Guarantees: Provide as specified in Section 01740. Unless otherwise provided elsewhere, warranties and guarantees shall commence with the date of final acceptance of the project. Verify date with the Architect, execute the forms and deliver to Architect for transmission to the Owner.
- B. Final cleaning: Perform final cleaning as specified in Section 01710, immediately prior to final inspection.
- C. Project Record Documents: Deliver to Architect record documents specified in Section 01720 at time of final inspection.
- H. Extra Materials: Deliver extra materials specified in the various sections to Owner's storage facility as directed.
- I. Provide all documentation required by CBC.
- J. Certificate of Insurance for Products and Completed Operations: Furnish to Owner at time of final inspection.

1.05 OBSERVATION FEES:

Should Architect perform observation due to failure of work to comply with the claims of status of completion made by the Contractor:

- A. Owner will compensate Architect for such additional services.
- B. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.06 FINAL ADJUSTMENT OF ACCOUNTS:

- A. Submit a final statement of accounting to Architect.
- B. Statement shall reflect all adjustments to the Contract Sum:
 - 1. The original Contract Sum.
 - 2. Additions and deductions resulting from:
 - a. Previous Change Orders.
 - b. Allowances.
 - c. Unit Prices.

- d. Deductions for uncorrected work.
 - e. Deductions for liquidated damages.
 - f. Deductions for reinspection payments.
 - g. Other adjustments.
3. Total Contract Sum, as adjusted.
 4. Previous payments.
 5. Sum remaining due.
- C. Architect will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.07 FINAL APPLICATION FOR PAYMENT:

Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

1.08 INSTRUCTIONS:

Instruct the Owner's operating and maintenance personnel in proper operation and maintenance of systems, equipment and similar items which were provided as part of the work.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION– Not applicable to this Section.

END OF SECTION

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SECTION 01710

CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Provide cleaning, complete.

- A. Maintain premises and public properties from accumulations of waste, debris and rubbish caused by operations.
- B. At completion of work, remove waste materials rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces; leave project clean and ready for occupancy.

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. Use cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use each type of cleaning material on surfaces recommended by manufacturer.

PART 3 – EXECUTION

3.01 DURING CONSTRUCTION:

- A. Execute cleaning to ensure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to prevent blowing dust.
- C. Daily during progress of work, clean construction site and utilized public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish. Provide for frequent emptying or pickup.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.
- F. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights; rather a closed chute shall be used.
- G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

3.02 FINAL CLEANING:

- A. Employ experienced workers, or professional cleaners, for final cleaning. Clean all surfaces which have been replaced, remodeled or altered as part of the work. Clean for their entire extent, or to natural stopping point, as approved.
- B. Exterior: Clean surfaces of the construction and site including fixtures, walls, soffits, floors, hardware, roofs, window and opening ledges and sills, horizontal projections, steps and platforms, walkways, rails and similar surfaces, and adjoining private and public property to the extent soiled by the Contractor's operations.
 - 1. Fixtures and Equipment: Leave lighting fixtures free of dust, dirt, stains or waste material. Clean and service equipment and machinery, ready for use.
 - 2. Surfaces Not Mentioned: Clean according to the intent of this Section and as required for Architect's approval.

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

Provide project record documents, complete.

1.01 MAINTENANCE OF DOCUMENTS:

- A. Maintain at job site at all times during construction and until final acceptance, one copy of:
 - 1. Contract drawings and specifications.
 - 2. Addenda, bulletins, change orders and construction change directives.
 - 3. Reviewed and approved shop and erection drawings.
 - 4. Samples, manufacturer's product data and installation instructions.
 - 5. Field test reports.
 - 6. Project correspondence and transmittals.
 - 7. Other documents relevant to work.
- B. These documents shall be latest current issue and shall bear, as applicable, all approvals and revisions.
- C. Store documents in temporary field office apart from documents used for construction. Provide files and racks for storage of documents. File documents in accordance with project filing format of CSI Masterformat. Maintain documents in clean, dry legible condition.
- D. Do not use record documents for construction purposes. Make documents available at all times for inspection.

1.02 RECORD DRAWINGS:

- A. Record drawings are required for all construction. Record drawings shall conform to the following requirements.
 - 1. Maintain, and keep up to date, a complete record set of blue line prints which shall be corrected daily to show every change from the original contract drawings. In addition, the prints shall be marked to show the precise horizontal and vertical location of concealed work and equipment, including concealed or embedded piping and conduit. Prints for this purpose shall be obtained from the Owner at not cost to the Contractor for original issue. This shall not be construed as authorization for the Contractor to make changes in the layout or work without definite instructions in each case.
 - 2. At completion of the work, obtain from the Architect a set of transparent reproducible drawings. Enter the changes on one sheet and submit a print of that sheet to the Architect for review of the quality of the draftsmanship. The required quality is that

the record entries shall be equal to that of the original drawings. Following acceptance of the quality of work, record all changes neatly in ink on the reproducibles. Submit one set of corrected drawings to Architect for review, and following review, make corrections as required, stamp each sheet "Record Drawing", stamp Contractor's name, print and sign name of preparer, and date the drawings. Each sheet shall be signed by an authorized representative of the Contractor. Upon completion, deliver the set of drawings to the Architect for transmittal to the Owner. Submit 2 USB drives to the Architect with each contain the following:

1. Scanned record drawings in pdf format (Scan all final as-buits into 300 DPI minimum colored scans), each file named to the sheet name.
2. Scans and/or final copies of all CCD's and RFI's in pdf each file named per CCD or RFI.
3. PDF versions of the M&O's and Warranties and Guarantees.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION– Not applicable to this Section.

END OF SECTION

SECTION 01730

OPERATIONS AND MAINTENANCE MANUALS AND PARTS

PART 1 - GENERAL

1.01 DESCRIPTION:

This Section covers the general requirements for operations and maintenance manuals, spare parts and extra material.

1.02 SUBMITTALS:

- A. Conform all submittals under this Section to applicable requirements of Section 01300.
- B. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of work. Architect will review draft and return one copy with comments.
- C. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- D. Submit 1 copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned, with Architect comments. Revise content of all document sets as required prior to final submission.
- E. Submit two sets of revised final volumes in final form within 10 days after final inspection.

1.03 QUALITY ASSURANCE:

Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.04 FORMAT:

- A. Prepare data in the form of instructional manuals.
- B. Binders: Commercial quality, 8-1/2 x 11 inch, three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of project; identify subject matter of contents.
- D. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- E. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

- F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- G. Arrange content by systems under section numbers and sequence of table of contents of this project manual.

1.05 CONTENTS, EACH VOLUME:

- A. Table of Contents: Provide title of project; names, addresses and telephone numbers of Architect, subcontractors and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For each Product of System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use project record documents as maintenance drawings.
- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties: As specified in Section 01740.

1.06 MANUAL FOR MATERIALS AND FINISHES:

- A. Building Products, Applied Materials and Finishes: Include product data, with catalog number, size, composition and color and texture designations. Provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition and details of installation. Provide recommendations for inspections, maintenance and repair.
- D. Additional Requirements: As specified in individual product specifications sections.
- E. Provide a listing in table of contents for design data, with tabbed fly sheet and space for insertion of data.

1.07 MANUAL FOR EQUIPMENT AND SYSTEMS:

- A. Each Item of Equipment and Each System: Include description of unit or system and component parts. Identify function, normal operating characteristics and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls and communications; typed or by label machine.
- C. Include color coded wiring diagrams as installed.
- D. Operating Procedures: Include start-up, break-in and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down and emergency instructions. Include summer, winter and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair and reassembly instructions; and alignment, adjusting, balancing and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices and recommended quantities to be maintained in storage.
- N. Include test and balancing reports as specified in Division 15.
- O. Additional Requirements: As specified in individual product specification sections.
- P. Provide a listing in table of contents for design data, with tabbed dividers and space for insertion of data.

1.08 INSTRUCTION OF OWNER PERSONNEL:

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment and maintenance of products, equipment and systems, at agreed upon times.
- B. For equipment requiring seasonal operation, perform instructions for other seasons within six months.
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in operation and maintenance manual when need for such data becomes apparent during instruction.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION

3.01 MAINTENANCE MATERIALS AND SPARE PARTS:

Furnish and deliver special tools, instruments, accessories, spare parts and maintenance materials required by the contract documents, and furnish and deliver the special tools, instruments, accessories, and the special lifting and handling devices shown in the instruction manuals approved above. Unless otherwise specified or directed, deliver the items to the Owner with the Contractor's written transmittal accompanying each shipment, in the manufacturer's original containers labeled to describe the contents and the equipment for which it is furnished. Deliver a copy of each transmittal to Architect for record purposes.

END OF SECTION

SECTION 01740

WARRANTIES AND GUARANTEES

PART 1 - GENERAL

1.01 DESCRIPTION:

This section specifies the general requirements for written warranties and guarantees required by the Contract Documents. Final payment under the contract will not be made until the warranties and guarantees have been submitted in acceptable form.

1.02 WARRANTIES AND GUARANTEES:

- A. General: Provide all warranties and manufacturer's guarantees with Owner named as beneficiary. For equipment and products, or components thereof, bearing a manufacturer's warranty or guarantee that extends for a period of time beyond the Contractor's warranty and guarantee, so state in the warranty or guarantee.
- B. Specific Warranty and Guarantee Requirements: Refer to Divisions 2 through 16.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties shall not relieve the Contractor of warranty on the work that incorporates the products, nor shall they relieve suppliers, manufacturers and installers required to countersign special warranties with Contractor.
- D. Related Damages and Losses: When correcting warranted work that has been found defective, remove and replace other work that has been damaged as a result of such defect or that must be removed and replaced to provide access for correction of warranted work.
- E. Reinstatement of Warranty: When work covered by a warranty has been found defective and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to be original warranty with an equitable adjustment for depreciation.
- F. Replacement Cost: Upon determination that work covered by a warranty has been found to be defective, replace or reconstruct the work to a condition acceptable to Owner, complying with applicable requirements of the contract documents. Contractor shall be responsible for all costs for replacing or reconstructing defective work regardless of whether Owner has benefited for use of work through a portion of its anticipated useful service life.
- G. Owner's Recourse: Written warranties made to the owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights or remedies.

- H. **Rejection of Warranties:** The Owner reserves the right to reject warranties and to disallow the use of products with warranties in conflict with contract document requirements.
- I. **Warranty as Condition of Acceptance:** The Owner reserves the right to refuse to accept work for the project where a special warranty, certification or similar commitment is required until evidence is presented that those required to countersign such commitments are willing to do so.

1.03 PREPARATION OF WARRANTY AND GUARANTEE SUBMITTALS:

- A. **Number of Copies:** 2, unless otherwise specified, or directed.
- B. **Special Project Warranty and Manufacturer's Guarantee Forms:** Forms for Special Project Warranties and for Manufacturer's Guarantees are included at the end of this Section. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor, or the Contractor and subcontractor, supplier or manufacturer. Submit a draft to the Owner through the Architect for approval prior to final execution.
 - 1. Refer to Divisions 1 through 16 for specific content requirements, and particular requirements for submittal of special project warranties.
 - 2. Prepare standard product warranties and product guarantees, excepting manufacturer's standard printed warranties and guarantees, on Contractor's subcontractor's material supplier's or manufacturer's own letterhead, addressed to Owner.
 - 3. Warranty and guarantee letters shall be signed by all responsible parties and by Contractor in every case, with modifications only as approved by Owner to suit the conditions pertaining to the warranty or guarantee.
- C. **Manufacturer's Guarantee Form:** Manufacturer's guarantee forms may be used in lieu of special project forms included at the end of the Section. Manufacturer's guarantee forms shall contain appropriate terms and identification, ready for execution by the required parties.
 - 1. If proposed terms and conditions restrict guarantee coverage or require actions by Owner beyond those specified, submit draft of guarantee to Owner through Architect for review and acceptance before performance of the work.
 - 2. In other cases, submit draft of guarantee to Owner through Architect for approval prior to final execution of guarantee.
- D. **Signatures:** By persons authorized to sign warranties and guarantees, on behalf of entity providing the warranty or guarantee. All signatures shall be notarized.
- E. **Co-Signature:** All warranties, except manufacturer's printed guarantees, shall be co-signed by the Contractor.

1.04 FORM OF WARRANTY SUBMITTALS:

- A. At final completion, compile 2 copies of each required warranty and guarantee properly executed by the Contractor, or by the Contractor and sub-contractor, supplier or manufacturer. Collect and assemble all written warranties and guarantees into binders and deliver binders to Architect for final review and acceptance.
- B. Prior to submission, verify that documents are in proper form, contain all required information and are properly signed.
- C. Organize the warranty documents into an orderly sequence based on the Table of Contents of the Project Manual.
- D. Include Table of Contents for the finder, neatly typed, following order and Section names and numbers of the Project Manual.
- E. Bind warranties and guarantees in heavy-duty, commercial quality, 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, with clear front and spine to receive inserts, and sized to receive 8-1/2" by 11" paper.
- F. Provide heavy paper dividers with celluloid or plastic covered tabs for each separate warranty. Mark tabs to identify products or installation, and Section number and title.
- G. Include on a separate typed sheet, if information is not contained in warranty or guarantee form, a description of the product or installation, and the name, address, telephone number and responsible person for applicable installer, supplier and manufacturer.
- H. Identify each binder on front and spine with typed or printed inserts with title "WARRANTIES AND GUARANTEES", the project title and the name of the Contractor. If more than one volume of warranties and guarantees is produced, identify volume number on binder.
- I. When operating and maintenance data manuals are required for warranted construction, include additional copies of each required warranty in each required manual. Coordinate with requirements specified in Section 01730.

1.05 TIME OF WARRANTY AND GUARANTEE SUBMITTALS:

- A. Preliminary Submittal: Unless otherwise specified, obtain preliminary copies of warranties and guarantees within 10 days of completion of applicable item or work. Prepare and submit preliminary copies for review as specified herein.
- B. Final Submittal: Submit fully executed copies of warranties and guarantees within 10 days of date of substantial completion by not later than 3 days prior to date of application for final payment.
- C. Date of Warranties and Guarantees: Unless otherwise directed, the commencement date for warranty and guarantee periods shall be the date of substantial completion.

1. Warranties for work accepted in advance of date of substantial completion:
Commencement date will be the date of acceptance of such work.
2. Warranties for work not accepted as of the date of substantial completion:
Commencement date will be the date of acceptance of such work.

PART 2 – PRODUCTS – Not applicable to this Section.

PART 3 – EXECUTION – Not applicable to this Section.

