SAN FRANCISCO UNIFIED SCHOOL DISTRICT
FACILITIES DESIGN AND CONSTRUCTION

ADDENDUM NO. 1

PROJECT: Exterior Building Envelope Repairs
          SF Community School
          125 Excelsior Avenue
          San Francisco, CA 94112

DATE: May 9, 2013

OWNER: San Francisco Unified School District
        135 Van Ness Avenue
        San Francisco, CA 94102

DSA FILE NO.: N/A
DSA APP. NO.: N/A

Notice is hereby given to all prospective bidders that plans and specifications on the subject project are modified as hereinafter set forth. This Addendum shall be attached to and form a part of the plans and specifications. All bidders must acknowledge receipt of this addendum on the Bid Form. In case of difference with previous addenda or communications, this addendum takes precedence.

It is the responsibility of all bidders to notify all subcontractors from whom they request bids and from whom they accept bids of all changes contained in this addendum.

PROJECT MANUAL

1. Item No. PM-1
   Reference: 00400 – BID FORM

   I. ROOFING REPLACEMENT

Add:
   5. Remove approximately a 4-feet section of damaged existing copper coping and replace with new copper coping at south building facade.
   6. Cut and remove existing corroded louvers at rooftop mechanical unit and replace with new louvers to match existing at two locations. Refer to attached revised Roof Plan, Sheet A2.02 (dated 5-9-2013) for exact locations.
   7. Clean to remove all loose paint, prep and repaint all existing sheet metal mechanical unit enclosures, hatches and miscellaneous equipment on the roof (excluding emergency siren equipment)
   8. Remove existing roof hatch, rotate 180° and reinstall. Add spring balanced safety post to existing roof access ladder. Acceptable manufacturers: O'Keeffe's or Bilco.
   9. Remove and dispose of abandoned air raid siren equipment on roof.
2. Item No. PM-2
   Reference: 00400 – BID FORM

   K. CONTRACTOR’S GENERAL CONDITIONS

   Item No. 34.
   Change: Motorized lifts, scaffolding, or other access system to building exterior for work.
   To: Motorized lifts or other access system to building exterior for work.

3. Item No. PM-3
   Reference: 00400 – BID FORM

   2.02. ALTERNATES

   Item no. 5 Additive/Deductive Alternate No. 5
   Add: Note: SFUSD approved allowance for this item is $30,000.

4. Item No. PM-4
   Reference: 01010 – SUMMARY OF WORK

   J. ROOFING REPLACEMENT

   Add: 5. Remove approximately a 4-feet section of damaged existing copper coping and replace with new copper coping at south building facade.

   6. Cut and remove existing corroded louvers at rooftop mechanical unit and replace with new louver to match existing at two locations. Refer to attached revised Roof Plan, Sheet A2.02 (dated 5-9-2013) for exact locations.

   7. Clean to remove all loose paint, prep and repaint all existing sheet metal mechanical unit enclosures, hatches and miscellaneous equipment on the roof (excluding emergency siren equipment).

   8. Remove existing roof hatch, rotate 180° and reinstall. Add spring balanced telescoping safety post to existing roof access ladder. Acceptable manufacturers: O’keeffe’s or Bilco.

   9. Remove and dispose of abandoned air raid siren equipment on roof.

5. Item No. PM-5
   Reference: 07620 – SHEET METAL FLASHING AND TRIM

   Refer to the attached revised Specification Section 07620 – “Sheet Metal Flashing and Trim” dated May 9, 2013 for the added requirements shown in bold underlined letters and text.
6. **Item No. PM-6**  
   **Reference:** 09910 – PAINTING  
   **Add:** Specification Section 09910 – Painting, dated May 9, 2013, before Section 09963 – Elastomeric Coatings in the Project Manual

7. **Item No. PM-7**  
   **Reference:** 00010 – TABLE OF CONTENTS  
   **Add:** Following text under DIVISION 9- FINISHES:  
   "Section 09910  Painting"

**DRAWINGS**

1. **Item No. AD1-1**  
   **Reference:** DRAWING A0.01, SCOPE OF WORK  
   **Description:** Refer to Addendum No. 1 for changes in the scope.

2. **Item No. AD1-2**  
   **Reference:** DRAWING A2.01, FIRST FLOOR PLAN  
   **2a. Description:** Extend concrete curb repair location to include new curb at stairs.  
   **2b. Description:** Contractor shall remove 3 existing planter boxes that are in the way of the scaffoldings required for this job. These redwood planters are located along the south building façade. Provide new planter boxes after wall repairs are completed. Each new planter box shall measure 36"w x 96"l x 20"h, using 2 x 6 members at the sides and 2 x 4 top edge members with mitered corners, to match existing planters. The bottom of the planter box shall use 2 x 6 members with \( \frac{3}{8} \)" gaps to allow water to drain through. Provide (3)2 x 4 x 36" flats at bottom of box, spaced equally. The school will take care of removing the vegetation in existing boxes prior to start of construction. Soil for the boxes will be supplied by the school. Place new planters in same area along south wall.
In addition an existing log and some tree seating stumps sitting on the ground along the south building façade will need to be removed and temporarily relocated during wall repairs. Re-install these site furnishings after wall repairs are completed.

Contractor shall protect some young trees along the south building façade during construction work.

3. Item No. AD1-3  
   Reference: DRAWING A2.02, ROOF PLAN  
   Description: Additional items added to scope of work on the roof such as: repair and replace damaged copper coping, replace corroded louvers, paint repaired and existing mechanical units, and replace existing roof hatch as shown on attached revised Sheet A2.02.

RFI RESPONSES

1. Question: Bid Form 2.02 Alternate 5: PG&E is very slow to provide pricing for relocation of high voltage lines. Often, they will only provide a range of pricing and state that they will do the work on a daily rate.  
   Response: See Addendum No. 1, Item No. PM-3

2. Question: Bid Form: L. Scaffolding. The bid form asks for scaffold pricing to be included in K 34 and also in L.  
   Response: See Addendum No. 1, Item No. PM-2

3. Question: Bid Form 2.01 IIA. Allowance For Concrete Spall Repair Items 4-6 – Molding and Casting only? No install? Why can't the ornamental wall panels be repaired in place?  
   Response: The intention is to mold and cast in place, which includes labor and installation, per Specification Section 03930 "Concrete Rehabilitation". Refer to Section 3.3 C. – Concrete Patching by Form and Pump Method.

ATTACHMENTS:

Project Manual:
- Division 00400 – Bid Form: 13 Pages, 5-9-2013
- Division 01010 – Summary of Work: 7 Pages, 5-9-2013
- Division 07620 – Sheet Metal Flashing & Trim: 13 Pages, 5-9-2013
- Division 09910 - Painting: 14 Pages, 5-9-2013

Drawings:
- AD1-A2.01: 5-9-2013
- AD1-A2.02: 5-9-2013

Memorandum:
Dated 9 May 2013, Re: Minimum Qualification for Bidder, By McGinnis Chen Associates, Inc.

END OF ADDENDUM ITEMS
SECTIO N 00400

BID FORM

Contractor: ____________________________

Bid Opening Date: ____________________

To the San Francisco Unified School District, Facilities, Design and Construction Department, Lobby, 135 Van Ness Avenue, San Francisco, CA 94102. Receptionist will date/time stamp each bid upon receipt at main lobby reception desk. Bid for:

Project: SF COMMUNITY SCHOOL
EXTERIOR BUILDING ENVELOPE REPAIRS
125 Excelsior Avenue, San Francisco, California

The undersigned hereby declares that he has fully investigated the existing conditions at the Project site and carefully examined all of the Contract Documents as prepared by San Francisco Unified School District and McGinnis Chen Associates, dated April 16, 2013.

The undersigned has examined all Bidding Documents and the site for the above Project and agrees to furnish and pay for all labor, material, equipment, plant, appurtenances, services, sales, consumer and use taxes required by law, and including utilities and transportation required to complete this Project according to all the requirements of the Contract Documents, including all addenda, at and for the price(s) stated below regardless of any increase in wage scales or material prices. The Contractor in submitting its bid guarantees the following prices for Ninety (90) calendar days.