WARRANTY/GUARANTEE

FOR _____ WORK

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

Exterior Painting for Jersey Elementary School

LITTLE LAKE CITY SCHOOL DISTRICT

Is in accordance with the Contract Documents and that all said Work as installed will fulfill or exceed all of the Warranty and Guarantee requirements. We agree to repair or replace Work installed by us, together with any adjacent Work which is displaced or damaged by so doing, that proves to be defective in workmanship, material or operation with a period of _____ () year(s) from the date of final acceptance by Owner or from the Date of Certificate of Substantial Completion, whichever is earlier, ordinary wear and tear and unusual neglect or abuse excepted.

In the event of our failure to comply with the above-mentioned conditions within a reasonable time period determined by the Owner, after notification in writing, we, the undersigned, all collectively and separately, hereby authorize the Owner to have said defective Work repaired and/or replaced and made good, and agree to pay to the Owner upon demand all moneys that the Owner may expend in making good said defective Work, including all collection cost and reasonable attorney fees.

(Subcontractor, Subsubcontractor, Manufacturer or Supplier)

By _____

Title _____

State_License_No. _____ Date _____

(Contractor)

By _____

State_License_No. _____ Date _____

Local_Representative. For Maintenance, repair or replacement service, contact:

Name: _____

Address _____

Phone Number _____

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SECTION 02050

DEMOLITION

PART 1 - GENERAL

1.01 SUMMARY:

A. Work In This Section: Division 1 applies to this Section. Perform demolition and removals as indicated, specified and required:

1. Demolish and remove existing roofing, fascias, flashings, and gutters on buildings.
2. Make all necessary arrangements and remove abandoned on-site utilities including capping and sealing underground and walls.
3. Clean up and disposal of demolition and removal debris.
4. Salvage as indicated on drawings and as directed by the District, including delivery to District's storage.
5. Removal of abandoned utility piping, ducts and conduits.

B. Related Work Specified Elsewhere:

1. Temporary facilities.
2. Clean-up.
3. Earthwork.

1.02 SUBMITTALS:

Prepare and submit a detailed demolition plan of the work procedures proposed for use in the identification, demolition, handling, removal, transportation and salvage or disposal of removed materials. For each item to be salvaged and delivered to the District for future use, indicate proposed sizes, weights, handling, packaging and labeling methods. This requirement does not apply to items to be reinstalled under the contract.

1.03 RECORD DRAWINGS:

Provide record drawings as specified in Division 1. Identify and accurately locate capped utilities and other subsurface structural, electrical or mechanical conditions.

1.04 QUALITY ASSURANCE:

A. Requirements of Regulatory Agencies: Secure and pay for demolition and removal permits required by public agencies having jurisdiction. Give notices and comply with requirements of SCAQMD rule 1403.

- B. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed demolition work similar to that indicated for this project.
- C. Public Utilities: Give all required notices, pay fees and charges, and arrange for disconnection and removal of abandoned public utilities and meters.
- D. Video Documentation: Refer to Division 1. Before starting work of this section, provide one video of existing conditions to be affected by the demolition work. Provide progress videos as the work of demolition progresses, at intervals as approved, illustrating substrates, connections, concealed conditions, and other conditions which will benefit subsequent work.

1.05 DEFINITIONS:

The following terms have the meanings indicated when used in this Section and on related drawings.

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged or to remain the District's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the District's property. Remove, clean and pack or crate items to protect against damage. Identify contents of containers and deliver to District's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service and otherwise prepare them for reuse; store and protect against damage. Reinstall items in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during demolition and then cleaned and reinstalled in their original locations.

1.06 MATERIALS OWNERSHIP:

District has first right of ownership. Except for items or materials indicated to be reused, salvaged or otherwise indicated to remain the District's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

1.07 ENVIRONMENTAL CONDITIONS:

- A. Hazardous Materials: Prior to starting work, obtain from the District certification that hazardous materials have been removed under a separate contract. In the event additional material which is suspected to be friable asbestos or other regulated hazardous material is encountered during the demolition work, the Contractor shall stop work in such areas and notify the District. The material will be inspected and tested, if necessary, by the District. If the material is found to be friable asbestos or other hazardous material, the District will provide for its removal or encapsulation without delay at District's expense. After treatment the District will test and certify that the

contamination has been removed or controlled to within legal requirements and Contractor will be notified to proceed with the work in writing.

- B. Noise Control: Perform all work in a manner and at times which will keep production of objectionable noise to a minimum amount of noise. Instruct all workers in noise control procedures. Noise that adversely affects adjacent properties will not be tolerated. Such conditions shall be the District's determination.
- C. Dust Control: Take appropriate action to check the spread of dust, and to avoid the creation of a nuisance in the surrounding area. Do not use water if it results in hazardous or objectionable conditions, such as flooding or pollution. Comply with all dust regulations imposed by local air pollution agencies. Remove dust and dirt from work area at least daily or more frequently as needed or directed.

1.08 PROJECT SITE AND BUILDING CONDITIONS:

- A. The intent of the drawings is to show existing site and building conditions with information developed from the original construction documents, field surveys and District's records, and to generally show the amount and types of demolition and removals required to prepare existing areas for new work. Contractor shall make a detailed survey of existing conditions pertaining to the work before commencing demolition. Report discrepancies between drawings and actual conditions to the Architect for instructions, and do not perform any demolition or removals where such discrepancies occur prior to receipt of the Architect's instructions.
- B. Extent: Perform removals to extent required plus such additional removals as are necessary for completion even though not indicated or specified. More or less of the existing construction may be removed if such variation will expedite the work and reduce cost to the District, subject to prior approval in each case.
- C. At completion of removal and demolition work, the Contractor shall compare existing conditions with drawings and with new construction to be attached to, aligned with or otherwise influenced by said existing conditions. In all cases where modifications may be required because of differences between existing conditions and assumed conditions shown or not shown on the drawings, the Contractor shall provide detailed information, dimensions, limitations and other documentation to enable the Architect to design the necessary modifications.

1.09 PROTECTION:

- A. Existing Work: Protect existing work which is to remain in place, that is to be reused, or which is to remain the property of the District by temporary covers, shoring, bracing and supports. Items which are to remain and which are to be salvaged and which are damaged during performance of the work shall be repaired to original condition or replaced with new. Do not overload structural elements. Provide new supports or reinforcement for existing construction weakened by demolition or removal work.
- B. Weather Protection: For portions of the building to remain, protect building interior and all materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work have materials and workmen ready to provide

adequate and approved temporary covering of exposed areas. Damage at areas to be protected shall be replaced to the satisfaction of the District at the Contractor's expense. Temporary coverings shall be attended, as necessary, to insure effectiveness and to prevent displacement. Protect building interiors from damage by weather and vandalism when windows and doors are removed by use of rigidly constructed, weatherproof barriers.

- C. Trees: Protect trees within the project site, which might be damaged during demolition, and which are indicated to be left in place, by a 6-foot high fence. Erect fence a minimum of 5-feet from the trunks at the outer perimeter of branches of individual trees or follow the outer perimeter of branches of clumps of trees. Restore trees scarred or damaged by Contractor equipment or operations to the original condition or replace as determined by the Architect.
- D. Fire Protection: Maintain fully charged fire extinguishers and water hoses readily available during all demolition operations. Test electrical conductors for disconnections prior to removing.
- E. Precaution Against Movement: Provide shoring and bracing or other supports to prevent movement, settlement or collapse of facilities adjacent to areas of alteration and removal that are to remain.
- F. Overloading: Do not overload any part of the structures beyond the safe carrying capacity by placing of materials, equipment, tools, machinery, or any other item thereon.
- G. Building Security: Take appropriate measures, as approved, to protect the work from theft and vandalism.

1.10 EXPLOSIVES:

Use of explosives will not be permitted.

1.11 BURNING:

Burning will not be permitted.

PART 2 – PRODUCTS

PART 3 – EXECUTION

3.01 EXAMINATION:

Verify that utilities have been disconnected and capped.

3.02 PREPARATION:

Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks and other adjacent occupied and used facilities. Do not close or obstruct streets, walks or other adjacent occupied or used facilities without permission from the District and

authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

3.03 UTILITIES:

- A. Drain, purge, or otherwise remove, collect and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
- B. Prior to demolition or in the event unrecorded utilities are encountered, notify the District or serving utility companies, as applicable, for work necessary and scheduled to be performed. Coordinate responsibility for limits of utility removals and be responsible for the removal of all utility installations both above and below grade except for those installations the utility companies agree to move. Use care to protect utility lines to remain in service, repair all damage which does occur, and remove those not to remain in service.
- C. Interruption of Service: In the event existing utility service requires interruption to accomplish the demolition work, obtain written approval by the District for interruption of service. Request approval not less than 48 hours prior to proposed scheduled interruption. State the exact services involved and the expected duration. Except in an emergency affecting life and limb, do not cause any interruption of utility service without written authorization from the District.
- D. Provide for protection of utility lines to remain in service. Repair damage done to these facilities as a result of the work of this Section, to the satisfaction of the District. Locations of existing utilities to remain shall be identified on record drawings, and their physical location shall be indicated by tags or stakes as applicable.
- E. Provide approved paths of travel around bracing, etc. School circulation shall be maintained at all times. Provide plates, bridges, protective barriers and guardrails as required to accomplish this.

3.04 WORKMANSHIP:

- A. Lowering material: Use hoists and chutes as required to lower removed material. Throwing, dropping or permitting the free fall of material and debris from the roof or from heights which would cause undue noise or nuisance or excessive dust, is prohibited.
- B. Protection of work to remain: Establish cut off points between work to be removed and work to remain.

3.05 REMOVAL OF PORTIONS OF BUILDINGS:

- A. Removals: Carefully remove work to be salvaged or reinstalled and store under cover.
- B. Fascias & framing: Remove by cutting down and not by tumbling, throwing or dropping.

- C. Masonry: Remove masonry carefully so as to prevent damage to surfaces to remain and to facilitate the installation of new work. Cut back to joint lines and remove old mortar. Allow space for repairs to backing where applicable. Where new masonry adjoins existing, the new work shall abut or tie into the existing construction as indicated or as specified for new work.
 - D. Miscellaneous metals: Shop-fabricated items and light-gauge metal items shall be disposed of by the Contractor.
 - E. Wood framing: Remove portions as indicated or as required to complete new work. Cut to neat straight lines at points of minimum stress, or provide supplementary supports as required.
 - F. Woodwork: Cut or remove to a joint or panel line.
 - G. Glass: Remove broken or damaged glass and clean glazing channels and stops of setting materials.
 - H. Plaster: Cut back to sound plaster, and back-bevel edges of remaining plaster. Trim existing lath and prepare for new lath. Tie lath together and use a liquid bonding agent.
 - I. Sealants: Removal of windows, door frames, panels and similar items, shall include the complete removal of perimeter sealants. Where such items are to remain, inspect the sealants, and if defective, remove the sealant and prepare surfaces for replacement of sealant as specified for new work.
 - J. Hangers: Where piping, ductwork, suspended ceilings and similar work are removed, completely remove all hanger wires and rods, suspension channels, tees and other devices. Inserts in slabs may remain.
 - K. Sleeves: Where holes in concrete, masonry or plaster are to be filled, remove sleeves.
 - L. Miscellaneous Items: Remove items not mentioned but required to be removed in such manner as minimizes damage to work to remain.
- 3.07 DEMOLITION OF ELECTRICAL EQUIPMENT AND FIXTURES:
- A. Wiring systems and components shall be removed. Primary, secondary, control, communication and signal circuits shall be disconnected at the point of attachment to their distribution system.
 - B. Fixtures: Electrical fixtures shall be removed, complete with lamps.
 - C. Electrical devices: Switches, receptacles, switchgear, transformers, regulators, meters, instruments, plates, circuit breakers, panelboards, outlet boxes, and similar items shall be removed.
 - D. Conductors, including insulated wire and nonmetallic sheathed and flexible armored cable, shall be removed. Conduit, except where embedded in concrete or masonry, shall be removed. Wiring ducts or troughs shall be removed.

3.09 SALVAGE AND DISPOSAL:

- A. General: Existing items the District intends to retain are indicated on drawings or will be designated by the District prior to start of work. Contractor shall carefully remove, salvage, box or bundle as approved, and deliver such items to storage as directed.
- B. Disposal: All removed material other than items to be salvaged or reused shall become Contractor's property and be removed from the District's property. Clean up and dispose of debris promptly and continuously as the work progresses, and do not allow to accumulate. Sprinkle water on the surface to prevent dust nuisance. Secure and pay for required hauling permits and pay dumping fees and charges.

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SECTION 04215

BRICK MASONRY

PART 1 - GENERAL

1.01 DESCRIPTION: Division 1 applies to this Section. Provide infills in existing brick masonry, and clean existing brick, complete.

1.02 SUBMITTALS:

- A. Samples: Submit the following:
 - 1. Proposed masonry units to show match with existing.
 - 2. Samples of cured dry mortar showing finish color.
 - 3. Cured sealant colors for expansion and control joints.

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING: Deliver masonry units on pallets and cementitious materials in unopened factory containers. Store all materials in dry covered locations protected from moisture. Handle and store all masonry units by methods that prevent cracking, chipping, or defacing.

1.04 JOB CONDITIONS: Inspect and verify surfaces to receive work of this section. Report all conditions that prevent correct installation of masonry.

PART 2 – PRODUCTS

2.01 MASIC MATERIALS:

- A. Portland cement: ASTM C150, Type II, low alkali. Masonry cement is not acceptable. Use only one brand.
- B. Hydrated lime: ASTM C207, Type S.
- C. Mortar sand: ASTM C144, not less than 4% passing No. 100 sieve, uniformly graded from fine to coarse.
- D. Grout sand: ASTM C404, natural, Size No. 1.
- E. Pea Gravel: ASTM C404, gravel, except maximum 5% passing No. 8 sieve and all passing a 3/8" sieve.
- F. Mortar admix: Red Label Suconem, Anti-Hydro, or equal.
- G. Grout admix: Sika Chemical Corp. GA Grout Aid.
- H. Reinforcing mesh: As shown on drawings.
- I. Water: From domestic potable source.

J. Epoxy: Hilti Hit-HY-150Max.

2.02 BRICK MATERIALS: Match existing in size and color.

2.03 ANCHORAGE MATERIALS: Standard steel anchorage devices, galvanized in accordance with ASTM A123 unless otherwise specified.

- A. Joint Wires: Minimum 9 gauge galvanized annealed steel wire, straightened.
- B. Joint Ties: Minimum 9 gauge galvanized steel wire ladder or truss type.
- C. Composite Wall Ties: Dur-O-Wall Adjustable Z-type wall ties, 2-piece type units with hooks and eyes and formed of minimum 3/16" diameter zinc-coated steel wire, 1-1/2" adjustment, or equal.