1.01 PROJECT HISTORY AND INTRODUCTION

The San Francisco Community School is a three-story Elementary School located in the Excelsior neighborhood of San Francisco, California. The building is comprised of painted cast-in-place concrete walls and brick masonry walls with punched windows and steel lintels. The roofing of the building is composed of a mopped asphalt membrane with gravel ballast. Copper coping is installed at the top of the roof parapet walls.

SFUSD has recently become aware of some problems associated with the building envelope, including concrete spalling exposing underlying steel elements and corrosion of the steel lintels at window heads.

1.02 SCHEDULE OF WORK


2. All construction work related items eg. construction debris, scaffolding, equipment, trailers, containers, vehicles, forklifts, and etc. shall be removed from the school premises by August 19, 2013, unless otherwise permitted by SFUSD.
2.01 BASE BID SCOPE OF WORK

Notes:
   i. All dimensions indicated on the Architectural drawings are to be verified in field for accuracy.
   ii. Base Bid Work Items shall include but not limited to General Conditions, overhead, labor, labor burden, materials, profit, taxes, delivery, transportation, equipments, rental, required bonds, insurance, license fees, and supervision.

I. BASE BID ITEMS:

A. CONCRETE RESTORATION: CONCRETE SPALLS REPAIR

   1. Identify concrete spalls to be repaired. Record quantities and locations of concrete spalls repair. Refer to Item No. D for the related hazardous material abatement work.

   2. Remove unsound concrete and repair concrete spalls per Specification Section 03930 “Concrete Rehabilitation”.

   3. Enter unit costs and allowances for concrete spalls repair work in Item No. II.A.

B. CONCRETE RESTORATION: CONCRETE CRACKS REPAIR

   1. Identify concrete cracks to be repaired. Record quantities and locations of concrete cracks repair. Refer to Item No. D for the related hazardous material abatement work.

   2. Remove unsound concrete and repair concrete spalls per Specification Section 03930 “Concrete Rehabilitation”.

   3. Enter unit costs and allowances for concrete cracks repair work in Item No. II.B.

C. BRICK RESTORATION

   1. Brick Veneer Replacement:

      a. Identify brick veneer to be replaced. Record quantities and locations of the replacement work.

      b. Remove and replace brick veneer due to concrete spalls and cracks repair. Replace brick veneer per Specification Section 04012 "Maintenance of Unit Masonry”.

      c. Enter unit costs and allowances for brick veneer replacement work in Item No. II.C.1.

   2. Brick Veneer Repair:

      a. Identify brick veneer that needs to be repaired with the following work: Re-pointing, re-anchoring, and cleaning. Record quantities and locations of the repair.

      b. Repair brick veneer per Specification Section 04012 "Maintenance of Unit Masonry”.

      c. Enter unit costs and allowances for brick wall repair in Item No. II.C.2.
3. Provide cleaning for brick veneer per the General Conditions for the base bid.

4. Refer to Alternate No. 1 for cleaning brick veneer with factory-formulated cleaner. Refer to Specification Section 04012 “Maintenance of Unit Masonry”.

D. ABATEMENT FOR HAZARDOUS MATERIALS

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1. Remove products containing asbestos as specified in Appendix A, Hazardous Materials Abatement Specifications prepared by SES Inc.

2. Remove products containing lead as specified in Appendix A, Hazardous Materials Abatement Specifications prepared by SES Inc.

3. The concrete wall and steel lintel shall be cleaned without any loose paint prior to applying elastomeric coating. Any remaining existing paint shall have sound bonding/adhesion to the wall substrate and shall pass the adhesion tests required by the elastomeric coating manufacturer.

E. WINDOW STEEL LINTEL REPAIR

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1. Repair concrete spalls and cracks at the steel lintels. Enter unit costs and allowances for concrete spalls and cracks repair work in Item No. II.A. and II.B.

2. Mechanically wire wheel brush off the rust on the steel lintels. Apply rust inhibitor at the bare metal. Refer to Item No. I.D for the related hazardous material abatement work.

3. Clean and prepare the edges of steel lintels for sealant application. Apply fillet bead of sealant at the perimeter of steel lintels.

F. WINDOWS AND DOORS

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1. Remove and replace the existing perimeter sealant joints of window and door. Refer to Specification Section 07920 “Joint Sealants and Silicone Tape”.

2. Refer to Alternate No. 2 for wet seal work of the steel windows.

G. ELASTOMERIC COATING

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1. After the completion of the concrete spalls and cracks repair, provide elastomeric coating at the concrete wall per Specification Section 09963 “Elastomeric Coatings”.

2. Clean concrete wall and steel lintels to remove all loose and peeling paint, dirt, algae, etc. Refer to Item No. I.D for the related hazardous material abatement work.

3. Apply elastomeric coating at the concrete wall, including the steel lintels, up to the perimeter sealant joint around window/door frames. Encapsulate window/door perimeter sealant joint with elastomeric coating.
4. New elastomeric coating shall match the existing concrete wall color.

5. Clean windows, doors, light fixtures, conduits, etc. as required. Protect brick wall from elastomeric coating as required.

6. Elastomeric Coating Mock-ups:
   a. Provide mock-ups of the elastomeric coating at the following wall conditions prior to the start of the application work:
      i. Existing concrete wall with the existing paint.
      ii. Existing concrete wall without the existing paint.
      iii. Newly repaired concrete wall (with concrete patch).
      iv. Steel lintel after treated with corrosion inhibitor.
   b. Coordinate with the Manufacturer’s Representative and the Project Team. At the presence of the Manufacturer’s Representative, conduct adhesion tests on the new elastomeric coating at the above mentioned conditions.

H. NEW CONCRETE CURB  

   1. Provide new concrete curb at the Northeast wall base of the building.
   2. Chip concrete along the wall base to remove unsound concrete.
   3. Remove dirt, algae, etc. at the concrete wall base.
   4. Remove existing rebar rust. Provide corrosion inhibitor to the rebar.
   5. Form an 8”x8” (nominal size) concrete curb along the wall base juncture. Include new reinforcing dowels and epoxy grout to set the dowels in place.
   6. Tool a 1/2”x1/2” groove at the both edges of concrete curb along the concrete wall (above the curb) and floor slab (below the curb). Seal grooves with a sealant joint with bond breaker tape.
   7. Refer to per Specification Section 03930 “Concrete Rehabilitation”.

I. ROOFING REPLACEMENT  

   1. Roofing replacement: Remove the existing ballast built-up roofing system from the existing wood deck and replace with single-ply TPO roofing system with fiberglass mat roof board (eg. DensDeck or approved equivalent) per Specification Section 07540 “Thermoplastic Polyolefin (TPO) Roofing”.
   2. Enter unit costs and allowances for replacing the existing damaged wood sheathing and wood framing in Item No. II.D.
3. Provide silicone tape and silicone sealant at parapet copper coping joints per Specification Section 07920 “Joint Sealants and Silicone Tape”. Enter unit costs and allowances for installing silicone tape and sealant in Item No. II.D.

4. Provide temporary weather protection as required.

5. Remove approximately a 4’ section of damaged existing copper coping and replace with new copper coping.

6. Cut and remove existing corroded louvers at rooftop mechanical unit and replace with new louver to match existing at two locations. Refer to Roof Plan, Sheet A2.02 for exact locations.

7. Clean to remove all loose paint, prep and repaint all existing sheet metal mechanical unit enclosures, hatches and miscellaneous equipment on the roof.

8. Remove existing roof hatch, rotate 180° and reinstall. Add spring balanced safety post to existing roof access ladder.

9. Remove and dispose of abandoned air raid siren equipment on roof.

J. COORDINATION WITH LOCAL PUBLIC UTILITY COMPANIES

1. Coordination with the local Public Utility Companies - e.g. PG&E (PUC) and the local utility service alert standards for working adjacent to the high voltage power lines around the property.

2. Obtain required permits and coordinate with PUC, OSHA, and all other government and jurisdictional requirements/regulations and the local utility service alert standards regarding necessary temporary power shut-off and working around the high voltage power lines.

3. Notify the SFUSD and Architect minimum of 30 days in advance of the date and time when the electrical supply will be interrupted and its duration.

4. Notify the SFUSD and Architect of any PUC fees for the electrical shut-off and related activities that will be performed at the property. Provide fees estimate to the Owner, Owner’s Representative, and Architect prior to any work commencement. Do not proceed with the payment to PUC and/or place any work order with PUC without prior Owner’s approval.

5. Refer to Alternate No. 5 for relocating the existing power lines installed on the brick veneer wall.

6. Refer to Alternate No. 6 for excluding the brick veneer replacement and repairs around the existing power lines up to the limit allowed by the PG&E, OSHA, and other authority having jurisdiction.
K. CONTRACTOR’S GENERAL CONDITIONS

All contractors should be aware that the project is fully occupied during construction. This condition will require the work area(s) to be continuously cleaned for the safety of both the tenants and contractors. Unless otherwise noted, where applicable, the General Conditions for the Project include, but are not limited to the following:

1. Coordination for obtaining permits, except plan check fees and building permit cost.
2. Telephone.
3. Toilets (use of building toilets is forbidden).
4. Temporary power.
5. Water (Drinking).
7. Travel.
8. Safety/Equipment.
10. Warranty.
11. Punch list items.
17. Postage/Delivery.
18. Plans/Printing.
19. Field office supplies.
20. Field office equipment.
22. Construction Aids/Small tools.
23. Project sign.
24. Forklift rental.
25. Truck rental.
26. Trailer/storage rental.
27. Miscellaneous equipment rental/Repair.
28. Temporary fence.
29. Temporary lighting.
30. Temporary heating.
31. Temporary security to prevent building intrusions through construction staging.
32. Temporary pedestrian protection canopy and temporary stairs.
34. Motorized lifts/scaffolding, or other access system to building exterior for work.
35. Hoisting other than forklift and scaffold.
36. Testing supports as specified in the technical sections.
38. Daily Progressive Cleanup.
39. Clean Up Final (both exterior and Interiors of building as necessary).
40. Project Closeout.
41. Pre-construction Testing and Field Quality Control Testing required in the Specifications.

42. The project should be properly staffed and that there is sufficient field staff in which to administer the project and to properly coordinate the work with SFUSD. The Contractor agrees that the supervision provided for this Project includes one part-time Project Manager and one full-time on-site Project Superintendent.

43. The Contractor shall record and maintain records of actual repairs performed under allowance quantities. The Contractor shall record updates to the SFUSD on a regular basis.

44. The Project Manager or Project Superintendent shall accompany the Architect for the work verification/punch-list visit. Provide a minimum of seven (7) days advance notice to the Architect prior to the punch-list.

L. SCAFFOLDING

1. Scaffolding and necessary access means for the Project Base Bid Scope for Eleven (11) consecutive weeks:
@ US$________________ per week  $________________________

II. BASE BID UNIT COSTS AND ALLOWANCES:

Notes:

1. The following unit costs will be used to calculate adjustments to the lump sum price if quantities shown below or shown in construction documents differ from the actual quantity of work performed. No increases for labor, materials, or insurance will be allowed over the duration of the Project. No escalation clauses. Adjustments to the contract price will be made by change orders based on the following unit costs and allowances.

2. Unit costs shall not include General Conditions, overhead, profit, required bonds, and insurance. The unit costs shall include any necessary waste, i.e. the contractor will only be paid the unit cost times the actual installed quantity. Unit costs will be used to calculate adjustments to the price if quantities shown in the construction documents differ from the actual quantity of work installed. If approved by SFUSD, adjustments to the contract price will be made through Change Order(s) based on the stated unit costs and allowances. Refer to Project Manual.

3. Approval of Allowances: Unless otherwise noted, all allowance works shall be reviewed and approved by SFUSD prior to the execution of the work. Written Approval shall be signed by SFUSD's Representative and Architect and shall be attached with the Project's payment application.

4. Payment and Performance bonds should be included in the Alternates Section of this Bid Form. Exclude fees for the Payment and Performance bonds in the allowance items below.

v. LF = Linear Feet; SF = Square Feet; BF = Board Feet; LC = Location.

IIA. ALLOWANCES FOR CONCRETE SPALLS REPAIR

1. Repair for concrete spall without exposed rebar. 50 SF @ $________/SF = $____________

2. Repair for concrete spall with exposed rebar. 400 SF @ $________/SF = $____________
   Remove existing rebar rust. Provide corrosion inhibitor to the rebar if the remaining rebar diameter is acceptable.

3. Rebar splicing and mechanical splicing for rebar replacement. 80 LF @ $________/LF = $____________
   Include mechanical splicing at both ends of rebar and necessary reinforcing dowels. Refer to the specifications for the requirements of rebar splicing replacement.

4. Spandrel Fluted Wall Panel: Molding and casting only. 25 LC @$________/LC = $____________

5. Parapet Ornamented Wall Panel: Molding and casting only. 15 LC @$________/LC = $____________

6. Ornamented Wall Band (above the top floor windows): Molding and casting only. 20 LC @$________/LC = $____________
Note: Finish to match the existing ornamental wall pattern. Provide mock-ups for review by SFUSD and Architect.

General Conditions, overhead, profit, insurance, etc. x _______%
for Concrete Spalls Repair

Total of Concrete Spalls Repair
(All of Item No. IIA)
(Including General Conditions, overhead, profit, and insurance).

$________________________

IIIB. ALLOWANCES FOR CONCRETE CRACKS REPAIR

1. Structural concrete cracks repair 100 LF @ $_______/LF = $______________
   with epoxy injection.

2. Non-Structural concrete cracks repair 100 LF @ $_______/LF = $______________
   with cementitious repair material.

General Conditions, overhead, profit, insurance, etc. x _______%
for Concrete Cracks Repair

Total of Concrete Cracks Repair
(All of Item No. IIIB)
(Including General Conditions, overhead, profit, and insurance).

$________________________

IIIC. ALLOWANCES FOR BRICK VENEER REPAIR/REPLACEMENT

1. Brick Veneer Replacement: 100 SF @ $_______/SF = $______________
   Remove and replace brick veneer that was damaged and cracked or due to concrete spalls and cracks repair.

2. Brick Patching Repair. 100 LC @ $_______/LC = $______________

3. Brick Veneer Repair:
   a. Re-pointing missing or poor grouts of the brick veneer. 200 SF @ $_______/SF = $______________
   b. Re-anchoring brick veneer. Include removal of the existing anchors. 400 LC @ $_______/LC = $______________

General Conditions, overhead, profit, insurance, etc. x _______%

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for Brick Veneer Repair/Replacement.

Total of Brick Veneer Repair/Replacement
(All of Item No. IIC)
(Including General Conditions, overhead, profit, and insurance).

IID. MISCELLANEOUS ALLOWANCES

1. Replace existing damaged wood decking at the roof. Provide new blocking, metal straps, connectors, and other accessories as necessary.

   2,000 SF   @ $________/SF   = $________

2. Wood Frame Replacement. Remove and replace wood decay at framing. Provide new metal straps, hardware, and connections as necessary to complete new framing. Provide temporary shoring supports as necessary for framing replacement.

   500 BF @$________/BF = $________

3. Provide silicone tape and silicone sealant at the roof level parapet copper coping joints per Specification Section 079200 “Joint Sealants and Silicone Tape”.

   50 LF   @ $________/LF   = $________

4. Interior Gypsum Wall Replacement: Replacement work due to concrete cracks repair work. Provide tape and mud to finish as necessary.

   50 SF   @ $________/SF   = $________

4. Interior Painting: Provide painting on interior gypsum wall replacement, up to the architectural limit/ break line in the wall, to match adjacent color. Interior paint color information will be provided by the SFUSD.