2.04 MORTAR AND GROUT PROPORTIONS AND MIXING:

- A. Strengths: Minimum compressive strengths, 1,800 psi for mortar and 2,000 psi for grout.
- B. Proportions: Accurately measure all mortar and grout by the volume method using calibrated containers. Shovel measurements are not acceptable.
 - 1. Mortar: Type S conforming to ASTM C476 and CBC; include mortar admix in mortar for masonry, quantity as recommended by mortar admix manufacturer.
 - 2. Grout: By volume, 1 part Portland cement, not more than 3 parts damp loose sand, and 1 to 2 parts pea gravel; exact proportions as required for the minimum 2,000 psi compressive strength. Include grout admix of correct type, proportioned per manufacturer's directions.
- C. Mixing: Place half of the required water and sand in an operating machine mixer; then add Portland cement, remainder of sand and water, and then hydrated lime. Machine mix not less than 5 minutes after all ingredients are charged.
- D. Retempering: Retemper mortar within one hour after leaving the mixer and maintain high plasticity. Add water in a basin formed in the mortar and rework mortar into water. Discard all mortar that is not used within one hour or that that has begun to initially set.

PART 3 – EXECUTION

3.01 INSTALLATION OF INFILLS IN BRICK MASONRY: Install brick masonry to match existing walls, joints of uniform sizes and patterns. Cut all exposed brick with powered masonry saw. Do not install bricks having stained, defaced, or damaged faces, edges, or corners to remain exposed. Remove dust and dirt from bricks using oil-free compressed air. Dampen bricks to optimum moisture content for proper suction control before placing.

- A. Placing with full bed joints and full shovled head joints. Rack courses back when laying is stopped. Cover top of masonry with plastic sheeting when laying is not in progress.

- B. Joint Size and Tooling: Make all joints of uniform width in color to match existing. Dense concave tool joints with a non-staining plastic tool of approved radius.
- C. Leave cleanout openings at bottom of each grout lift, spaced at nominal 24" centers. Wash out the core void and close openings with matching bricks and mortar joints before placing grout. Hold vertical bars in position at top and bottom. Install horizontal bars as grouting progresses, or wire tie to vertical bars at every coursing. Maintain a minimum 3/4" space between bars and masonry and between parallel bars. Pour grout in 12" lifts and before any wythe is more than 9" above the other wythe, stopping 1-1/2" below the lower wythe. Puddle and compact grout to fill all voids.
- D. Control Joints: Clean brick edges and install backing and sealant according to Section 07920. Use sealant of color exactly matching mortar color.
- E. Install epoxy at base of wall as indicated.

3.02 CURING: Keep newly constructed masonry damp for 3 days with regulated fog spray of water sufficient only to moisten faces of masonry but not in an amount as to cause water to flow down over masonry. Do not saturate masonry with water for curing or any other purposes and protect from rain or flooding during curing period.

3.03 CLEANING:

- A. Conforming to BIA Publication No. 20, "Bucket and Brush Hand Cleaning", insofar as possible.
- B. Clean mortar and grout off exposed surfaces immediately and as the Work progresses. Acceptably repair imperfect joints, holes, defaced units, chipped edges or corners, and all other defects, or replace the defective units as required for approval. Use specified cleaners, or as recommended by masonry manufacturer. Wet the masonry before applying cleaners and do not allow cleaning materials to dry on the masonry. Mortar or grout staining on exposed masonry surfaces is subject to sandblast cleaning of the entire surface involved to obtain clean uniform approved appearance, as directed and at no extra cost to Owner.
- C. Clean existing brick.

3.04 FIELD QUALITY CONTROL:

- A. Testing: Testing Laboratory shall test mortar and grout to extent shown, directed, or required by Code.

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SECTION 06101

ROUGH CARPENTRY RENOVATION

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Provide rough carpentry, including new work and renovation work, as indicated and specified, complete.

A. Work In This Section: Principal items include:

1. Cutting, moving, and removing items as necessary to provide access or to allow alterations and new work to proceed.
2. New fascias, exterior soffits and roof wood framing, sheathing, covered walkways, infills, and blocking where indicated or required.
3. Blocking for roofing and flashing.
4. Rough hardware for work of this section.
5. Repair and replacement of defective fascias, wall sheathing, and framing as required.
6. Addition of blocking, backing, cants and stripping in framing and furring, as required to accommodate new work.
7. Wood blocking, grounds, backing, stripping, cants, and nailers as indicated, specified, or required for securing other work, except for those items specified to be furnished under other sections.
8. Wood preservative treatment.
9. Cutting, moving, and removing items as necessary to provide access or to allow alterations and new work to proceed.

B. Related Work Not In This Section:

1. Concrete forms.

1.02 QUALITY ASSURANCE:

- A. Requirements of Regulatory Agencies: Conform to code for construction, nailing, and connections except as exceeded by requirements on drawings or specified.
- B. Preservative Treated Wood: Provide preservative-treated wood at following conditions in accordance with applicable building code:

1. Wood furring and nailers that are set into or in contact with concrete or masonry.
2. Nailers, edge strips, crickets, curbs, and cants for roof decks.

1.03 ENVIRONMENTAL PROTECTION:

All wood products shall originate in "certified well-managed" forests as determined by standards endorsed by the Forest Stewardship Council. Timber products shall come from sources adopting environmentally friendly practices in forest management, logging and processing. Acceptable practices shall mean forests that are being managed through professionally administered forestry management and logging plans that assure regeneration of desired species following harvest. Forest management shall also include protecting rivers and streams from degradation, minimizing damage to the forest when harvesting, protecting biodiversity, operating in concert with the lawful interests of local populations, and maximizing both the yield and value of the forest products.

1.04 DELIVERY, STORAGE AND HANDLING:

Deliver material to site, off-load and handle in manner that will not damage material. Store material off ground and cover with waterproof covering. Provide adequate ventilation.

1.05 PROJECT CONDITIONS:

- A. Environmental Requirements: Execute demolition and renovation in manner to limit unnecessary dust and noise, and in compliance with applicable codes and federal or state requirements. Burning of materials on site not allowed.
- B. Existing Conditions: Do not interfere with use of occupied buildings or portions of buildings. Maintain free and safe passage to and from occupied areas.
- C. Protection:
 1. Provide necessary temporary shoring and bracing to support and protect portions of existing buildings during demolition operations. Leave such shoring in place until permanent supports have been installed. Be solely responsible for design, safety and adequacy of temporary shoring and bracing and its ability to carry load for which intended.
 2. Protect grounds, plantings, buildings and other facilities or property from damage caused by construction operations.
- D. Safety: Cease operations at endangered area, and notify Architect immediately if safety of structure appears to be endangered. Take precautions to properly support structure. Do not resume work in endangered area until safety is restored.

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. Materials for Patching, Extending and Matching: Provide same products or types of construction as in existing structure, as needed to patch, extend or match existing work. Where materials of higher quality are specified herein, conform to specified requirements, or obtain clarification from Architect.
1. Patching, extending and matching existing work and systems shall result in complete, finished system.
 2. Presence of product, finish or type of construction requires that patching, extending or matching be performed as necessary to make work complete and consistent.
- B. Lumber: Douglas fir and Larch, S4S unless otherwise shown or specified, manufactured, graded and bearing grade mark of WCLIB Standard Grading Rules 17 or WWPA “Western Lumber Grading Rules 91”, moisture content at time of installation not over 19 percent or less than 7 percent.
1. New Replacement Framing and Furring: Match existing, except, as a minimum, comply with requirements of grades indicated on drawings or required by applicable building codes for new work of equivalent use.
 2. Seasoning: Kiln dry to 19 percent or less moisture content.
- C. Grades: All Lumber shall be Douglas fir (larch) of the grades shown on drawings, and shall conform to the current Standard Grading Rules for Western Lumber by WWPA or WCLIB. All lumber shall be grade marked as called for below. All lumber exposed to weather shall be treated wood. Bending stresses noted below are base stresses without increases or decreases for various treatments, size or shape factors, duration of loading, etc. Stresses are shown for single member uses only. These apply to all new lumber.
- D. Lumber Pressure Preservative Treatment: Pressure treat wood as specified herein in accordance with AWWA Standard C1 and AWPI Standard LP-2, each piece of lumber bearing the mark of an approved testing agency. Deliver at maximum 14 percent moisture content. Whenever necessary to cut, notch, dap, bore, splice, or frame treated lumber, thoroughly paint newly cut surfaces with same preservative used in treatment of lumber. The following items shall be treated:
1. Wood sills, soles, plates, furring, sleepers and nailers that are set into or in contact with concrete masonry.
 2. Nailers, edge strips, crickets, curbs, and cants for roof decks.
- E. Wood Grounds: Milled to size and profile shown or required by thickness of lath and plaster, of pressure preservative treated Douglas fir, or equal.
- F. Plywood: PS-1: Each panel identified with APA grade trademark.

1. Roof Sheathing: APA Rated Sheathing, Exposure 1 (Interior with exterior glue), span rating not less than spacing of framing members. Thickness shall match existing.
 2. Seasoning: Kiln dry plywood to 15 percent or less moisture content. Kiln dry pressure treated plywood after treatment.
 3. Nails: Type and size as recommended by APA.
- G. Metal Framing Anchors: Punched and formed for nailing so that nails will be stressed in shear only.
1. General: Provide with zinc coated nails and bolts according to manufacturer's requirements.
 2. Types: As indicated on drawings and as required to accommodate framing.
 3. Sizes: Of sufficient size and strength to develop full strength of supported member in accordance with applicable building code.
 4. Metal Bridging: Minimum No. 16 U.S. Standard gage.
 5. Finish: Hot-dipped galvanized.
- H. Anchor Bolts: Furnish anchors to be built into concrete and masonry for anchorage of wood.
- I. Wood Grounds: Milled to size and profile shown or required by thickness of lath and plaster, of pressure preservative treated Douglas fir, or equal.

2.02 ROUGH HARDWARE:

Provide rough hardware required to complete work shown and specified. Rough hardware includes bolts, nuts, nails, washers, lag screws, washers, plates, post and beam anchors, framing hangers, wood connectors, and similar hardware used for construction of the rough wood framing.

- A. Nails: Provide common nails with dimensional properties complying with UBC Table 23-I-G, sizes as indicated. Provide ring-shank nails for plywood on floors. Box nails and sinker nails are not acceptable.
- B. Bolts and Nuts: ASTM A307, galvanized for exterior or exposed use.
- C. Washers: As noted on drawings, galvanized for exterior or exposed use.
- D. Framing Connectors: By "Simpson", "Newton", "Timfast", "Teco", or equal, types shown or required, galvanized, nails furnished by manufacturer of anchors used. Full drive nails in all holes in anchors. If other than Simpson connectors are proposed for use, submit Code approval catalog data with proposed substitutions circled.

PART 3 – EXECUTION

3.01 EXAMINATION:

Examine areas to be renovated. Comply with Section 01120. Verify that surfaces to receive rough carpentry are prepared to required grades and dimensions.

3.02 PREPARATION:

- A. Dust Protection: Comply with Section 02050.
- B. Demolition: Comply with Section 02050.

3.03 LAYING OUT WORK:

Verify dimensions and elevations indicated in layout of existing work. Prior to commencing work, carefully compare and check drawings for discrepancies in locations or elevations of work to be executed. Refer discrepancies among drawings, specifications, and existing conditions to Architect for adjustment before work affected is performed.

3.04 PERFORMANCE:

- A. Patching: Patch and extend existing work using skilled mechanics who are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than specified for new work. If similar new work is not specified, equal to existing work.
- B. General: Perform in accordance with AF&PA National Design Specification for Wood Construction.
 - 1. Framing: Erect plumb, level and true and rigidly anchor in place. Cut framing square on bearings, closely fit, accurately set to required lines and levels.
 - 2. Nail or spike members in accordance with applicable codes.
 - 3. Framing: 16 inches o.c. unless otherwise indicated.
 - 4. Shims: Do not use shims for leveling on wood or metal bearings. Use steel or slate shims with full bearing on masonry or concrete.
 - 5. Do not splice framing members between bearing points.
 - 6. Metal Framing Anchors: Install where required for proper connections in accordance with manufacturer's recommendations. Drive nail in each nail hole provided in anchor.

C. Wood Framing:

1. Openings: Frame members for passage of pipes and ducts to avoid cutting structural members. Do not cut, notch, or bore framing members for passage of pipes or conduits without Architect's permission. Reinforce framing members as directed where damaged by cutting.
 2. Firestopping: Firestop concealed spaces in framing. No shutoff by framing members to prevent drafts from one space to another. Use 2 inch nominal thick accurately fit wood blocking to fill opening.
 3. Provide blocking or suitable edge support between members as necessary to support edges of sheathing.
 4. Replace warped lumber in walls and joists prior to installation of finish surface.
- D. Anchors: Unless otherwise indicated, bolt plates firmly to concrete or masonry with anchor bolts in accordance with applicable code. Embed anchor bolts spaced at minimum 6 inches on center unless otherwise noted, and provide each with nut and 2 inch diameter washer at bottom end. 90 degree bent end may be substituted for nut and washer.
- E. Wood Studs: Install at 16 inches o.c. with single bottom plate and double top plate with joints staggered. Provide double studs at openings and triple at corners and intersections. Provide double headers with double trimmers over openings.
- F. Plywood Sheathing: Install in accordance with APA Recommendations. Provide space at end and side joints as recommended by APA. Install panels with face grain perpendicular to supports with end-joints supported. Stagger ends of adjacent sheets 4 feet wide where possible. Where support spacing exceeds maximum span for unsupported edge, provide adequate blocking, tongue and groove edges, or panel edge clips, in accordance with APA E30-L. Nail in accordance with APA recommendations.
- G. Preservative- and Fire-Retardant Material: Milling or ripping material parallel to grain not allowed unless material is treated after milling or ripping. Treat drilled holes and cuts across grain in accordance with AWPA M4.

3.05 ROOFING WORK:

Removal of existing roofing is specified in Section 01120. Examine existing wood or plywood deck and replace members which are damaged or out of alignment, or which are rotted or deteriorated. Nail decking securely to supports. Nail in accordance with APA Recommendations.

3.06 BLOCKING AND FURRING:

- A. Blocking: Install wood blocking as required for proper support of hardware, toilet accessories, cabinets, and other wall-mounted items. Set true to line, level, or plumb, well-secured in stud wall and flush with back of drywall or other wall finish. Coordinate

exact locations with other sections. Provide blocking for cuts in diagonal sheathing, roof equipment, and other items as required. Install as detailed.

- B. Rough Wood Bucks: Set true and plumb and anchor to concrete or masonry with steel straps extending into wall minimum 8 inches. Place anchors near top and bottom of buck and space uniformly at maximum 24 inches o.c. Provide nominal 2 inch thick if not indicated.
- C. Wood Furring: Install wood furring on masonry or concrete walls in sizes and spacing as indicated on drawings. Provide minimum 1 inch by 3 inch nominal furring strips spaced at maximum 16 inches o.c. if not indicated. Securely fasten wood furring at maximum 3 feet o.c. with expansion bolts, cut concrete nails or ramset anchors as required. Do not use wood plugs. Install furring around openings and at corners. Erect furring plumb and level, and shim out as required to provide true, even plane with surfaces suitable to receive required finish.