   50 SF   @ $________/SF   = $________

5. Replace existing damaged steel lintels.

   3 LC   @ $________/LC   = $________

General Conditions, overhead, profit, insurance, etc.
for Other Allowances.

Total of Miscellaneous Allowances
(All of Item No. IID).
(Including General Conditions, overhead, profit, and insurance).

$__________________________
TOTAL BASE BID AMOUNT (Sum of the above items) include but is not limited to General Conditions, overhead, labor, labor burden, materials, profit, taxes, delivery, transportation, equipments, rental, required bonds, insurance, license fees, and supervision:

U.S. Dollars

($____________________________)

2.02 ALTERNATES

The Undersigned further proposes to perform alternates for herein-stated additions or deductions from the above Base Bid. Additions and/or deductions include any modifications of Work or additional work that the undersigned may be required to perform by reason of acceptance of alternates. The Additive/Deductive Alternates of the Contract includes the following:

1. Additive/Deductive Alternate No. 1 – Cleaning Brick Veneer with Factory-Formulated Cleaners: After brick veneer repair is complete, clean brick wall with the specified cleaners to remove stains, mildew, efflorescence, paint, and etc. Refer to Specification Section 040120 “Maintenance of Unit Masonry”.

   Circle + or – $____________________________

U.S. Dollars

2. Additive/Deductive Alternate No. 2 – Wet Seal for Windows:
   a. Wet seal window frame to glass joints with silicone sealant.
   b. Remove the existing sealant and apply silicone sealant at window frame joints and frame miter joints.

   Circle + or – $____________________________

U.S. Dollars

3. Additive/Deductive Alternate No. 3 – Concrete Restoration: Galvanic Anodes for Corrosion Prevention:
   a. Galvanic Anodes for Corrosion 60 LC @ $_______/LC = ______________

   Embed a galvanic anode at each concrete spalls repair location. Refer to the Manufacturer’s requirements for spalls that require multiple anodes. Coordinate with the Manufacturer’s Representative for on-site confirmation for the number of anodes per spall size.

   Circle + or – $____________________________

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4. Additive/Deductive Alternate No. 4 – Concrete Restoration:
   a. Utilize Edison Coating’s concrete restoration products in lieu of Sika products per specification section 03930 Concrete Rehabilitation.

   Circle + or – $____________________________

U.S. Dollars

5. Additive/Deductive Alternate No. 5 – Relocating the existing power lines installed on the brick veneer wall.
   a. No Coordination work for the Contractor. SFUSD will coordinate with the local Public Utility Companies - eg. PG&E (PUC) for relocating the existing power lines installed on the brick veneer wall.

   Note: SFUSD approved allowance for this item is $30,000.

   Circle + or – $____________________________

U.S. Dollars

6. Additive/Deductive Alternate No. 6 – Exclude all repair work at the wall around the existing power lines up to the limit allowed by the PG&E, OSHA, and other authority having jurisdiction.
   a. The existing high power lines will not be relocated.
   b. Contractor to confirm with the PG&E, OSHA, and other authority having jurisdiction for the limitation of repair work around the existing power lines and the required safety protection for the public.

   Circle + or – $____________________________

U.S. Dollars

2.03 FEES

The General Contractor agrees to the fee percentages listed in below for all the Work to be performed under this Contract. Enter the appropriate percentage amount in the following:

A. Contractor's Overhead __________ %

B. Contractor's Fee __________ %

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C. Bonds %
D. General Liability Insurance %

E. Additional Items: Please list other items and concerns at the end of the Bid Form. Please attach additional documents that should be included in the Bid.

2.04 CONSTRUCTION CHANGE ORDER MARK-UPS

The General Contractor agrees to the mark-up fee percentages listed below. These mark-ups will be applied to all extra work approved for change order. Enter the appropriate percentage amount in the following:

A. Contractor's Overhead %
B. Contractor's Fee %
C. Bonds %
D. General Liability Insurance %

E. Additional items: Please list other items and concerns at the end of the Bid Form. Please attach additional documents that should be included in the bid.

2.05 TIME AND MATERIAL RATES

The General Contractor agrees to the time and material rates listed below (rates shall include overhead, mark-ups, wage, comp. insurance, taxes, social security, bonuses, insurance, benefit, etc.) for all work to be performed on a time and materials basis for any approved Change Orders. These rates will be used to calculate undefined work for the Project. Enter the appropriate amount in the following:

A. Laborer: @ $__________/hour
B. Laborer (Senior): @ $__________/hour
C. Carpenter: @ $__________/hour
D. Foreman: @ $__________/hour
E. Supervision: @ $__________/hour
F. Cost of materials: x %

G. Additional items: Please list other items and concerns at the end of the Bid Form. Please attach additional documents that should be included in the bid.
Acknowledge receipt of Addenda Nos.

(Company)

(Signature of Bidder)

(Contractor License Number)

(Printed Name)

(License Expiration date)

(Title of Bidder)

(San Francisco Business Tax Certificate Number)

(Business Address)

If a Corporation, incorporated
In the State of:

(Telephone Number)

(Fax number)

By

(Officer)

(Printed name)

(Title)

END OF SECTION 00400

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Bid Form
SECTION 01010
SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Project consists of exterior repairs of building envelope involving existing walls and roofs
   1. Project Location: S.F. Community School
      125 Excelsior Avenue, San Francisco, CA 94112.
   2. Owner: San Francisco Unified School District.

B. CONCRETE RESTORATION: CONCRETE SPALLS REPAIR
   1. Identify concrete spalls to be repaired. Record quantities and locations of concrete spalls repair.

   2. Remove unsound concrete and repair concrete spalls per Specification Section 03930 “Concrete Rehabilitation”.

C. CONCRETE RESTORATION: CONCRETE CRACKS REPAIR
   1. Identify concrete cracks to be repaired. Record quantities and locations of concrete cracks repair.

   2. Remove unsound concrete and repair concrete spalls per Specification Section 03930 “Concrete Rehabilitation”.

D. BRICK RESTORATION

   1. Brick Veneer Replacement:
      a. Identify brick veneer to be replaced. Record quantities and locations of the replacement work.

      b. Remove and replace brick veneer due to concrete spalls and cracks repair. Replace brick veneer per Specification Section 04012 “Maintenance of Unit Masonry”.

   2. Brick Veneer Repair:
a. Identify brick veneer that needs to be repaired with the following work: Repointing, re-anchoring, and cleaning. Record quantities and locations of the repair.

b. Repair brick veneer per Specification Section 04012 "Maintenance of Unit Masonry".

3. Provide cleaning for brick veneer per the General Conditions for the base bid.

4. Refer to Alternate No. 1 for cleaning brick veneer with factory-formulated cleaner. Refer to Specification Section 04012 "Maintenance of Unit Masonry".

E. ABATEMENT FOR HAZARDOUS MATERIALS

1. Remove products containing asbestos as specified in Appendix A, Hazardous Materials Abatement Specifications prepared by SES Inc.

2. Remove products containing lead as specified in Appendix A, Hazardous Materials Abatement Specifications prepared by SES Inc.

3. The concrete wall and steel lintel shall be cleaned without any loose paint prior to applying elastomeric coating. Any remaining existing paint shall have sound bonding/adhesion to the wall substrate and shall pass the adhesion tests required by the elastomeric coating manufacturer.

F. WINDOW STEEL LINTEL REPAIR

1. Repair concrete spalls and cracks at the steel lintels.

2. Mechanically wire wheel brush off the rust on the steel lintels. Apply rust inhibitor at the bare metal.

3. Clean and prepare the edges of steel lintels for sealant application. Apply fillet bead of sealant at the perimeter of steel lintels.

G. WINDOWS AND DOORS

1. Remove and replace the existing perimeter sealant joints of window and door. Refer to Specification Section 07920 "Joint Sealants and Silicone Tape".

2. Refer to Alternate No. 2 for wet seal work of the steel windows.
H. ELASTOMERIC COATING

1. After the completion of the concrete spalls and cracks repair, provide elastomeric coating at the concrete wall per Specification Section 09963 "Elastomeric Coatings".

2. Clean concrete wall and steel lintels to remove all loose and peeling paint, dirt, algae, etc. Refer to Item No. E for the related hazardous material abatement work.

3. Apply elastomeric coating at the concrete wall, including the steel lintels, up to the perimeter sealant joint around window/door frames. Encapsulate window/door perimeter sealant joint with elastomeric coating.

4. New elastomeric coating shall match the existing concrete wall color.

5. Clean windows, doors, light fixtures, conduits, etc. as required. Protect brick wall from elastomeric coating as required.

6. Elastomeric Coating Mock-ups:

   a. Provide mock-ups of the elastomeric coating at the following wall conditions prior to the start of the application work:

      i. Existing concrete wall with the existing paint.
      ii. Existing concrete wall without the existing paint.
      iii. Newly repaired concrete wall (with concrete patch).
      iv. Steel lintel after treated with corrosion inhibitor.

   b. Coordinate with the Manufacturer's Representative and the Project Team. At the presence of the Manufacturer's Representative, conduct adhesion tests on the new elastomeric coating at the above mentioned conditions.

I. NEW CONCRETE CURB

1. Provide new concrete curb at the Northeast wall base of the building.

2. Chip concrete along the wall base to remove unsound concrete.

3. Remove dirt, algae, etc. at the concrete wall base.

4. Remove existing rebar rust. Provide corrosion inhibitor to the rebar.

5. Form an 8"x8" (nominal size) concrete curb along the wall base juncture. Include new reinforcing dowels and epoxy grout to set the dowels in place.
6. Tool a 1/2"x1/2" groove at the both edges of concrete curb along the concrete wall (above the curb) and floor slab (below the curb). Seal grooves with a sealant joint with bond breaker tape.

7. Refer to per Specification Section 03930 “Concrete Rehabilitation”.

J. ROOFING REPLACEMENT

1. Roofing replacement: Remove the existing ballast built-up roofing system from the existing wood deck and replace with single-ply TPO roofing system with fiberglass mat roof board (eg. DensDeck or approved equivalent) per Specification Section 07540 “Thermoplastic Polyolefin (TPO) Roofing”.

2. Provide silicone tape and silicone sealant at parapet copper coping joints per Specification Section 07920 “Joint Sealants and Silicone Tape”.

3. Provide temporary weather protection as required.

4. Remove approximately a 4' section of damaged existing copper coping and replace with new copper coping.

5. Cut and remove existing corroded louvers at rooftop mechanical unit and replace with new louver to match existing at two locations. Refer to Roof Plan, Sheet A2.02 for exact locations.

6. Clean to remove all loose paint, prep and repaint all existing sheet metal mechanical unit enclosures, hatches and miscellaneous equipment on the roof (excluding emergency siren equipment).

7. Remove existing roof hatch, rotate 180° and reinstall. Add spring balanced safety post to existing roof access ladder. Acceptable manufacturer: O’keeffe's or Bilco.

8. Remove and dispose of abandoned air raid siren equipment on roof.

K. COORDINATION WITH LOCAL PUBLIC UTILITY COMPANIES

1. Coordination with the local Public Utility Companies - eg. PG&E (PUC) and the local utility service alert standards for working adjacent to the high voltage power lines around the property.

2. Obtain required permits and coordinate with PUC, OSHA, and all other government and jurisdictional requirements/regulations and the local utility service alert standards regarding necessary temporary power shut-off and working around the high voltage power lines.
3. Notify the SFUSD and Architect minimum of 30 days in advance of the date and time when the electrical supply will be interrupted and its duration.

4. Notify the SFUSD and Architect of any PUC fees for the electrical shut-off and related activities that will be performed at the property. Provide fees estimate to the Owner, Owner's Representative, and Architect prior to any work commencement. Do not proceed with the payment to PUC and/or place any work order with PUC without prior Owner's approval.

5. Refer to Alternate No. 5 for relocating the existing power lines installed on the brick veneer wall.

6. Refer to Alternate No. 6 for excluding the brick veneer replacement and repairs around the existing power lines up to the limit allowed by the PG&E, OSHA, and other authority having jurisdiction.

L. All descriptions or "general summaries" of the work noted in this section, or elsewhere within the contract documents, are without force and effect on the contract work described and indicated in detail in the construction plans and specifications. These descriptions and summaries are for general reference and descriptive purposes only and in no way offer the complete and concise description of all the work required by the contract documents.

1.3 CONTRACT
A. Project will be constructed under a general construction contract.

1.4 USE OF PREMISES
A. Limit use of site and premises to allow:
   1. District occupancy.
   2. Use of site and premises by public, staff and students.
   3. Work by others and Work by District.

B. Construction Operations: Limited to area shown on drawings.

1.5 WORK SEQUENCE
A. Construct work in phases to accommodate District's occupancy requirements during the construction period; coordinate Contractor's Construction Schedule and operations with District and the Architect.

1.6 DISTRICT OCCUPANCY
A. The District will occupy the premises during the entire period of construction for the conduct of its normal operations. Cooperate with the District in all construction operations including the following to minimize conflict and to facilitate District usage.

B. If and when it should be necessary for the Contractor to impact the day-to-day operations of District's functions in order to pursue the Work, the Contractor shall
furnish adequate notice to the District and coordinate the means and timing to avoid, minimize, or circumvent such impacts. The District reserves the right to assess and anticipate such impacts and the right to stop or postpone the Work until a mutually satisfactory time and means can be agreed upon. Typical impacts shall include, but not be limited to, the following:

1. Interruption of utility service serving the existing buildings, areas, or functions.
2. Blockage of or inhibiting access to existing entry, exit, dock, delivery or pickup point, driveway, fire hydrants. Particular care shall be taken to maintain access for delivery of supplies, entry and egress of students, visitors and employees.
3. Noise, dust, dirt, water, fumes or other objectionable, hazardous, or disruptive conditions.
4. Interruption of heating, air conditioning, and ventilating systems.
5. Interruption of internal systems such as gas supplies, communications, fire sprinklers, fire alarms, internal deliveries, other systems.

C. The Contractor shall strongly emphasize to all members of the construction team that the District expects a zero tolerance policy for contact with students.

1.7 WORK UNDER OTHER CONTRACTS – NOT APPLICABLE
1.8 FUTURE WORK – NOT APPLICABLE
1.9 PRODUCTS ORDERED IN ADVANCE - NOT APPLICABLE
1.10 DISTRICT-FURNISHED PRODUCTS - NOT APPLICABLE
1.11 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.

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

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.12 MISCELLANEOUS PROVISIONS
PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION (Not Used)

END OF SECTION 01010
SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following sheet metal flashing and trim:

1. Sheet metal flashing.

2. Reglet and counter-flashing at wall base.

3. Formed roof drainage system: Scupper.

B. This Section includes the following copper sheet metal:

1. Copper coping at roof parapet.

C. This Section includes the following galvanized steel sheet metal:

1. Mechanical louver replacement at roof.

1.3 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.

B. Fabricate and install copings capable of resisting the following forces according to recommendations in FMG Loss Prevention Data Sheet 1-49:

1. Wind Zone 1: For velocity pressures of 21 to 30 lbf/sq. ft. (1.00 to 1.44 kPa): 60-lbf/sq. ft. (2.87-kPa) perimeter uplift force, 90-lbf/sq. ft. (4.31-kPa) corner uplift force, and 30-lbf/sq. ft. (1.44-kPa) outward force.

C. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation,
overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces

D. Water Infiltration: Provide sheet metal flashing and trim that does not allow water infiltration to building interior.

1.4 SUBMITTALS

A. Submit under provisions of Section 01330 "Submittal Procedures."

B. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

1. Material List: An inclusive list of required materials. Indicate each material and cross-reference the specific system and application. Identify each material by Manufacturer's catalog number and general classification.

2. Manufacturer's Information: Technical information including label analysis and instructions for handling, storing, and installing material.

3. Include Material Safety Data Sheets, if applicable.

C. Submit Manufacturer's instructions for correct application of the materials, including special surface preparation procedures and substrate conditions requiring special attention.