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SECTION 07600

FLASHING AND SHEET METAL

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Provide flashing and sheet metal items, complete.

A. Work In This Section: Principle items include:

1. Clean and repair existing sheet metal flashings to remain.
2. New sheet metal flashings, counterflashings, collector heads, downspouts and scuppers, as indicated and specified.
3. Replace damaged or defective sheet metal.
4. Drip flashings over new louvers, unless furnished with the louvers.
6. Prefinished sheet metal copings, edge flashings and gravel stops.
7. Shop priming and field touch-up.
8. Caulking.

B. Related Work Not In This Section:

1. Metal accessories for drywall, lathing and acoustical treatments.
2. Finish painting.
3. Sleeves for embedded items.

1.02 QUALITY ASSURANCE:

Drawings and requirements specified govern. Conform to the current "Architectural Sheet Metal Manual" published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA), 1611 North Kent Street, Arlington, VA 22209 for conditions not indicated or specified and for general fabrication of sheet metal items.

1.03 SUBMITTALS:

- A. Shop Drawings: Submit for fabricated sheet metal showing connections with existing, details, methods of joining, anchoring and fastening, thicknesses and gauges of metals, concealed reinforcement, expansion joint details, sections and profiles.
- B. Samples: Submit samples for materials or assemblies as requested.

- C. Product Data: Submit brochures of manufactured items. Submit methods of cleaning existing sheet metal, and data sheets of products proposed for use.

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. Galvanized steel: ASTM A525, coating G90, mill phosphatized for paint adhesion, 24 gauge unless otherwise shown or specified.
- B. Soft metal: Soft copper, or soft stainless steel, as indicated and as specified.
- C. Solder: ASTM B32, B284.
- D. Solder flux: Standard brand non-corrosive acid-base type.
- E. Fasteners: Zinc or cadmium coated steel or stainless steel.
- F. Felt: ASTM D226, 15-pound type.
- G. Primer: Approved brand of zinc-dust zinc-oxide primer per Section 09900 with manufacturer's pretreatment materials.
- H. Sealant: Single component nonsag polyurethane, conforming to Section 07920.
- I. Building Paper: Fed. Spec. UU-B-790, Style 4, Grade B.

2.02 FABRICATION:

- A. Drip Flashings: Provide at heads of windows and doors. Use material compatible with window and frame materials. Coordinate installation of flashing with that of windows and doors. Provide hemmed exposed edges, 1-piece lengths.
- C. Counterflashing: Except where indicated or specified otherwise, insert counterflashing in reglets and extend down vertical surfaces over upturned vertical leg of base flashings not less than 3 inches. Fold the exposed edges of counterflashings 1/2 inch. Provide end laps in counterflashings not less than 3 inches and make weathertight with single component, not-sag urethane sealant, as specified in Section 07920. Lengths of metal counterflashings shall not exceed 10 feet. Form the flashings to the required shapes before installation. Factory-form the corners not less than 12 inches from the angle. Secure the flashings in the reglets with soft metal wedges (no lead) and space not more than 18 inches apart; short runs, place wedges closer together. Fill caulked-type reglets or raked joints which receive counterflashing with caulking compound as covered in Section 07920. Install counterflashing to provide a spring action against base flashing.
- D. Scuppers: Line interior of scupper openings with sheet metal. Extend the lining through and project outside of the wall to form a drip on the bottom edge and form to return not less than one inch against the face of the outside wall at the top and sides. Fold outside edges under 1/2 inch on all sides. Provide the perimeter of the lining approximately 1/2 inch less than the perimeter of the scupper. Join the top and sides of the lining on the

roof deck side to a closure flange by a locked and soldered joint. Join the bottom edge by a locked and soldered joint to the closure flange, where required form with a ridge to act as a gravel stop around the scupper inlet. Provide surfaces to receive the scupper lining and coat with bituminous plastic cement.

- E. Downspouts: Types, shapes and sizes shall be as indicated, complete, including elbows and offsets. Provide downspouts in approximately 10-foot lengths. Provide end joints to telescope not less than 1/2 inch and lock longitudinal joints. Provide wire ball strainers for each gutter outlet. Provide strainers to fit tightly into outlets, of the same material used for gutters. Keep downspouts not less than one inch away from walls. Fasten to the walls at top, bottom and at immediate points not to exceed 5 feet on centers with leader straps or concealed rack-and-pin type fasteners. Form straps and fasteners of metal compatible with the downspouts.
1. Terminations: Where storm drain lines occur, neatly fit the downspout into the drainage connection and fill the joint with a Portland cement mortar cap sloped away from the downspout. Provide downspouts terminating in splash blocks with prefabricated elbow-type fittings matching profile of downspout.
- F. Collector Head: Of 20 gauge galvanized, top edge beaded for stiffening, outlet flange riveted and soldered. Provide a 1/4" mesh galvanized leaf strainer at top, secured in place but removable. Provide outlet types not less than 4 inches long. Seams shall be flat-lock solder type. Where conductor heads are used in conjunction with scuppers, set the conductor a minimum of 2 inches wider than the scupper. Attach conductor heads to the wall with suitable fasteners.
- G. Prefinished Items:
1. Copings: Prefabricate of not lighter than 20 gauge galvanized sheet metal, in the shapes and sizes indicated and in lengths not less than 8 feet. Provide prefabricated, mitered corners internal and external corners. Corner units shall have maximum 18" long legs and joints locked and soldered watertight, intermediate joints spaced at maximum 8-foot centers and equally spaced. Make intermediate joints of expansion type, edges spaced about 1/4" apart and centered over an 8" long backing plate of the same profile and gauge as the cap, set in a 1/2" wide bead of sealant. Secure both edges of caps with 1-1/2" wide 20 gauge galvanized steel cleats spaced at maximum 32" centers and locked into drip hem.
 2. Gravel Stops: Prefabricate in the shapes and sizes indicated and in lengths not less than 8 feet. Extend flange at least 4 inches onto flooring. Provide prefabricated, mitered corners internal and external corners. Install gravel stops and fascias after all plies of the roofing membrane have been applied, but before the flood coat of bitumen is applied. Prime roof flange of gravel stops and fascias on both sides with an asphalt primer. After primer has dried, set flange on roofing membrane and strip-in as specified in roofing section. Nail flange securely to wood nailer with large-head, barbed-shank roofing nails 1.5 inches long spaced not more than 3 inches on centers. Leave 1/4" space between ends of lengths of gravel stops and back with a formed flashing plate, mechanically fastened in place and lapping each section end a minimum of 4 inches set laps in plastic cement. Face nailing will not be permitted.

3. Painted Finish: Provide fluorocarbon paint finish based on minimum 70 percent Kynar 400 or Hylar 5000 polyvinylidene resin content in cured paint finish, applied over an epoxy primer, both coats applied and baked according to manufacturer's specifications by manufacturer's licensee, equal to PPG "Duranar".

PART 3 – EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS:

- A. Install new sheet metal items as indicated, according to approved submittals, and as required to complete the entire work. Securely fasten and assemble, and make watertight and weathertight.
- B. Clean existing sheet metal items. Clean gutters, downspouts, roof drains and other items on roof, using approved cleaners.
- C. Replace damaged and defective sheet metal with new to match existing. Lap, lock and solder seams and connections with existing material. Make fully waterproof installations.
- D. Coordinate installation of new sheet metal items in connection with roofing for proper installation, and furnish in sufficient time to avoid delay in roofing construction. Install roofing sheet metal simultaneously with roofing.
- E. Caulking: Provide caulking as indicated and required to seal and complete work if this section. Conform to Section 07920.
- F. Protection from Contact with Dissimilar Materials:
 1. Metal Surfaces: Paint surfaces in contact with mortar, concrete or other masonry materials with alkali-resistant coatings such as heavy-bodied bituminous paint.
 2. Wood or Other Absorptive Materials: Paint surfaces that may become repeatedly wet and in contact with metal with two coats of aluminum paint or a coat of heavy-bodied bituminous paint.

3.02 COMPLETION:

Examine installed sheet metal, water test if necessary or directed, and correct damaged or defective items.

END OF SECTION

SECTION 07621

GUTTERS AND DOWNSPOUTS

PART 1 - GENERAL

1.01 SUMMARY:

A. Section Includes:

1. Pre-coated galvanized steel gutters, downspouts, brackets, spacers, fasteners, stiffeners and caps.

1.02 REFERENCES:

A. American Society for Testing Materials:

1. ASTM A 48 – Gray Iron Castings.
2. ASTM A 167 – Stainless and Heat resisting Chromium-Nickel Steel Plate, Sheet and Strip.
3. ASTM A 361 – Sheet Steel, Zink-Coated (Galvanized) by Hot-Dip Process for Roofing and Siding.
4. ASTM A 446 – Steel Sheet, Zink Coated (Galvanized) by Hot-Dip Process, Structural (Physical) Quality.
5. ASTM B 209 – Aluminum and Aluminum Alloy Sheet and Plate.

B. Federal Specifications: FS TT-C-494 – Coating compound, Bituminous, Solvent Type, Acid resistant.

C. Drawings and requirements specified govern. Conform to the current “Architectural Sheet Metal Manual” published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA), 1611 North Kent Street, Arlington, VA 22209 for conditions not indicated or specified and for general fabrication of sheet metal items.

1.03 SUBMITTALS:

A. Shop Drawings: Showing layouts, profiles, jointing methods, fastening details, locations and installation details.

B. Samples: Submit six inch (6”) long samples of factory-fabricated products illustrating component design, finish, color and configuration.

D. Product Data: Provide technical data, installation instructions, and general recommendations for each specified sheet material and fabricated product.

1.04 QUALITY ASSURANCE:

- A. Installer qualifications: Five years documented experience installing sheet metal systems.
- B. Regulatory Requirements: Comply with applicable code for size and method of rain water discharge. Comply with SMACNA Manual for sizing components for rainfall intensity determined by storm occurrence of 1 in 5 years.
- C. Gutters/Downspouts and all accessories shall be designed and provided by metal roofing manufacturer providing the standing seam metal roof panels.

1.05 DELIVERY, STORAGE AND HANDLING:

- A. Stack preformed and prefinished material to prevent twisting, bending or abrasion, and to provide ventilation. Slope to drain.
- B. Prevent contact with materials during storage which may cause discoloration, staining or damage.

1.06 SEQUENCING AND SCHEDULING:

- A. Coordinate work with roofing work for correct sequencing of items which makes up entire weatherproof, rain drainage and sheet metal system.
- B. Coordinate work with downspout discharge pipe inlet.
- C. Coordinate gutter and downspout system with installation of field fabricated flashing and sheet metal roofing under Section 07600. Work of this Section shall bring gutters and downspouts to point of connection with roofing system, with necessary accommodations for connections.

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. Pre-Coated Galvanized steel: ASTM A 446, Grade A, G90 zinc, 22-gauge core steel, shop pre-coated.
- B. Fasteners: Galvanized steel screws, bolts or nuts, as applicable.
- C. Stiffener Angle and Supports: Formed steel, type to match gutters, 16-gauge and clad with prefinished metal cover.
- D. Neutralized: Five percent (5%) to ten percent (10%) washing soda solution.

- E. Protective Back Paint for Galvanizing: Zink chromate or galvanized iron type.
- F. Bituminous Coating: FS TT-G-494, or MIL-C-18480, or SSPC-12, cold-applied bituminous mastic, compound, for 15 mil dry film thickness coating.
- G. Wire Screen: One-half inch (1/2") mesh, stainless steel.
- H. Splash Pads or Blocks: Precast concrete type; minimum 3000 psi at 28 days, with minimum five percent (5%) air entrainment.

2.02 FABRICATION:

- A. Gutters: SMACNA style profile as detail by architect; same gauge as panel.
- B. Downspouts: SMACNA gauge 40.
- C. Fabricate gutters and downspouts true to design and dimensions, straight and without deformation. Finish work free from blemishes, abrasions, tool marks, burrs and other defects which may affect strength or performance. Form corners to smallest radius possible without causing grain separation or otherwise impairing work. Allow for expansion and contraction.
- D. Overlap and caulk joints in gutter sections to provide watertight units. Form expansion joints between gutter sections as shown. Bracket stiffener angles to gutters 4'-0" on center.
- E. Screw angles to underside of gutters at downspouts locations to form frame, seal downspouts tube to angles.
- F. Form gutter in eight foot (8') or ten (10') long welded sections, lap joints one and one-half inch (1-1/2"). Provide loose-locked expansion joints midway between outlet tubes and where gutter ends adjoin walls. Fit joints with cover strips in manner to provide watertight connections.
- G. Provide outlet tubes with flanges riveted to form gutters. Extend tubes three inches (3") into downspouts. Set gutters to slope to downspouts minimum one-eighth inch (1/8") for each foot.
- H. Form downspouts in eight foot to ten foot (8' – 10') lengths. Telescope end joints one and one-half inch (1-1/2"). Fasten downspouts to walls with three inch (3") wide straps. Space straps not more than eight (8') apart. Provide shoulder of solder on each side of downspout above each strap. Fasten straps to walls with screws in zamak sleeves. Form downspouts of length to discharge water three feet to zero inches (3'-0") from building slabs.
- I. Lock and seal all seams. Close tops of downspout heads with 18-gauge removable strainer type with wire screen.

2.03 FINISHES:

- A. Gutters and Downspouts: 70-75 percent fluorocarbon resin equivalent to Kynar 500/Hylar 5000; Color for gutters to be “**Zinc Color**” refer to construction documents. Downspouts color refer to construction documents.
- B. Back paint concealed metal surfaces with protective backing paint to minimum dry thickness of 15 mils.
- C. Apply bitumen protective backing paint on surfaces in contact with dissimilar materials.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install gutters, downspouts and accessories in accordance with SMACNA Architectural Sheet Metal Manual.
- B. Joint lengths with seams watertight. Flash and seal gutters to downspouts and accessories.
- C. Slope gutters to drain.
- D. Set splash blocks under downspouts.

3.02 FIELD QUALITY CONTROL:

- A. Flood test gutters and downspouts upon completion. Repair any leaks.

END OF SECTION

SECTION 07920

SEALANTS AND CAULKING

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. This Section covers the caulking of openings and joints indicated, specified and required to make the buildings weatherproof and watertight, covers caulking requirements for the entire work, and pertains to all sections requiring caulking, unless specified otherwise. Provide sealants of types specified herein, at locations as specified, indicated on drawings and on approved submittals, and at all locations necessary to provide fully watertight construction. Provide sealants at the following locations as applicable:

A. Exterior Sealants:

1. Joints and recesses formed where frames and sub-sills of windows, panning, door frames, louvers and vents adjoin plaster and metal surfaces. Use sealant at both exterior and interior surfaces of exterior wall penetrations.
2. Voids where items pass through exterior walls.
3. Metal-to-metal joints where sealant is indicated or specified.

B. Interior Sealant:

1. Small voids between walls or partitions and adjacent casework, shelving, door frames, built-in or surface-mounted equipment and fixtures, and similar items.
2. Joints between members for acoustical tile and adjoining vertical surfaces.
3. Interior locations, not otherwise indicated or specified, where small voids exist between materials specified to be painted.

1.02 SUBMITTALS:

A. Samples and Data: Submit the following:

1. Samples of cured sealants showing full range of designated colors; obtain color instructions prior to submittal.
2. Technical data by manufacturers of proposed materials.
3. Material manufacturers' printed preparation and application instructions; when approved, furnish copies to others whose work requires caulking and sealants.

B. Site Samples: After approval of above samples and data, at site prepare a sample installation of each type of joint in exterior surfaces to be caulked in accordance with this

section. Prepare as many samples of each type and size as are required for approval at the locations and of sizes designated. Arrange for sealant manufacturer's technical representative to be present and to assist in correct installation of site samples. Installed caulking and sealants shall conform to the approved site samples.

- C. Test Reports: Submit manufacturer's adhesion compatibility test reports according to ASTM C794 for each type material and each substrate.
- D. Certification: Provide certification that caulking and sealants installation complies with requirements of Title 24, CCR, Section 5317 for air infiltration limitations.

1.03 PRODUCT HANDLING:

Deliver all caulking and sealant materials to the site in sealed factory-labeled containers, labels bearing statement of conformance to standards specified for each material. Store materials in accordance with manufacturer's instructions and do not use materials for which the shelf life has expired.

1.04 WARRANTY:

Furnish a written warranty against all defects in caulking and sealant materials for 5 years and defects in workmanship for 2 years, covering the following specific conditions, without limitation:

- A. Water leakage through sealed joints.
- B. Adhesive or cohesive failure of sealant.
- C. Staining of adjacent surfaces caused by migration of sealant or primer.
- D. Sealant hardened beyond Shore A hardness indicated in approved submittals.
- E. Chalking or visible color changes of cured sealants.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

Dow Corning Corp.
P.O. Box 994
Midland, MI 48686
(800) 248-2481

GE Silicones
260 Hudson River Road
Waterford, NY 12188
(800) 255-8886

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438

(800) 523-6688

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
(800) 933-7452

Sonneborn
889 Valley Park Drive
Shakopee, MN 55379
(800) 433-9517

Tremco Inc.
3735 Green Road
Beachwood, OH 44122
(800) 562-2728

USG Corporation
125 South Franklin St., P.O. Box 806278
Chicago, IL 60680
(800) 874-4968

WW Henry Co.
2500 Columbia Avenue
Lancaster, PA 17604
(800) 232-4832

2.02 MATERIALS:

Furnish sealants meeting following in-service requirements: Normal curing schedules are acceptable; Non-staining, color fastness (resistance to color change), and durability when subjected to intense actinic (ultraviolet) radiation are required. Furnish only formaldehyde free products. Furnish the products of only one manufacturer unless otherwise approved, sealant colors as selected to match the adjoining surfaces.

A. Sealants: Types as listed below, no substitutions unless specifically approved in writing for each application:

1. For joints in vertical and sloping metal surfaces, including surrounds of windows and doors: Conform to ASTM C920, silicone based, single component, non-sag, one of the following:

GE Silicones SCS 2000 Series
Dow Corning 795
Tremco Spectrum 2

2. For joints in plaster walls and other vertical surfaces: Conform to ASTM C920, Type S, Grade NS, Class 25, Use NT, silicone based, one of the following:

GE Silicones Silpruf

Dow Corning 790
Tremco Spectrum 1 or Spectrum 3

3. For joints in galvanized steel: single component nonsag urethane sealant, ASTM C 920, Type S, Grade NS, Class 25, one of the following:

Vulkem 116; Mameco International
Sikaflex – 1a; Sika Corporation
NP 1; Sonneborn Building Products Div., ChemRex Inc.

- B. Primers: As recommended by sealant manufacturer for each condition of application.
- C. Joint Backing: Closed cell polyolefin, neoprene, polypropylene or polyethylene, conforming to ASTM C 1330, Type B or ASTM D 5249, Type 3, permanently elastic, mildew resistant, nonmigratory, non outgassing, nonstaining and compatible with joint substrates and sealants. Joint backing shall be “SofRod” manufactured by Nomaco, Inc., 501 NMC Drive, Zebulon, NC 27597 (800) 345-7279, Dow “Ethafoam” or Sonneborn “Sonofoarm”, types recommended by sealant manufacturer for each type substrate and sealant.
- D. Bond breaker: Polypethylene tape recommended by sealant manufacturer.

PART 3 – EXECUTION

3.01 INSPECTION:

Inspect all surfaces and joints to be caulked and sealed. Report in writing those conditions that prevent correct preparation, priming and caulking installation.

3.02 PROTECTION:

Protect all adjoining surfaces and apply temporary masking tape on both sides of joints where surface staining may occur. Protect joints until sealant is cured.

3.03 JOINT PREPARATION:

- A. Rake and thoroughly clean joints of mortar and other foreign materials before applying sealant. Remove coatings from metal surfaces following sealant manufacturer’s written instruction, before installing metal where possible, using solvent recommended by manufacturer of metal item.
- B. Clean porous surfaces by bead or water blasting as required to provide a clean, sound base surface or sealant adhesion. Remove loose particles present or resulting from blast cleaning by blowing out joints with oil-free compressed air. Wash alkaline seepage from fresh concrete.
- C. Clean non-porous surfaces either mechanically or chemically. Clean with solvent and wipe dry immediately. Do not allow solvent film to accumulate on surfaces.

- D. Conform to instructions from sealant manufacturer where sealants are required to be applied over painted, lacquered or waterproofed surfaces, or surfaces which have been treated with water-repellent or other coatings.

3.04 INSTALLATION:

- A. Comply with sealant manufacturer's written instructions, as approved for mixing, preparatory work, priming, application life and procedures, and protection of sealant work.
- B. Prime joints before insertion of sealant back-up or joint filler material.
- C. Roll backing material into joint to avoid lengthwise stretching. Do not twist, braid or puncture.
- D. Sealant shall be bonded to the 2 opposite sides of joint only. Apply bond-breaker between sealant and back of joints where space for back-up material does not exist
- E. Joint spaces and surfaces shall be thoroughly dry before installation of sealant materials. Do not install sealant material during or after rain or fog.
- F. Provide maximum 3/8" sealant depth unless otherwise shown. Minimum joint width shall be 1/8" for metal to metal joints and maximum 3/4" width elsewhere unless otherwise shown. Apply sealant under sufficient pressure to fill voids. Finish exposed joints smooth and flush with adjoining surface unless recessed joints as shown. Remove temporary masking as soon as joint is completed.
- G. Install sealant in manner to provide uniform, continuous ribbons without gaps or air pockets, and with complete wetting of the joint surfaces equally on opposite sides. Fill joints to slightly concave surface just below adjacent surfaces.
- H. Tool surfaces to form smooth, uniform surfaces with slightly concave surfaces. Finish joints straight, uniform and neat. Perform tooling before sealant films over.
- I. Where horizontal joints occur between horizontal and vertical surfaces, fill joints to form a slight cove to prevent trapping moisture and dirt.
- J. Take precautions to prevent leakage or other malfunction at locations where different types of sealants meet.
- K. Do not allow sealants or other compounds to overflow, spill or migrate into voids of adjacent construction.

3.05 CURING:

Cure sealants in accordance with sealant manufacturer's printed instructions to obtain high early bond strength, internal cohesive strength and durability.

3.06 CLEANING:

Clean material from surfaces not to receive sealant and restore the finish as required. If surfaces adjoining joints are stained and cleaning is not acceptable, remove the affected work and provide new work as directed and approved, at no additional contract cost.

END OF SECTION

SECTION 08910

STATIONARY BLADE WALL LOUVERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Extruded aluminum stationary louvers with drainable blades.

1.2 RELATED SECTIONS

- A. Section 04215 – Brick Masonry
- B. Section 07920 – Sealants and Caulking
- C. Section 09900 - Painting

1.3 REFERENCES

- A. AAMA 2604 – High Performance Organic Coatings on Architectural Extrusions and Panels.
- B. AAMA 2605 - High Performance Organic Coatings on Architectural Extrusions and Panels.
- C. AAMA 611 – Voluntary Specification for Anodized Architectural Aluminum.
- D. AMCA 500 - Test Methods for Louvers, Dampers and Shutters.
- E. AMCA 511 - Certified Ratings Program for Air Control Devices.
- F. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- G. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- H. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- I. ASTM D822 - Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings
- J. ASTM D2244 - Standard Test Method for Calculation of Color Differences From Instrumentally Measured Color Coordinates.
- K. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
- L. USGBC: U.S. Green Building Council LEED® Rating System.

1.4 DEFINITIONS

- A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.
- B. Horizontal Louver: Louver with horizontal blades; i.e., the axes of the blades are horizontal.
- C. Vertical Louver: Louver with vertical blades; i.e., the axes of the blades are vertical.

- D. Drainable-Blade Louver: Louver with blades having gutters that collect water and drain it to channels in jambs and mullions, which carry it to bottom of unit and away from opening.
- E. Rain-Resistant Louver: Louver that provides specified wind-driven rain performance, as determined by testing according to AMCA 500-L.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: For each product to be used, including:
 - 1. Manufacturer's product data including performance data.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Installation methods.
- C. Sustainable Documentation Submittals: LEED Rating System.
 - 1. Certificates for Credit EA 1 - Optimize Energy Performance: Design the building envelope and building systems to maximize energy performance.
 - a. Provide certificate verifying louver water infiltration and ventilation performance to verify design assumptions and calculations.
 - 2. Certificates for Credit MR 4 - Recycled Content: Increase demand for building products that incorporate recycled content materials, therefore reducing impacts resulting from extraction and processing of new virgin materials.
 - a. Percentage of recycled content showing cost and percentage(s) of post-consumer and/or post-industrial content, and the total cost of materials for the louver.
- D. Shop Drawings:
 - 1. Submit shop drawings indicating materials, construction, dimensions, accessories, and installation details.
- E. Product Schedule: For louvers. Use same designations indicated on Drawings.
- F. Samples: Submit sample of louver to show frame, blades, bird screen, gutters, downspouts, vertical supports, sill, accessories, finish, and color.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and Installer.
- B. Product Test Reports: For each type of louver, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For manufacturer's warranties.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. The manufacturer shall have implemented the management of quality objectives, continual improvement, and monitoring of customer satisfaction to assure that customer needs and expectations are met.
 - 2. Manufacturer shall be International Organization for Standardization (ISO) 9001 accredited.
- B. Installer Qualifications:

1. USGBC LEED Compliance: The Work of this section shall be in accordance with applicable portions of the U.S. Green Building Council's LEED Green Building Rating System. Refer to Divisions 23 and 26 Sections and other related documents bound herein for purposes of complying with this requirement.
- C. Product Qualifications:
 1. Louver licensed to bear AMCA Certified Ratings Seal. Ratings based on tests and procedures performed in accordance with AMCA 511 and comply with AMCA Certified Ratings Program. AMCA Certified Ratings Seal applies to air performance and water penetration ratings.
 2. Louvers shall be factory engineered to withstand the specified seismic loads.
 - a. Minimum design loads shall be calculated to comply with ASCE – 7, or local requirements of Authority Having Jurisdiction (AHJ).
 3. Recycled Content: Provide louver that incorporate recycled content materials. The louver shall consist of the following recycled content:
 - a. Fabricated aluminum recycled content 73% by weight. 18% post-consumer, 55 % pre-consumer.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store materials in a dry area indoors, protected from damage and in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finishes during handling and installation to prevent damage.
- D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.10 WARRANTY

- A. Manufacturer shall provide standard limited warranty for louver systems for a period of five years (60 months) from date of installation, no more than 60 months after shipment from manufacturing plant. When notified in writing from the Owner of a manufacturing defect, manufacturer shall promptly correct deficiencies without direct financial cost to the Owner.
- B. Manufacturer shall provide 20 year limited warranty for fluoropolymer-based finish on extruded aluminum substrates.
 1. Finish coating shall not peel, blister, chip, crack or check.
 2. Chalking, fading or erosion of finish when measured by the following tests:
 - a. Finish coating shall not chalk in excess of 8 numerical ratings when measured in accordance with ASTM D4214.
 - b. Finish coating shall not change color or fade in excess of 5 NBS units as determined by ASTM D2244 and ASTM D822.
 - c. Finish coating shall not erode at a rate in excess of 10%/ 5 year as determined by Florida test sample.
- C. Manufacturer shall provide a 5 year limited warranty for Class I and a 3 year limited warranty for Class II anodized finish on extruded aluminum substrates.
 1. Seller warrants the Finish under normal atmospheric conditions.
 - a. Will not crack, craze, flake or blister

- b. Will not change or fade more than (5) Delta-E Hunter units as determined by ASTM method D-2244
 - c. Will not chalk in excess of ASTM D-4214-07 number (8) rating, determined by the procedure outlined in ASTM D-4214-07 specification test.
2. Any forming or welding must be done prior to finishing. Post forming or welding will void the warranty.
 3. This Warranty applies only if the anodized aluminum product is installed in strict accordance with Seller's recommended practices and maintained in accordance with AAMA (American Architectural Manufacturers Association) publication number 609 and 610-09 ("Cleaning and Maintenance Guide for Architecturally Finished Aluminum").

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:
 1. Ruskin Company
3900 Dr. Greaves Road
Kansas City, Missouri 64030
Tel: (816) 761-7476.

OR EQUAL

- B. Requests for substitutions will be considered in accordance with provisions of Section 01630.