D. Shop Drawings: Show layouts of sheet metal flashing and trim. Distinguish between shop- and field-assembled Work. Include the following:

1. Identify material, thickness, weight, and finish for each item and location in Project.

2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.

3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, and attachments to adjoining Work.

4. Do not submit Architectural Drawings. Submit fabricator's shop drawings to confirm the actual profiles, shapes, seams, and dimensions of the sheet metal flashing and trim to be installed for the Project.
E. Samples for Verification: For each type of flashings and trims, prepared on Samples of size indicated below:

1. Sheet Metal Flashings: Minimum 12 inches long. Include fasteners, cleats, clips, closures, and other attachments.


F. Submit Qualification Data of firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Architects and Owners, and other information.

G. Maintenance Data: To include in maintenance manuals. Identify substrates and types of materials installed. Include recommendations for periodic inspections, cleaning, care, maintenance, and repair.

H. Warranty: Sample of special warranty.

I. Maintain one (1) copy of each document on site.

1.5 QUALITY ASSURANCE

A. Fabricator/Installer Qualifications: A firm or individual experienced in fabricating and installing sheet metal flashing and trim systems similar in material and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance and who is certified by Manufacturer.

1. Company specializing in performing the Work of this Section with minimum five (5) years of experience.

2. Workers: Thoroughly skilled and specially trained in the techniques installing sheet metal flashing and trim. Applicators shall be able to demonstrate acceptable level of skill for review and acceptance by the Architect.

B. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the Work of this Section.

C. Manufacturer: Company specializing in manufacturing the Products specified in this Section with minimum ten (10) years of experience.

D. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

E. Mock-ups: Build mock-ups to demonstrate aesthetic effects and set quality standards for fabrication and installation.
1. Build mock-ups under provisions of Section 01400 "Quality Requirements."

2. Build mock-ups approximately 48 inches long, including supporting construction seams, attachments, and accessories.

F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Section 01310 "Project Meetings."

G. All Work shall be subject to acceptance by the Owner and Architect. All Work that does not comply with the intent of the Specifications shall be corrected by the Contractor.

1.6 COORDINATION

A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal materials in contact with other materials that might cause staining, denting, or other surface damage.

D. Environmental requirements: Proceed with Work of this Section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the Manufacturer’s recommendations.

E. Take precautionary measures and store in UL listed storage locker to protect from fire hazards and spontaneous combustion.

F. Remove all materials, including cloths, tarps, and empty containers from the area of Work at the close of each day.

1.8 REGULATORY REQUIREMENTS

A. Conform to applicable Federal, State, and local regulatory requirements including flame and smoke rating requirements for finishes.

B. Flammable Liquids serve all current regulation regarding flammable liquids such as posting "No Smoking" signs. Allow no open flames, welding, or other ignition sources in the Work.
C. Conform to all applicable laws, codes, and regulations for disposal of all materials, debris, and containers.

1.9 WARRANTY

A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Fabricator's/Installer's Warranty: Installer's standard form in which Fabricator/Installer agrees to repair or replace sheet metal products that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two (2) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements.

2.2 SHEET METALS

A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, dead soft, fully annealed; with smooth, flat surface.

D. Copper Sheet Metal: ASTM B 370, cold-rolled copper sheet, H00 or H01 tamper.

E. Galvanized Steel Sheet Metal: ASTM A 653/A 653M, G90 coating designation: structural quality. Provide bonderized steel sheet for field painting where coating or paint will be applied.
2.3 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Fasteners:

1. Exposed Fasteners: Stainless steel bolts and stainless steel and neoprene washers. Neoprene isolator at washer if stainless steel bolts contact with galvanized steel.

C. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.

D. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal coping and remain watertight. Refer to Section 07920 “Joint Sealants and Silicone Tape.”

2.4 MANUFACTURED SHEET METAL FLASHING AND TRIM

A. Reglets: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory- mitered and -welded corners and junctions.

1. Manufacturers:
   a. Fry Reglet Corporation.
   b. Flashing Company, Inc.
   c. Or approved equal.


3. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.

2.5 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing to comply with recommendations in SMACNA’s "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.

C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

1. Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.

D. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles. Fabricate sheet metal flashing and trim that is capable of installation to tolerances specified in SMACNA's "Guide Specification for Residential Metal Roofing."

E. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.

F. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

G. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

H. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

I. Fabricate cleats and attachment devices of sizes as recommended by SMACNA's "Architectural Sheet Metal Manual" and by FMG Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.

J. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant, unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

K. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.

L. Do not use graphite pencils to mark metal surfaces.
2.6 ROOF DRAINAGE SHEET METAL FABRICATIONS

A. Parapet Scuppers: Pre-fabricated scupper with TPO roofing membrane. Scuppers dimensions required with closure flange trim to exterior, min. 4-inch-wide wall flanges to interior, and base extending min. 4 inches beyond cant or tapered strip into field of roof. Fabricate from the following materials: Stainless Steel: 20 Ga. thick or according to the TPO Roofing Manufacturer’s requirements.

2.7 WALL SHEET METAL FABRICATIONS

A. Openings Flashing in Frame Construction: Fabricate head, sill, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch-high end dams. Stainless Steel: 20 Ga. thick.

B. Counter-flashing: Fabricate from the following materials: Stainless Steel: 20 Ga. thick.

2.8 COPPER SHEET METAL FABRICATIONS

A. Parapet coping replacement: Fabricate to match existing profile, thickness and to extend 6 inches beyond openings on both sides.

2.9 GALVANIZED SHEET METAL FABRICATIONS

A. Mechanical louver replacement: Fabricate to match existing profile, size and thickness.

3.0 FINISHES

A. Comply with NAAMM’s "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.

1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

2. Verify compliance with requirements for installation tolerances of substrates.

3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal coping and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.

2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

3. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

5. Install sealant tape where indicated.

6. Torch cutting of sheet metal flashing and trim is not permitted. See the "Metal Considerations" Article in the Evaluations.

7. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
1. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene underlayment.

2. Coat side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.

C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.

E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

F. Expansion Provisions: Provide for thermal expansion of exposed coping. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails.

1. Use stainless-steel fasteners.

H. Seal joints with elastomeric sealant as required for watertight construction.

1. Prepare joints and apply sealants to comply with requirements in Section 07920 "Joint Sealants and Silicone Tape".

I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches, except reduce pre-tinning where pre-tinned surface would show in completed Work.

1. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
3.3 ROOF DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.

B. Pre-fabricated Parapet Scuppers with TPO Roofing Membrane: Install scuppers where indicated through parapet. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.

1. Anchor scupper closure trim flange to exterior wall and solder to scupper.

2. Loosely lock front edge of scupper with conductor head.

3.4 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight.

B. Counter-flashing: Coordinate installation of counter-flashing with installation of base flashing. Insert counter-flashing in reglets or receivers and fit tightly to base flashing. Extend counter-flashing 4 inches over base flashing. Lap counter-flashing joints a minimum of 4 inches and bed with elastomeric sealant.

1. Secure in a waterproof manner by means of snap-in installation and sealant or lead wedges and sealant.

3.5 COPPER COPING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install with 6" laps.

B. Joint sealing: Apply silicone tape at laps and joints. Refer to Specification Section 07920 "Joint Sealants and Silicone Tape" for installation of silicone tape.

3.6 MECHANICAL LOUVER INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners
where possible, set units true to line, and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight.

**B. Weld edges as needed. Provide a fire extinguisher and fire watch, per SFUSD requirements, to be on the roof while all welding is taking place.**

**3.6 ERECTION TOLERANCES**

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles. Shim and align sheet metal flashing and trim within installed tolerances specified in MCA’s "Guide Specification for Residential Metal Roofing."

**3.7 FIELD QUALITY CONTROL**

A. The Contractor for Work under this Section shall maintain a quality control program specifically to verify compliance with this Specification.

B. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during operations.

C. If test results show materials do not comply with requirements, remove non-complying materials, prepare surfaces, and reinstall materials.