2.2 STATIONARY BLADE LOUVER

- A. Model: ELF375DX as manufactured by Ruskin Company.
- B. Model: ELF375DXH as manufactured by Ruskin Company.
- C. Fabrication:
 1. Design: Stationary drainable louver type with drain gutters in each blade and head with downspouts in jambs and mullions with all welded construction. Hidden vertical supports to allow continuous line appearance up to 120 inches (3,048 mm). Steeply angled integral sill.
 2. Frame:
 - a. Frame Depth: 4 inches (102 mm).
 - b. Wall Thickness: 0.081 inch (2.1 mm), nominal.
 - c. Wall Thickness: 0.125 inch (3.2 mm), nominal.
 - d. Material: Extruded aluminum, Alloy 6063-T6.
 3. Blades:
 - a. Style: Drainable. 37.5 degrees at 5-3/32 inches (129 mm), nominal.
 - b. Wall Thickness: 0.081 inch (2.1 mm), nominal.
 - c. Wall Thickness: 0.125 inch (3.2 mm), nominal.
 - d. Material: Extruded aluminum, Alloy 6063-T6.
 4. Minimum Assembly Size: 12 inches wide by 12 inches high (305 mm x 305 mm).
 5. Maximum Factory Assembly Size: Single sections shall not exceed 120 inches wide by 90 inches high (3048 mm x 2286 mm) or 90 inches wide by 120 inches high (2286 mm x 3048). Louvers larger than the maximum single size shall be require field assembly of smaller sections.
 6. Recycled Content: 18% post-consumer. 55% pre-consumer, post-industrial, total 73% by weight.
- D. Performance Data:

1. Based on testing 48 inch x 48 inch (1,219 mm x 1,219 mm) size unit in accordance with AMCA 500.
 2. Free Area: 54 percent, nominal.
 3. Free Area Size: 8.58 square feet (0.79 m²).
 4. Maximum Recommended Air Flow through Free Area: 873 feet per minute (4.4 m/s).
 5. Air Flow: 7490 cubic feet per minute (212 m³/s).
 6. Maximum Pressure Drop (Intake): 0.15 inches w.g. (0.035 kPa).
 7. Water Penetration: Maximum of 0.01 ounces per square foot (3.1 g/m²) of free area at an air flow of 873 feet per minute (4.4 m/s) free area velocity when tested for 15 minutes.
- E. Design Windload: Per Code.
- F. Design Windload: Incorporate structural supports required to withstand wind load of 20 pounds per square foot (138 kPa).
- G. Louvers shall be factory engineered to withstand the specified seismic loads.
1. Minimum design loads shall be calculated to comply with ASCE – 7, or local requirements of Authority Having Jurisdiction (AHJ).

2.3 ACCESSORIES

- A. Blank-Off Panels: 0.040 (1 mm) aluminum sheet, factory installed with removable fasteners and neoprene gaskets.
- B. Insulated Blank-Off Panels: 0.040 (1 mm) aluminum sheet, 1 inch (25 mm) and 2 inches (51 mm) as scheduled or indicated, aluminum skin insulated core, factory installed with removable fasteners and neoprene gaskets.
- C. Hinged Frame: Continuous piano hinge attached to angle subframe.
- D. Hinged Frame: Continuous piano hinge attached to channel subframe.
- E. Aluminum Filter Racks: Formed channel racks to accept standard thick filters. Unused bottom portion blanked off with 0.040 inch (1 mm) aluminum sheet.
1. Filter: 1 inch (25 mm) thick.
 2. Filter: 2 inch (51 mm) thick.
- F. Security Bars:
1. Location: Front.
 2. Location: Rear.
 3. Construction: Galvanized steel, 1/2 inch x 1/2 inch (13 mm x 13 mm), attached to louver with tamper-proof screws.
 4. Construction: Galvanized steel, 3/4 inch x 1/2 inch (19 mm x 13 mm), attached to louver with tamper-proof screws.
 5. Construction: Aluminum, 3/4 inch x 1/2 inch (19 mm x 13 mm), welded to louver.
- G. Bird Screen:
1. Aluminum: Aluminum, 1/4 inches by 0.040 inch (16 mm by 1 mm), expanded and flattened.
 2. Frame: Removable. Re-wireable.
- H. Insect Screens:
1. Stainless: 18-16 mesh, mill finish, .011 inch (0.3 mm) wire.
 2. Frame: Aluminum.
- I. Extended Sills:
1. Extruded aluminum, Alloy 6063-T6. Minimum nominal thickness 0.060 inch (1.5 mm).

2. Formed aluminum, Alloy 3003. Minimum nominal thickness 0.081 inch (2.1 mm).
- J. Visible Mullions: Manufacturer's standard horizontal or vertical visible mullions for architectural accent as indicated on drawings.

2.4 FINISHES

- A. Finish: Mill finish.
- B. Finish: 50 percent PVDF: Finish shall be applied at 1.2 mil total dry film thickness.
1. Coating shall conform to AAMA 2604, sections 4.2 and 4.3. Apply coating following cleaning and pretreatment. Cleaning: AA-C12C42R1X.
 - a. Baked Enamel (50% PVDF).
 - b. Pearledize 50 (2-coat mica).
 2. 20-year finish warranty.
- C. Finish: 70 percent PVDF: Finish shall be applied at 1.2 mil total dry film thickness.
1. Coating shall conform to AAMA 2605. Apply coating following cleaning and pretreatment. Cleaning: AA-C12C42R1X.
 - a. Standard 2-coat.
 - b. Pearledize 70 (2-coat mica).
 - c. 3-coat metallic.
 - d. 3-coat exotic.
 2. 20-year finish warranty.
- D. Finish: Prime Coat:
1. Apply alkyd prime coat following chemical cleaning and pretreatment.
 2. Primer preparation for field painting.
- E. Finish: Epoxy-Based Painted Finish.
- F. Color: Custom. Refer to Drawings.
- G. Color: Machinery Grey in paint system specified.
- H. Anodized Finish:
1. Class 2 Clear Anodized.
 - a. Comply with Aluminum Association AA-C21A31. Clear anodized finish 204-R1.
 - b. Apply finish following chemical etching and pretreatment.
 - c. Minimum Thickness: 0.4 mils (0.01 mm), 30 minute anodizing process.
 2. Class 1 Clear Anodized.
 - a. Comply with Aluminum Association AA-C21A41. Clear anodized finish 215-R1.
 - b. Apply finish following chemical etching and pretreatment.
 - c. Minimum Thickness: 0.7 mils (0.018 mm), 60 minute anodizing process.
 3. Class 1 Color Anodized.
 - a. Comply with Aluminum Association AA-C21A44.
 - b. Apply finish following chemical etching and pretreatment.
 - c. Minimum Thickness: 0.7 mils (0.018 mm), 60 minute anodizing process.
 - d. Class 1 Color Anodized: Medium Bronze.
 - e. Class 1 Color Anodized: Dark Bronze.
 - f. Class 1 Color Anodized: Black.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect areas to receive louvers. Notify the Architect of conditions that would adversely affect the installation or subsequent utilization of the louvers. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. If opening preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean opening thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install louvers at locations indicated on the drawings and in accordance with manufacturer's instructions.
- B. Install louvers plumb, level, in plane of wall, and in alignment with adjacent work.
- C. The supporting structure shall be designed to accommodate the point loads transferred by the louvers when subject to the design wind loads.
- D. Install joint sealants as specified in Section 07920.
- E. Apply field topcoat within 6 months of application of shop prime coat. Apply field topcoat as specified in Section 09900.

3.4 CLEANING

- A. Clean louver surfaces in accordance with manufacturer's instructions.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

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SECTION 09200
LATH AND PLASTER

PART 1 - GENERAL

1.01 DESCRIPTION:

Division 1 applies to this Section. Provide lath and plaster, complete.

A. Work In This Section: Principal items include:

1. Exterior lath and plaster.
2. Patching existing exterior plaster.
3. Plaster accessories as required.

B. Related Work Not In This Section:

1. Wood framing.
2. Finish painting.

1.02 SUBMITTALS:

A. List and Brochures: Submit a complete list of all items proposed for use under this section. Submit descriptive brochures and manufacturer's recommended installation instructions for each item.

B. Samples: Submit the following:

1. Exterior plaster texture and finish, 24" square, prepared at site.
2. Each type and size of plaster trim and accessory..

PART 2 – PRODUCTS

2.01 LATH AND ACCESSORY MATERIALS:

Each bundle of lath shall be sealed with a metal tag bearing the lath designation, weight and manufacturer's name.

A. Metal Lath with Paper Backing: Western Lath Black Asphalt Mesh D.

B. Expanded Metal Lath: ASTM C841, small diamond mesh expanded metal lath, 3.4 pounds per square yard, expanded from steel sheets having hot dip galvanized coating G60 in accordance with ASTM A525. Lath shall be self-furring type for use over sheathing, flat type for use over spaced framing; and 3/8" ribbed lath for soffits and ceilings.

C. Corner and Strip Reinforcing Lath: Flat or shaped lath reinforcing units, metal or galvanized wire lath types, no less than 2.5 pounds per square yard, outstanding legs

minimum of 2" wire lath and 3" for metal lath when formed for angle reinforcing. Use galvanized type for use with galvanized metal lath.

- D. Plastering Accessories: Minimum 26 gauge galvanized steel with expanded wings. PVC and zinc alloy are not acceptable. Include casing beads, expansion screeds, foundation screeds, ventilating screeds and other items as shown or specified. (As required.)
1. Exterior Expansion Screeds: Sizes and profiles indicated or directed, with expanded wings unless otherwise shown or required by installation.
 2. Drip Scream: Similar to Superior No. 10.
 3. Casing Beads: Milcor, Superior, USG or equal, similar to Milcor Type 66 by 7/8" high for exterior plaster.
 4. Exterior Corner Reinforcement: Woven wire type with longitudinal wires, zinc coated, per Detail 15-A, Section 2 of Ref Spec.
 5. Ventilating Screeds: Alabama Metal Industries or equal, soffit vent screed, perforated web type, with integral plaster grounds.
- E. Access doors and panels: Refer to Section 08305.
- F. Screws: USG Type S and Type S 12, "ClimaSeal" finish.
- G. Nails: 11 gauge roofing nails, 7/16-inch head, barbed, diamond point, zinc-coated, 1-1/2 inch long for horizontal application; 1-inch long for vertical application. Use watered furring nails for attaching lath to wood framing.

2.02 PLASTER MATERIALS:

- A. Exterior Stucco: Conforming to general requirements of "Specifications and Standards for Manufactured Stucco Finishes" issued by Stucco Manufacturers Association by California Stucco, LaHabra, Highland Stucco, Merlex Stucco, Inc. or equal, delivered in manufacturer's sealed containers, requiring only addition of water for use. Sand shall pass the No. 20 sieve. Mix and sand shall be suitable for the finish specified. Furnish integrally-colored stucco in color as selected and matching the approved sample.
- B. Portland Cement: ASTM C150, Type II, low alkali.
- C. Hydrated Lime: ASTM C206, Type S.
- D. Finish Coat Plaster: La Habra X 86 Sandstone, Base 200, factory formulated blend of Portland cement, hydrated lime, aggregates and color, requiring addition of water only at the site.
- E. Water: Clean, potable and from domestic source.

- F. Waterproofing Admix: Red Label Suconem by Super Concrete Emulsions Ltd., AntiHydro, or approved equal.
- G. Plaster Bonding Agent: "PlasterWeld", manufactured by Larsen Products Co., 8264 Preston Court, Jessup, MD 20794 (800) 633-6668, Upco Bonding Adhesive No. 705, or Merlex Stucco "Acrylex".
- H. Sand: Washed natural sand conforming to ASTM C144, except gradation of sand shall conform to Section 6 of Ref Spec.
- I. Base Coat Reinforcement: Alkali resistant fiberglass shorts, 1/2" chopped strands, Type AR, manufactured by OCF or PPG Industries.
- J. Plaster Patching Materials:
 - 1. Bonding Agent: Acrylic resin type, Acryl 50, LHP Bonder, or equal.
 - 2. Patching Plaster: Manufactured by Merlex Stucco, Inc., 2911 Orange-Olive Road, Orange, CA 92865 (714) 637-1700, FAX (714) 637-4865, or equal, fast setting, workable materials, compatible with existing plaster materials, and as follows:
 - a. Exterior: Merlex "Exterior Pronto Patch", Portland cement base coat material, requiring only addition of water. Material shall achieve initial set within 20 minutes, and final set within one hour.
 - b. Interior: Merlex "Interior Pronto Patch", gypsum based patching compound requiring only addition of water. Material shall achieve initial set within 15 to 20 minutes, and final set within 30 minutes. Material shall be non-shrinking, high strength, and shall be formulated to bond with existing gypsum plaster.

2.03 PROPORTIONS:

- A. Portland Cement Plaster:
 - 1. Scratch coat on metal lath:
 - 1 part Portland cement
 - 1/2 to 1 part hydrated lime
 - 4 parts sand
 - 2 pounds fiberglass shorts per sack of cement
 - 2. Brown coat over metal lath:
 - 1 part Portland cement
 - 1/2 to 1 part hydrated lime
 - 4-1/2 parts sand
 - 2 pounds fiberglass shorts per sack of cement
 - 3. Finish coat: Mix with water only, no field additions.

2.04 MIXING:

Use mechanical mixers. Measure ingredients accurately; avoid oversanding. After mixing is complete, and just before application, add fiberglass shorts to basecoats. Use a factory prepared stucco for finish coat. Apply plaster within 1/2 hour of mixing. Do not retemper or use material that has partially set, or is caked or lumpy.

PART 3 – EXECUTION

3.01 INSTALLATION OF METAL LATH AND PLASTER ACCESSORIES:

Conform to Ref Spec Sections 4 and 5 except as exceeded by building code or requirements specified herein.

- A. Lathing: Conform to ASTM C841, as applicable, and to requirements herein. Use expanded metal lath for horizontal plaster and for interior Portland cement plastering. Use lath with integral paper backing for vertical or sloping exterior plaster and to receive scratch coats behind ceramic tile.
1. Expanded Metal Lath: Apply lath with long dimension across bearings. Lap sides 1/2" and ends 1". Break lath continuity at expansion screeds. Screw attach lath 6" centers. Tie each lap with 18-gauge wire midway between supports at sides and 6" intervals on ends. Lap upper sheets over lower sheets. Over masonry, attach lath with approved fasteners. Power driven fasteners will not be approved.
 - a. At all interior angles of wall construction, form lath into the corner and carry out on the abutting surface. Lath recesses for electric panels, fire hose cabinets, and other recessed equipment. Lath the inside face of all duct and pipe spaces.
 - b. Construct ceilings by "floating method", extending wall lath above ceiling, and after wall plastering is completed, terminating ceiling lath 3/8" from surface of wall plaster in a casing bead. After ceiling plaster is completed, caulk the space between the wall plaster and the casing bead with sealant specified in Section 07920.
 - c. Wire-tie cornertie along edges at not more than 12" intervals, or secure along edges with equal attachments.
 - d. Use ribbed lath for ceilings and soffits.
 2. Expanded Metal Lath With Paper Backing: Install, lap paper backings, handle and screw fasten in strict conformance with lath manufacturer's printed instructions and Code approvals. In all cases, install the waterproofed paper backings "shingle" fashion to ensure positive drainage of water to the outside, including proper "shingling" with flanges of accessories and metal joints. Do not run paper backing continuous behind expansion joints, control joints, and like fittings and flashings. At vertical expansion joints, cut lath, overlap paper backings and wire tie lath to expanded wings of joints. Maintain full waterproofing continuity. Maintain lath-to-lath contact between sheets.