D. Additional testing and inspecting, at Contractor’s expense, will be performed to determine compliance of replaced or additional Work with specified requirements.

**3.8 CLEANING**

A. Clean Work and disposal under provisions of Section 01770 “Closeout Procedures.”

B. Cleanup: At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

C. Collect waste material that may constitute a fire hazard, place in closed metal containers and remove daily from site.

D. Contractor shall replace all materials in kind that are damaged during Work of this Section.

E. Provide continuous dust control to protect all areas of the Work.

F. Legally dispose of debris in accordance with local, State, and Federal regulations.

G. Upon completion of the Work, remove all debris and surplus items from the site.
H. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

I. Clean and neutralize flux materials. Clean off excess solder and sealants.

J. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.

K. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

3.9 PROTECTION

A. Protect Work of other trades from damage whether being coated or not. Correct damage by cleaning, repairing, replacing, and recoating as approved by Architect. Leave in an undamaged condition.

END OF SECTION 07620
SECTION 09910

PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes surface preparation and field painting of exposed sheet metal products at roof locations only.

1.  All mechanical enclosures.

2.  Roof Hatches

B. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.3 DEFINITIONS

A. General: Standard coating terms defined in ASTM D 16 apply to this Section.

1.  Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.

2.  Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.

3.  Semigloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.

4.  Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

1.4 REFERENCES

A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.


C. FS TT-P-141C - Paint, Varnish, Lacquer, and Related Materials.

D. FS TT-W-572B - Water Repellency.


G. SSPC (Steel Structures Painting Council) - Steel Structures Painting Manual.

1.5 SUBMITTALS

A. Submit under provisions of Section 01330 "Submitittal Procedures".

B. Product Data: For each painting system specified, include primers, solvents, cleaning compounds, sealants and other products not specified in this section but that will be used during the course of this Work: Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties.
   1. Material List: An inclusive list of required paint materials. Indicate each material and cross-reference the specific paint, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
   2. Manufacturer's Information: Technical information including label analysis and instructions for handling, storing, and applying each coating material.
   3. Include Material Safety Data Sheets, if applicable.

C. Submit Manufacturer's instructions for correct application of the materials, including special surface preparation procedures and substrate conditions requiring special attention.

D. Submit color samples for each type of paint illustrating range of colors, sheen, and textures for each finishing product scheduled. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.

E. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors, textures, and patterns available for each type of product indicated.

F. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of actual substrate.
   1. Provide stepped Samples, defining each separate paint, including primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
   2. Provide a list of materials and applications for each coat of each Sample. Label each Sample for location and application.
   3. Submit three (3) Samples on the specified substrates for Architect's review of color and texture only. Refer to Architect's paint schedule.
G. Submit Qualification Data of firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information.

1. For products required to be installed by workers approved by product manufacturers, include letters of acceptance by product manufacturers certifying that installers are approved to apply their products.

H. Product Certificates: For each paint material, signed by manufacturers, certifying that the paint comply with requirements, based on comprehensive testing of current product formulations within the last three years.

I. Maintenance Data: To include in maintenance manuals. Identify substrates and types of paint applied. Include recommendations for periodic inspections, cleaning, care, maintenance, and repair of coatings.

J. Submit Manufacturer's certification that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).

K. Warranty: Special warranty specified in this Section.

L. Maintain one copy of each document on site.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance and who is certified by manufacturer.

1. Company specializing in performing the work of this section with minimum five (5) years of experience.
2. Workers: Thoroughly skilled and specially trained in the techniques applying paints and coatings. Applicators shall be able to demonstrate acceptable level of skill for review and acceptance by the Architect.

B. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the Work of this Section.

C. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum ten (10) years of experience. Manufacturer shall have factory-trained representatives who are available for consultation and Project site inspection at no additional cost.
D. Paint materials shall be evenly coated in accordance with Manufacturer’s directions and printed specifications. Finish surfaces shall be free of runs, sags, skips, and other defects.

E. The specification of the number of paint is a minimum requirement. If full coverage is not provided with the specified number of paint, additional paint shall be applied to achieve the required finish.

F. Source Limitations: Obtain primers for each painting system from the same manufacturer as the finish coats.

G. Fire-Test-Response Characteristics:

1. Fire-response testing was performed by UL, ITS, or another independent testing and inspecting agency that is acceptable to authorities having jurisdiction and that performs testing and follow-up services.

H. Mockup: Provide a full-coat paint application on full scale mock-up for each type of paint and substrate required. Comply with procedures specified in PDCA P5.

1. Build mockup under provisions of Section 01400 “Quality Requirements”.
2. Apply mockup according to requirements for the completed Work. Provide required sheen, color, and texture on each surface.
3. Mockup shall be tested for adhesion.

I. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section 01310 “Project Meetings”.

1. Before applying paint or coatings, meet with representatives of authorities having jurisdiction, manufacturer’s technical representative, Owner, Architect, consultants, independent testing agency, and other concerned entities. Review requirements for coatings. Notify participants at least seven days before conference.

J. All Work shall be subject to acceptance by the Owner and Architect. All Work that does not comply with the intent of the specifications shall be corrected by the Contractor.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer’s original, unopened packages and containers bearing manufacturer’s name and label and the following information:

1. Manufacturer’s brand name and stock number.
2. Product name or title of material.
3. Directions for storage and handling instructions and precautions.
4. Date of manufacture and shelf life.
5. Mixing and application instructions.
6. Contents by volume, for pigment and vehicle constituents.
7. Thinning instructions (if permitted).
8. Color name and number.
9. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F and a maximum of 90° F, in ventilated area, and as required by manufacturer's instructions. Maintain storage containers in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

C. Safety: Refer to all applicable data, including, but not limited to MSDS sheets, PDS sheets, Product labels, specific instructions for specific personal protection requirements.

D. Ventilation: General ventilation is recommended; zero VOC materials do not generate harmful or flammable vapors. Secondary materials may present hazards to be addressed.

E. Environmental requirements: Proceed with work of this section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

F. Take precautionary measures and store in UL listed storage locker to protect from fire hazards and spontaneous combustion.

G. Remove all materials, including cloths, tarps, and empty containers from the area of Work at the close of each day.

1.8 REGULATORY REQUIREMENTS

A. Conform to applicable federal, state, and local regulatory requirements including flame and smoke rating requirements for finishes.

B. Flammable Liquids serve all current regulation regarding flammable liquids such as posting “No Smoking” signs. Allow no open flames, welding, or other ignition sources in the Work.

C. Conform to all applicable laws, codes, and regulations for disposal of all materials, debris, and containers.

D. Exterior paint materials shall be V.O.C. Compliant.

1.9 PROJECT CONDITIONS

A. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 95 deg F.
B. Maintain surface and ambient temperature above 45° F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.

C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

D. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.10 WARRANTY

A. General Warranty: Warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Installer's Warranty: Installer's standard form for labor and material warranty in which Installer agrees to reprime and repaint that do not comply with performance and other requirements specified in this Section within specified warranty period.

   1. Warranty Period: Three (3) years from date of Substantial Completion.

C. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to reprime and repaint that fail within specified warranty period. Failures include, but are not limited to, blisters, running, peeling, scaling, calking, streaks, fading, adhesion failure, or stains.

   1. Warranty Period: Five (5) years from date of Substantial Completion.

1.11 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

   1. Quantity: Furnish Owner not less than One (1) gallon of paint of each color and surface texture applied.

   2. Label each sealed container with color, type, texture, locations, and the manufacturer's label.
PART 2 - PRODUCTS

2.1 PRODUCTS AND MANUFACTURERS

A. Products: Subject to compliance with requirements.

2.2 GENERAL

A. Material Compatibility: Provide primers and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Paint Coatings: ready mixed, except field-catalyzed coatings. Process pigment to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating; good flow and brushing properties; capable of drying or curing free of streak or sags.

C. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.