- B. Lathing Accessories: Set metal accessories plumb, level and true and shim where necessary. Miter accessories at corners, and accurately and tightly fit exposed joints. Install sections in longest practicable length with minimum splicing. Fasten at not more than 12" centers.
1. Control Joints in Exterior Plaster: Locate as indicated, or if not indicated, at not over 10 feet on center each way in large plaster areas. Obtain approval of control joint locations prior to proceeding.
 2. Exterior Corner Reinforcing: Install for the full length of external angles of exterior Portland cement plastering.
 3. Casing Beads and Plaster Stops: Install at free edges of plaster, wherever plaster abuts against other finish material, and elsewhere as shown.
 4. Plaster Expansion Joints: Install types as shown and approved, joints and connections coped and shingled to prevent entry of water. Where directed or necessary, seal connections with sealant conforming to Section 07920 at not additional contract cost. Apply safin insulation, as specified in Section 07210, behind expansion joints in fire rated construction. Where not shown, provide expansion joints for exterior plaster at maximum 10-foot intervals and as required to divide plaster into maximum 100 square foot areas, located as directed.
 5. Metal Casing Bead for Floating Angle Construction: Install casing beads where ceilings butt into or are penetrated by walls, columns, beams, and similar elements so as to provide floating angle (unrestrained) construction in accordance with ASTM C841.
 6. Cornerties: Install at interior corners of walls, partitions and other vertical surfaces to be plastered, except where metal lath is carried around angle. Fasten only as necessary to retain position during plastering.

3.02 APPLICATION OF PORTLAND CEMENT PLASTER:

Conform to ASTM C926 except as otherwise specified. Apply plaster on metal lath to minimum 7/8" total thickness measured from face of studs, for exterior plaster, 1" thick where required by code, and 3/8" thick, fully enclosing lath for scratch coats below ceramic tile.

- A. Measuring and Mixing Plaster: Conform mixing, materials measuring and proportions to Ref Spec Sections 7 and 8. Apply either Portland cement plaster or Portland cement-lime plaster for base coats. Use a factory prepared stucco for finish coat. Apply plaster within 1/2 hour of mixing. Do not retemper or use material that has partially set, or is caked or lumpy.
- B. Waterproofing Additive: Add to all exterior cement plaster scratch and brown coats in conformance with manufacturer's directions.
- C. Base Coat Reinforcement: Include 2 pounds of alkali-resistant fiberglass shorts per each 94 pounds of Portland cement in base coats for exterior plaster.

D. Exterior Plaster: Scratch and brown coat of Portland cement plaster or Portland cement-lime plaster, and minimum 1/8" thick finish coat of texture specified plaster.

1. Application of Base Coats on Lath:

- a. Scratch Coat: Apply scratch coat not less than 1/2" thick from face of supports to crest of scores, completely embedding wire fabric lath and forming good key on metal lath. Thoroughly scratch in direction perpendicular to supports and keep at minimum at optimum moisture content with fog spray for 48 hours minimum before second coat is applied.
- b. Brown Coat: Set temporary wood or metal spot or strip grounds and bring plaster to true planes between metal joints. Apply brown coat plaster not less than 3/8" thick. Use long rigid darbies controlled by grounds and bring surfaces to a straight, plumb and true condition about 1/8" back of metal trim edges and flanges. As each are is applied, check surface with stringlines or equivalent, and immediately correct all low or high areas. After straightening, remove temporary grounds and fill the voids with plaster. Wood float the surface to correct texture and to improve bond for finish coat. Keep brown coat moist for 72 hours and allow to air cure for 14 days before applying finish coat.
- c. Curing: Apply a fine fog spray of water as soon as plaster base coats are adequately set to prevent injury and continue to apply not less than 3 times per day for 3 days. Do not let plaster dry out between water applications.

2. Application of Finish Coat: Retest brown coat surfaces for straight and true before applying the finish coat and correct defects. Dampen surface of brown coat for uniform suction. Lay out all finish coats to permit completion of an entire area between joints and screeds, or carry to a natural break point. Work the top and bottom of walls and areas within screeds at same time with no dry laps, producing uniform finish and appearance, free of lap and tool marks, crazing, checking, waviness, low or high spots, offsets or other defects. Finish texture shall match existing.

3. Application of New Exterior Plaster over Existing Plaster: Clean surface by sandblasting and remove loose and delaminated section of plaster. Apply bonding agent and 3/8" leveling coat as required. Over the leveling coat or bonding agent, apply finish coat, 1/8" thick.

3.03 FOG COAT:

- A. Requirements: Fog coat will not be required if repairs to existing plaster results in uniform color and texture, to the satisfaction of the District.
- B. If finish plaster is not uniform, fog seal shall be applied as part of this work, without additional contract cost.
 1. Material: Cementitious spray consisting of white Portland cement, lime and pigments, of same manufacture as finish coat, color to match finish coat.

2. Application: Mix to consistency required for spray application, and apply to cured plaster to achieve uniform color.

3.04 PATCHING AND REPAIR OF EXISTING PLASTER:

- A. Where old plaster is removed, provide new metal lath or gypsum lath and plaster as specified above.
- B. Where old plaster is left in place, new plaster shall be applied over the old in accordance with one of the following methods:

1. New Furring and Lath:

- a. Wood Framing: Apply 1" by 3" furring strips at 16" centers using 9 penny nails of sufficient length to achieve 1-3/4" minimum penetration into existing framing.
- b. Apply gypsum lath and plaster as specified for new work.

2. New Lath Only: Apply 3.4 pound self furring diamond mesh metal lath over old surface by nailing through existing plaster into wood framing, using 2" long, 11 gauge 7/16" head barbed shank galvanized roofing nails at 6" o.c. On steel framing, attach lath through plaster into framing with long screws, or use molly anchors or toggle bolts to attach lath. Wire tie side and end laps. Apply plaster in three coats, as specified for new work, expect using wood fibered plaster for scratch coat.

- C. Patching of Holes, Cracks and Gouges:

1. General: All holes, cracks, gouges, missing sections, where holes are cut for piping, conduit, blocking installation and other remodeling work, and defects in existing work shall be patched. For holes over 1" in size, cut small sections of lath, and place in opening, attached to existing material. Apply 3 coats of plaster. For holes 1" and smaller, apply bonding agent to existing surfaces and neatly fill hole with plaster patching material, using several coats as necessary to fill to surface, eliminate cracks and match existing surface texture. Cracks, gouges and other defects shall be filled with plaster or spackle as applicable and neatly finished to match existing work. Patching may be done with patching plaster specified above, providing finished work matching existing, and providing the installation is free from cracks, texture changes, and noticeable joints between old and new work. Preparation of surfaces and installation of patching plaster shall be in accordance with manufacturer's recommendations.
2. Fog Coat: Apply fog coat, in color to match existing plaster, over patched areas, if required to obliterate patches and to match adjacent undisturbed plaster. Fog coat shall be as specified above.

3.05 PLASTER LEVELING COATS:

Where new finish materials, such as tackboards, casework or other items are required to be installed over existing walls, provide bonding agent and new plaster to provide level finish. Use

appropriate bonding agent and plaster, gypsum plaster or Portland cement plaster as applicable for each condition.

3.06 PLASTER PATCHING:

Plaster containing cracks, blemishes, blisters, pits, checks, discoloration or other defects is not acceptable. Remove defective plaster and replace with conforming plaster as approved. Restore all surfaces damaged, stained or defaced by plastering as approved at no additional contract cost.

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes surface preparation and the application of paint systems on

1. Exterior substrates:
2. The following Exterior substrates:

Red Bricks

Wood

Steel

Galvanized metal

B. The locations of the work to be performed is:

1. Lakeland Elementary School
11224 Bombardier Ave.
Norwalk, CA 90650

1.02 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 35 units at 85 degrees, according to ASTM D 523
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.
- H. EG: Ethylene Glycol. Ethylene glycol is listed as a hazardous air pollutant (HAP) by the U.S. EPA

- I. Blocking: Two painted surfaces sticking together such as a painted door sticking to a painted jamb.
- J. RAVOC: Reactivity adjusted VOC 'Reactivity' means the ability of a VOC to promote ozone formation.
- K. PDCA: Painting & Decorating Contractors of America www.pdca.org
- L. SSPC: Scopes of SSPC Surface Preparation Standards and Specifications. www.sspc.org
- M. Owner – usage of the term “Owner” shall be construed to mean the actual owner of the Property or a duly authorized representative of the owner.
- N. Property – usage of the term “Property” shall be construed to mean the property location identified in paragraph 1.1 B. 1. of this specification at which location the work shall be performed.
- O. Painting Contractor – usage of the term “Contractor” shall be construed to mean the 3rd party contractor performing the painting portion of the project.

1.03 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, no smaller than 7 inches by 10 inches (177.8 mm by 254 mm) or larger than 8.5 inches by 11 inches (215.9 mm by 279.4 mm).
 - 2. Label each Sample for project, owner's agent, general contractor, painting contractor, paint color name and number, paint brand name, 'P' number if applicable, and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas.
 - 2. VOC content.

1.04 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials from the same product run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Ten [10] percent, but not less than [1 gal. (3.8 L)] of each material and color applied.

1.05 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 1. Owner's agent will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
 - b. Other Items: Owner's agent will designate items or areas required.
 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by owner's agent at a cost to be agreed upon by Contractor and Owner.
 3. Approval of mockups does not constitute approval of deviations from the paint systems indicated unless owner's agent specifically approves such deviations in writing.
 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C) or more than 120 deg F (49 deg C).
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.07 FIELD CONDITIONS

- A. Surfaces must be clean and moisture free. Prime and paint as soon as possible. Do not apply paints in snow, rain, fog, or mist. No painting shall be done immediately after rain or foggy weather or when the temperature is below 50 °F. Substrate temperature must be 5 °F or more above dew point temperature while

painting and during the coating's cure time. Avoid painting surfaces while they are exposed to a full, hot sun.

- B. Painting contractor should follow proper painting practices and exercise judgment based on his or her experience and project specific conditions as to when to proceed.
- C. WIND VELOCITY: Excessive wind velocity can seriously impair spray application, resulting in significant material loss, low film build, excessive dry spray or overspray, plus the possibility of depositing airborne spray mist on unprotected surfaces downwind from the work. Some of these adverse effects can be compensated for by material and equipment adjustments if winds are not too high. Generally speaking, wind velocity 15 m.p.h. or higher can cause sufficient spray application problems, in which case suspending work until conditions improve should be considered.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products manufactured or distributed by the Dunn-Edwards Corporation.

2.02 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.
- C. Colorants: The use of colorants containing hazardous chemicals, such as ethylene glycol, is prohibited.
- D. Colors: As Selected by owner's agent from manufacturer's full range.
 - 1. Where color is selected prior to bid submittal, Contractor shall bid [one (1)],

[two (2)], or more finish coats, as appropriate to the color selected, and shall expressly state number of finish and prime coats and type (full or spot) of prime coat.

2. When the final color has not been selected prior to bid submittal, Contractor may need to bid additional coats when submitting their bid. The Owner should be aware that if a color is chosen following the bid process and the color is significantly different from original color, a change order for an additional finish coat might be required.

2.03 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure.
 1. Owner may engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 2. Testing agency will perform tests for compliance with product requirements.
 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove non-complying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will comply with requirements to use compatible products and systems as described in Paragraph 2.2.A. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

Exterior Substrates:

1. Concrete: 11 percent or less.
 2. Masonry (Clay and CMU): 11 percent or less.
 3. Wood: 15 percent or less.
 4. Plaster: 5 percent or less.
- C. Portland Cement Plaster Substrates: Verify that plaster is fully cured, including pH testing to determine that alkalinity is within limits established by the manufacturer.
- D. Exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- E. Concrete floors require a calcium chloride test to measure hydrostatic pressure. Consult floor coating manufacturer with test results prior to beginning surface preparation.
- F. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- G. Proceed with coating application only after unsatisfactory conditions have been corrected.
1. Application of coating indicates acceptance of surfaces and conditions.

3.02 PREPARATION

- A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.
- B. Scraping or sanding surfaces of older buildings (especially pre-1978) may release dust containing lead or asbestos. EXPOSURE TO LEAD OR ASBESTOS CAN BE VERY HAZARDOUS TO YOUR HEALTH. Always wear appropriate personal protective equipment during surface preparation, and finish cleanup of any residues by water- washing all surfaces. For more information, see Dunn-Edwards brochure on "Surface Preparation Safety" or call EPA's National Lead Information Hotline at 1-800-424-LEAD, or visit www.epa.gov/lead or/asbestos, or contact your state or local Health Department.
- C. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- D. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
1. Remove incompatible primers and re-prime substrate with compatible primers or apply bond coat as required to produce paint systems indicated.
- E. Where mildew is present, remove mildew by scrubbing with a commercial mildew remover, or, with a solution of one (1) part household bleach mixed in three (3) parts water by volume. The solution should be left on the surface for a minimum of twenty (20) minutes, rinsed thoroughly with clean water to remove any residue, and then allowed to dry completely prior to application of patching/caulking/prime/finish coat systems.
- F. Moisture: All areas that may cause paint failure due to moisture shall be addressed and eliminated. This would include, but is not limited to:
1. Gutters and downspouts not working properly.
 2. Previous coats of paint not adhering properly.
 3. Wood checking (cracks and splits in wood).
 4. Deteriorated caulking.
 5. Gaps between substrates.
 6. Rotten wood.
 7. Areas affected by water splashing.
 8. Painting in inclement weather.
 9. Painting a substrate where residual moisture exceeds limits stated in 3.1.B.
 10. Un-caulked nail holes.
- G. Pressure washing and surface preparation methods
1. Pressure wash or water blast to remove oil, grease, dirt, loose mill scale, and loose paint at pressures of 2500-3500 p.s.i. at a flow of 3.0-3.5 gallons per minute. This is the recommended standard for optimal efficiency.
- H. Prior to application of prime/finish interior and/or exterior coat systems, provide a clean, sound surface free of dust, dirt contaminants, mildew and efflorescence by use of a power wash and hand scraping or use of mechanical grinders where necessary. Additionally, areas are to be scrubbed with a bristle brush to insure complete removal of any residual salts. Remove all labels, stickers, price tags, etc. from surfaces before priming. Wood areas stamped with ink codes must be spot

primed with blocking primers. Power wash areas to be coated to ensure that new salt deposits do not occur. Failure to do so may cause adhesion issues or result in delamination and invalidate any manufacturer warranty given or implied. After cleaning if there is still chalk evident, this condition must be brought to the owner's attention in writing before any further work is done.