D. Colors: To be selected and approved by the Architect or Owner in writing.

2.3 PAINTS


1. Manufacturer: Tnemec Co.:

   a. Primer: 135 Chembuild at 2.0 to 3.0 mils dry film thickness per coat.
   b. Intermediate coat: 135 Chembuild at 2.0 to 3.0 mils dry film thickness per coat.
   c. Finish: Endura-Shield II 1075 at 2.0 to 3.0 mils dry film thickness per coat.

2. Or approved equivalent.

2.4 FINISHES

A. The minimum number of coats required is indicated in this section. Apply additional finish coats as required until the final film is of uniform color, sheen, and general.
PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify that surface substrate, areas, and conditions are ready to receive work as instructed by the product manufacturer.

1. For the record, prepare written report, endorsed by Applicator, listing conditions detrimental to performance.

2. Verify compatibility with and suitability of substrates.

3. Proceed with painting application only after unsatisfactory conditions have been corrected and surfaces are thoroughly dry.

4. Verify that substrates are visibly dry and free of moisture. Test for moisture by method recommended in writing by manufacturer.

5. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect and general contractor prior to starting the application.

6. Start of painting application will be construed as Applicator’s acceptance of surface conditions.

B. Test primer for compatibility with substrate materials.

C. Verify that sealant work is in place.

D. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

A. Power wash surfaces that will be coated in order to remove existing loose coating, dirt, and foreign impurities prior to the application of the coating. Clean and prepare surfaces to be painted according to manufacturer’s written instructions for each particular substrate condition and as specified.

B. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

C. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

2. Remove oil and grease before cleaning.

3. Clean all surfaces to remove dirt, oil, grease, oxidation, rust, loose and scaling paint, mildew, or any other contaminated surface as follows: hand or mechanical wire brush, scrape and spot sand where required to remove all loose materials.

4. Remove all existing coatings that are loose, blistered, flaking, peeling or otherwise in unacceptable condition to receive paint to a sound, firm, well adhered surface suitable for re-coating.

5. Repair and fill minor defects such as protruding nails, nail holes, cracks, gaps, and blemishes.

6. Seal all marks or defects that might bleed through paint finishes with pigmented shellac or other coating acceptable to paint manufacturer.

7. Remove mildew on surfaces to be painted by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

8. Remove surface contamination and oils with methyl ethyl ketone wash on galvanized surfaces. Apply coat of pre-treatment etching primer on previously unpainted metal.

D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Prepare surface with existing coatings containing hazardous material per the recommendation of the Owner's Hazardous Materials Consultant.

2. Provide barrier coats over incompatible primers or remove and reprime.

3. Non-Galvanized Surfaces: Clean surfaces with solvents or treatment recommended by the Manufacturer so surface is free of oil and surface contaminants.

4. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents or treatment recommended by the Manufacturer so surface is free of oil
and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

E. Mask adjoining surfaces not receiving paints and substrate penetrations to prevent spillage, leaking, and migration of coatings.

F. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.

3. Use only thinners approved by paint manufacturer and only within recommended limits.

3.3 APPLICATION

A. General: Apply paint after the substrate is cleaned, free of existing loose coating or painting, dust and foreign impurities, and fully dried. Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.

2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

3. Provide paint finishes of evenly uniform color, free from cloudy or mottled appearance, brush marks, laps, roller skids and other surface imperfections. Properly correct all non-complying work to the satisfaction of the Owner.

4. Apply each coat to uniform finish. Sand lightly, if necessary, between coats to achieve required finish.

5. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

6. Vacuum clean surfaces free of loose particles. Use tack cloth just prior to applying next coat.

7. Allow sufficient time between coats to permit proper drying.

8. Apply primer and paint coats with thickness of 1.5 mils dry film thickness (DFT) per coat.

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Painting
9. Do not coat over unpainted hinges or moving mechanisms of windows, doors, or storage unit.

10. Open access panel doors for painting and leave open until thoroughly dry.

11. Do not apply finishes to surfaces that are not dry. Verify with moisture meter that the substrate moisture content meets paint manufacturer’s requirements before painting.

12. Prepare, paint and finish all surfaces by brush and roller or airless spray application. All windows are to be protected at all times during painting.

13. Roller-applied coats or spray-applied coats shall provide coverage equivalent to brush-applied coats. Do not apply subsequent coats over wet surfaces with spray or roller for the purpose of building up film thickness greater than the manufacturer’s recommended film thickness.

14. Maintain paint containers in a clean conditions, free of foreign materials and residue.

15. Stir materials before and during application to produce uniform color and density; and to assure a continuous balance of ingredients.

16. Apply materials at recommended spreading rate to establish the dry film thickness recommended by the manufacturer.

17. Provide finish coats that are compatible with primers used.

18. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, covers, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.

19. Paint surfaces behind movable equipment the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment with prime coat only.

20. Paint backsides of access panels and removable or hinged covers to match exposed surfaces.

21. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.

2. Omit primer over metal surfaces that have been shop primed and touchup painted.

3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.

2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.

3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

3.4 FIELD QUALITY CONTROL

A. The contractor for work under this section shall maintain a quality control program specifically to verify compliance with this specification.

B. Inspections: A minimum of three (Substrate, Application and Final) inspections, by an approved manufacturers representative, will be required on all work requiring a warranty.

C. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:

4. Owner may engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.

5. Testing agency shall perform tests for characteristics specified, using applicable referenced testing procedures or, if not referenced, using tests cited in manufacturer's product data.
6. Testing agency shall verify thickness of paint during application.
7. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously painted with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

D. If test results show coating materials do not comply with requirements, remove non-complying materials, prepare surfaces, and reapply paint.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 CLEANING

A. Clean work and disposal under provisions of Section 01770 "Closeout Procedures".

B. Cleanup: At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

   1. After completing coating work, clean glass and spattered surfaces. Remove spattered paint by washing, scraping, or other methods, being careful not to scratch or damage adjacent finished surfaces.

C. Collect waste material that may constitute a fire hazard, place in closed metal containers and remove daily from site.

D. Clean off excess paint smears adjacent surfaces as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of paint.

E. Remove spills from adjacent surfaces. Restore to original condition or replace with new materials to the satisfaction of the Architect.

F. Contractor shall replace all materials in kind that are damaged during Work of this Section.

G. Provide continuous dust control to protect all areas of the Work.

H. Legally dispose of debris in accordance with local, state, and federal regulations.

I. Upon completion of the Work, remove all debris and surplus items from the site.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

END OF SECTION 09910
memorandum

To: All Bidders
Cc: Simon Rayes - SFUSD
From: Miriam Tupy - MCA
Date: 9 May 2013
Re: SF Community School - Exterior Building Envelope Repairs Project
Minimum Qualification for Bidders

Thank you for your interest in bidding on the SF Community Exterior Building Envelope Repairs Project. Due to the nature of this project, we urge prospective bidders to review the following qualifications.

Refer to the Technical Specification Sections, Part 1, Quality Assurance.

1. The installers/applicators shall have 5 years of experience in applying or installing specified products and materials similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance and who is certified by Manufacturer.

2. The installers/applicators shall be trained and approved by Manufacturer.

3. The installers/applicators shall be thoroughly skilled and specially trained in the techniques applying specified products and materials. Applicators shall be able to demonstrate acceptable level of skill.

We recommend the bidders to review the specified products in each Technical Specification Section. Some of the products require thorough understanding of the preparation and application. As required in Part 3 of each Technical Specification Section, please refer to the Manufacturer's installation Instructions. For example, the specified products for concrete patch repairs are Sikarepair 223, System 44-V/O, Sikacrete 211, and System 44-Regular. The specified products for bonding agents, Sik Armatec 110 EpoCem and System 49-CPBA. The specified products for bolt injection: Sikadur Anchor Fix 1 or Sikadur Anchor Fix 2 and Flexi-Weld 520T.

Furthermore, refer to Part 1, Quality Assurance of each Technical Specification Sections. Some repair work may be required to be field tested. For example, refer to Preconstruction Field-Adhesion Testing in Section 7920 "Joint Sealants". The mock-ups shall be tested according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193. The field adhesion test shall be reviewed by the Architect and Manufacturer.