- I. Cementitious Substrates: (concrete, stucco, masonry) Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
 1. Wire brush all loose and peeling paint and dust all surfaces before spot priming or applying finish coats. Industry standards apply to applications of cracks, voids, and repairs. Any areas of repair shall be patched and dried before coatings are applied. Cracks should be repaired as follows: 1. Cracks less than 1/4" wide should be filled using Dunn-Edwards Brush Grade Elastomeric Patch. 2. Cracks wider than 1/4" should be cut and scraped to a "V" shape and filled with Dunn-Edwards Trowel Grade Elastomeric Patch. Large cracks and holes may require repeated applications of patching materials to bring flush with adjacent substrate. Feather-in all repairs and caulking to blend with adjacent substrate.
 2. Large holes in stucco / plaster/ concrete will be patched with Rapid Set Premium Stucco Patch or Rapid Set Wunderfixx Concrete Patching Compound in appropriate texture to blend with existing texture. Allow stucco patch to cure to acceptable pH level (10) prior to application of prime/finish coat systems. Caulk large cracks in stucco / plaster/ cement with GE-Life Time 920.
 3. Spot prime over all patched areas, cracks, and holes then use an appropriate topping material to match existing surface level and texture.

- J. All Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing.
 - a. SSPC-SP 1, "Solvent Cleaning."
 - b. SSPC-SP 2, "Hand Tool Cleaning."
 - c. SSPC-SP 3, "Power Tool Cleaning."
 1. All ferrous metals should be thoroughly cleaned and all loose rust or mill scale be removed by wire brush, scraper and/or power tool, such as an electric drill with a wire brush attachment. Any rust spots or bare metal should receive the appropriate prime coat. Rust inhibited primer to be applied on all properly

prepared surfaces where rust is evident. Any hard, glossy surfaces should be dulled. Previously painted ferrous metal in sound condition should be washed down with a strong detergent-type cleaner such as Krud-Kutter or Simple Green.

2. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
 3. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
 - a. All galvanized gutters and flashing should be thoroughly cleaned to remove loose and peeling paint.
 - b. Any bare galvanized metal should be wiped down with a non-petroleum solvent cleaner.
 - c. Prime bare metal with the specified galvanized metal primer.
 - d. Any rust on galvanized metal must be removed. Clean to bare metal and apply a rust inhibitive primer.
 4. Aluminum Substrates: Remove loose surface oxidation.
- K. Wood Substrates:
1. All deteriorated or delaminated substrates (i.e. wood, hardboard siding, T1-11) shall be replaced. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for interior and/or exterior use in paint system indicated.
 2. Sand and dust surfaces that will be exposed to view.
 3. Prime edges, ends, faces, undersides, and backsides of wood.
 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 5. Spot prime all patched and filled areas as well as any new wood with the appropriate primer or sealer as stated in the Finish Schedule.
- L. Brick Masonry
1. Remove anti-graffiti coating as recommended by coating manufacturer. If chemical removal is not successful, use hydro jetting as recommended by manufacturer.

3.03 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. The number of coats scheduled is the minimum number of coats required. Additional coat(s) shall be applied at no additional cost to the Owner, to completely hide base material, provide uniform color, and to produce satisfactory finish results.
 - 3. Apply coatings without thinning except as specifically required by label directions, or required by these specifications. In such cases, thinning shall be the minimum reduction permitted.
 - 4. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 - 5. Paint both sides and edges of interior and/or exterior doors and entire exposed surface of interior and/or exterior door frames.
 - 6. Paint entire exposed surface of window frames and sashes.
 - 7. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 8. Priming may not be required on items delivered with prime or shop coats, unless otherwise specified. Touch up prime coats applied by others as required ensuring an even primed surface before applying finish coat.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed to view:
 - a. Equipment, including panel boards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.

- d. Pipe hangers and supports.
- e. Metal conduit.
- f. Plastic conduit.
- g. Tanks that do not have factory-applied final finishes.

3.04 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.05 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by owner's agent, and leave in an undamaged condition.
- D. At completion of activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.06 Exterior PAINTING SCHEDULE

- A. Prepare, paint and finish all surfaces specified and agreed upon.
- B. Provide paint finishes of even uniform color, free from cloudy or muddled appearance. Properly correct all non-complying work to the satisfaction of owner and owner's representative and the representative of the paint manufacturer.
- C. Paint application finish schedule:

Red Brick - N/A

First Coat:

Second Coat:

Third Coat:

NOTES AND INSTRUCTIONS:

- A. Power wash areas to remove dirt. Peeling and chipping areas need to be water blasted to remove old anti-graffiti coating. Brick walls where sprinkler have damaged existing anti-graffiti coatings must be removed. Touch up and coat bare areas with Rain Guard systems. Sheen maybe slightly high than existing coating but will dull with age.
- B. Follow manufactures recommendations for proper preparation and application as state on manufactures data sheets.
- C. If any questions occur call Larry Loo at 626-590-7777 before applying coatings.

Wood, Trim, Corridor Ceilings, Siding, Fascia

First Coat: ULTRA-GRIP Premium, Acrylic Multi Purpose Primer (UGPR00 Series)

Second Coat: EVERSIELD, Exterior /Interior Semi-Gloss Paint (EVSH50)

Third Coat: EVERSIELD, Exterior /Interior Semi-Gloss Paint (EVSH50) SPECIAL

NOTES AND INSTRUCTIONS:

- A. Power wash and remove all peeling paint. Degloss and remove existing sheen on old coatings. coatings
- B. Follow manufactures recommendations for proper preparation and application as state on manufactures data sheets.

Steel, Beam underside Corridors

First Coat: BLOC-RUST Premium, Rust-Preventative Metal Primer (BRPR00 Series)

Second Coat: EVERSIELD, Exterior /Interior Semi-Gloss Paint (EVSH50)

Third Coat: EVERSIELD, Exterior /Interior Semi-Gloss Paint

(EVSH50) SPECIAL NOTES AND INSTRUCTIONS:

- A. Power wash, Remove all rust.
- B. Follow manufactures recommendations for proper preparation and application as state on manufactures data sheets.

Galvanized Metal, Electrical Conduit under Corridors, Roof Flashing, Vents

First Coat: ULTRA-GRIP Premium, Acrylic Multi Purpose Primer (UGPR00 Series)

Second Coat: EVERSIELD, Exterior /Interior Semi-Gloss Paint (EVSH50)

Third Coat: EVERSIELD, Exterior /Interior Semi-Gloss Paint

(EVSH50) SPECIAL NOTES AND INSTRUCTIONS:

- A. Electrical Conduit mounted on stucco must be coated with Evershield Velvet

EVSH20 to match Stucco Finish.

- B. Follow manufactures recommendations for proper preparation and application as state on manufactures data sheets.

Masonry, Stucco

First Coat: EFF-STOP Premium, Masonry Primer/Sealer (ESPR00)

Second Coat: EVERSIELD, Exterior Velvet Paint (EVSH20)

Third Coat: EVERSIELD, Exterior Velvet Paint

(EVSH20) SPECIAL NOTES AND INSTRUCTIONS:

- A. Power wash remove dirt.
- B. Follow manufactures recommendations for proper preparation and application as state on manufactures data sheets.

Steel, Handrails, Corridor Post

First Coat: BLOC-RUST Premium, Rust-Preventative Metal Primer (BRPR00 Series)

Second Coat: ARISTOSHIELD, Interior/Exterior Semi-Gloss Paint (ASHL50)

Third Coat: ARISTOSHIELD, Interior/Exterior Semi-Gloss Paint

(ASHL50) SPECIAL NOTES AND INSTRUCTIONS:

- A. Power wash, Remove all rust.
- B. Follow manufactures recommendations for proper preparation and application as state on manufactures data sheets.

For lead safety refer to 3.02 B. and Dunn-Edwards PDS sheets under Special Instructions.

END OF SECTION

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SECTION 10440

SIGNAGE

PART 1 -GENERAL

1.01 DESCRIPTION: Division 1 applies to this section. Provide interior signage, complete.

A. Work Specified in this Section:

1. Room identification signage.
2. Other signage as indicated.

B. Related Work Specified Elsewhere:

1. Identification for mechanical and electrical equipment

1.02 SUBMITTALS:

A. Manufacturer's Literature. Provide brochures showing signs, including general specifications, materials and construction.

B. Shop and Layout Drawings: Provide complete drawings showing details of fabrication and erection; color type and style of letters, background and frame; setting details; and full size templates of lettering layouts.

C. Samples: Provide one full size sample of each type of accessibility, room and door sign, indicating construction, color, size, layout of letters, and method of attachment.

D. Maintenance Instructions: Provide manufacturer's recommended procedures for care of finished surfaces.

E. Certificates. Manufacturer's certification that material meet Specification requirements.

1.03 QUALITY CONTROL

A. Tactile character type: Tactile characters on signs shall be raised 1/32 inch minimum and shall be sans serif uppercase characters accompanied by Contracted (Grade 2) Braille (see note below).

B. Tactile character size: Raised characters shall be a minimum of 5/8 inch and a maximum of 2 inches high.

C. Finish and contrast: Contrast between character, symbols and their background must be 70% minimum and have a non-glare finish:

D. Proportions: Characters on signs shall have a width-to-height ratio of between 3:5 and 1:1 and a stroke width-to-height ratio of between 1:5 and 1:10. CBC Section 11B-703. All letters measured must be uppercase. After choosing a typestyle to test, begin by printing the letters I, X, and 0 at 1 inch high. Place the template's 1:1 square over the X or 0, whichever is narrower. If the character is not wider than 1 inch, nor narrower than the 3:5 rectangle, the

proportions are correct. Use the 1:5 rectangle to determine if the stroke of the I is too broad, and the 1:10 rectangle to see if it is too narrow. If all the tests are passed, the typestyle is compliant with proportion requirement.

- E. Braille: Contracted (Grade 2) Braille shall be used wherever Braille is required in other portions of these standards. Dots shall be 1/10 inch on center in each cell with 2/10 inch space between cells, measured from the second column of dots in the first cell to the first column of dots in the second cell. Dots shall be raised a minimum of 1/40 inch above the background. Braille dots shall be domed or rounded.
- F. Mounting location: Mounting location shall be determined so that a person may approach within 3 inches signage without encountering protruding objects or standing within the swing of a door.
- G. All signs, unless otherwise specified, shall be products of one manufacturer. Sign manufacturer shall have local fabrication or distribution system, so that additional signs may be ordered as the need arises.

1.04 EXTENT OF SIGNAGE:

- A. If signs are not indicated on drawings, obtain from Owner an exact list and lettering of signs required. In general, provide signs as indicated on drawings for toilet rooms, occupancy, access and non-access signs. For room signs, assume one sign per door, which shall include a 3-digit room number and approximately 15 letters per sign. Letter count not used on a given sign shall be available for use on other signs.
- B. In addition, provide the following signage:
 - 1. Assistive Listening System (ALS) signs, indicating availability of ALS.
 - 2. Raised letters/California Grade 2 Braille exit signs at all exit doors. This is in addition to overhead/low level illuminated exit signs.
 - 3. California restroom symbols (circle/triangle) on door leafs, including ISA if restroom is wheelchair accessible.
 - 4. Restroom identification on wall shall include gender pictogram, raised letters and California Grade 2 Braille.
 - 5. No Smoking signs.
 - 6. Sign at main visitor entrance area to notify about the provisions of the ADA and indicate the contact information of the entity's ADA-Coordinator.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURER:

3860 W. Northwest Highway, Suite 350
Dallas, Texas 75220
(800) 274-7732
www.asisignage.com

OR EQUAL

2.02 SIGN MATERIALS:

- A. Sign Face: Extruded Engineered PVC/Acrylic alloy with Integral background colors and high impact resistance.
- B. Extruded Engineered PVC/Acrylic alloy with Integral background colors and high impact resistance with Class 1A Fire Rating with qualifying order size
- C. Tactile Graphics and Text: Provide tactile copy and grade 2 Braille raised 1/32 inch minimum from plaque surface using manufacturer's co-molding process.
 - 1. Provide lettering and graphics precisely formed, uniformly opaque to comply with relevant ADA regulations and requirements indicated for size, style, spacing, content, position, and colors.
 - 2. Text Colors: As selected.
- D. Background Colors: High contrast semi-matte integral colors as selected for graphics. All integral colors shall be U.V. stabilized resins utilizing industrial grade pigments.

2.03 FABRICATION

- A. Acrylic sheet shall be Plexiglas or Lexan, with surface hardener, thicknesses as indicated or as required for size of sign. Acrylic sheet shall meet the flammability requirements of ASTM E 84 and shall conform to ANSI Z97.1. Acrylic sheet shall be impervious to most acids, alkalies, alcohol, solvents, abrasives and boiling water.
- B. Anchors and Fasteners
 - 1. Exposed anchor and fastener materials shall be compatible with sign to which applied and shall match in color and finish.
 - 2. Double sided tape: 3M Scotch Brand, foam type. Foam tape shall be minimum 1/16 inch thick closed cell vinyl foam with adhesive backing. Adhesive shall be transparent, long aging, high tech formulation on two sides of the vinyl foam. Adhesive surfaces shall be protected with a 5 mil green flatstock treated with silicone. Foam pads shall be sized for the signage as per signage manufacturer's recommendations.
 - 3. Adhesive: Dow-Corning No. 999-A silicon type. Adhesive shall be transparent, long aging, high tech formulation.

2.04 COLORS: As selected from manufacturer's standard colors, or as indicated on drawings.

2.05 METAL FINISHES: Surface texture of signs shall be matte in accordance with ADA and CBC standards.

- A. Aluminum shall have satin finish, clear anodized, Class 2.

2.06 REQUIRED SIGNAGE: As indicated and as detailed.

2.07 FASTENERS AND OTHER MATERIALS:

- A. Fastenings: Provide non-corrosive fasteners, hangers, and mounting devices which are compatible with sign material and finish.

B. Related Materials: Other materials, not specifically described but require for a complete and proper installation of signs, shall be as approved.

C. Where mechanical fasteners are indicated or required, signs shall be factory drilled and countersunk to receive flat head screws.

PART 3 – EXECUTION

3.01 INSPECTION

A. Substrate: Examine walls, doors, ceilings, and other areas scheduled to receive signs for conditions that would affect quality and execution of work.

B. Defects: Do not proceed with installation until defects are corrected.

3.02 INSTALLATION:

A. General: Signs shall be installed in accordance with approved manufacturer's instructions at locations shown on the drawings. Signs shall be installed plumb and true at mounting heights indicated, and by method shown or specified. Signs on doors or other surfaces shall not be installed until finishes on such surfaces have been installed. Comply with ADA and CBC requirements for mounting heights of signs.

B. Anchorage shall be in accordance with approved manufacturer's instructions. Anchorage not otherwise specified or indicated shall be theft resistant.

C. Interior Signs: Locations shown on drawings are approximate. Verify exact mounting heights and locations of all signs. Attach signs one way, tamper resistant screws.

D. Installation: Install level, plumb, and at the proper height. Comply with ADA and CBC requirements for mounting heights of signs. Cooperate with work of other sections for installation of sign units to finish surfaces.

3.03 PROTECTION AND CLEANING: The work shall be protected against damage during construction. Signs shall be adjusted for proper operation. Sign surfaces shall be cleaned in accordance with the manufacturer's approved instructions.

END OF SECTION