ADDENDUM TO BID DOCUMENTS

Pleasanton Unified School District Achievement Partnerships Communication	ADDENDUM 02
	Project: 2021-22.05 District Wide Roofing and HVAC Replacement Project Pkg 5
	Date: December 13, 2021

The following clarifications are provided based on questions received or changes in District requirements and must be added/considered when completing your submittal:

Acknowledgement of receipt of this **ADDENDUM** is required in the bid form. Please clearly note the addendum date and number.

CLARIFICATIONS:

1. Refer to "02 2021-22.05 RFQP for LLB" section VII Submittal Format, Article A Format:
    - **Replace** "Each submittal shall not contain more than twenty (20) pages, excluding front and back covers and tabs. Submittals containing more than twenty (20) single sided pages, or fifteen (10) double sided pages will not be considered." **with** "Each submittal shall not contain more than thirty-five (35) pages, excluding front and back covers and tabs. Submittals containing more than thirty-five (35) single sided pages will not be considered."

2. Owner Furnish Roofing Materials
    - District has entered an agreement with Tremco to procure roofing materials for this project. Please see attached "Tremco material breakdown" for the material quantity breakdown

3. Refer the "03 2021-22.05 LLB Facilities Lease"
    - Following statement is added to Item 1 Special Project Requirement
        i. "1.6 Contract shall be responsible for transporting the materials from District storage facility to the project sites. Contractor shall be responsible for inspecting the material before removing from the District storage facilities and will bear the cost of any damages for the materials after they are removed from the District storage facility."

4. Refer to Plans and Specs

- Please see attached for the Addendum 02 issued by Sugimura Finney Architects dated 12/13/2021.

QUESTIONS:

1. Will the asbestos testing reports be provided?
    - Please see attached for the "9690-012.00 PUSD Roof Surveys 6 Schools "

2. Are Earthquake and Flood insurance required for the project?
    - Earthquake and Flood insurance will not be required for his project.

3. Please clarify the requirements for the Builder's Risk insurance.
    - Contractor shall only be responsible for obtaining insurance for the scope of work.

4. Please clarify the building number for the scope of the wok at Village Hills ES.
    - Refer to the "10 2021-22.05 Vintage Hills ES Plans", sheet A0.2 Site Plan.

5. Please provide the percentage for the project contingency.
    - Please refer to the "03 2021-22.05 LLB Facilities Lease", Exhibit C item 2.1.4.

ATTACHMENTS:

A. SFA Addendum 02 (53 Pages)
B. 9690-012.00 PUSD Roof Surveys 6 Schools (78 Pages)
C. Tremco material breakdown (1 Page)
D. Facilities Lease Exhibit D-1 Addendum 02 (6 Pages)

END OF ADDENDUM 02

2155 South Bascom Ave, Ste. 200
Campbell, CA 95008
PH: 408.879.0600
FAX: 408.377.6066

ADD 02

Addendum No. 02

PROJECT: **Roofing and HVAC Package 5**
Hearst ES, Lydiksen ES, Vintage Hills ES,
Fairlands ES, Foothill HS and Amador HS
Pleasanton Unified School District

Date: 12/13/2021

SFA PROJECT NO: 20084,

1. This Addendum shall supersede all previously issued Contract Documents wherein it modifies same. All other conditions of the Contract remain unchanged. The following changes, additions, or deletions as set forth herein shall apply to the Contract Documents and shall be made a part thereof and shall be subject to all the requirements thereof as though originally shown and/or specified.

2. Bidders shall acknowledge receipt of this Addendum on Bid Form.

3. SPECIFICATION REVISIONS

   Item 1.1 Section 07 52 16.11 – SBS Modified Bituminous Membrane Roofing
   Added District suppled materials paragraph on first page.
   Added language in spec to build and install (N) expansion joint

   Item 1.2 Section 07 41 13 – Standing Seam Metal Roof Panels
   Added District suppled materials paragraph on front page
   Added language for sight screen support bases

   Item 1.3 Section 07 56 00.13 – Fluid-Applied Membrane Roofing
   Added Fairlands lower roof in spec.
   Added District suppled materials paragraph on first page.

4. DRAWING REVISIONS

   Item 1.4 Reference Fairlands ES Sheet A9.1 Detail 3
   Revised detail to indicate single ply roofing.

   Item 1.5 Reference Foothill HS Sheet A4.3 Detail 1
   Revise graphic to indicate the covered walkways between Building F and Building E are included in the scope of work.

   Item 1.6 Reference Foothill HS Sheet A4.3 Detail 1
   Revise graphic to indicate the penthouse roofing is also included in the scope of work.

   Item 1.7 Reference Foothill HS Sheet A4.4 Detail 1
   Revise graphic to indicate the covered walkways between Building F and Building E are included in the scope of work.

   Item 1.8 Reference Foothill HS Sheet A4.4 Detail 1
   Revise graphic to indicate the penthouse roofing is also included in the scope of work.

Item 1.9 Reference Foothill HS Sheet A0.2 Detail 1
Revise graphic to indicate the walkways between Building F and Building E are included in the scope of work.

Item 1.10 Reference Vintage Hills E4.1
Revise keynote #5 as attached.

Item 1.11 Reference Foothill E0.1
CO sensors have been removed from the scope of work. Sheets E4.2, FA0.1 and FA4.1 ar no longer needed.

5. CLARIFICATIONS

None

6. ATTACHMENTS

Specifications:
07 41 13 – Standing Seam Metal Roof Panels
07 52 16.11 – SBS Modified Bituminous Membrane Roofing
07 56 00.13 – Fluid-Applied Membrane Roofing

Drawings:
Fairlands ADD 2 – A9.1 Details
Foothill ADD 2 – A0.2 Site Plan
Foothill ADD 2 – A4.3 Building F Demo Roof Plan
Foothill ADD 2 – A4.4 Building F New Roof Plan
Foothill ADD 2 – E0.1 Symbols, Abbreviations, codes, standards, equipment anchorage, notes and sheet index
Vintage Hills ADD 2 - E4.1 Electrical Roof Plans Building A and Multipurpose Building.

Clarifications:
None

END OF ADDENDUM 2

Sugimura Finney Architects

SECTION 07 52 16.11 - SBS MODIFIED BITUMINOUS MEMBRANE ROOFING, FLUID APPLIED

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Styrene-butadience-styrene (SBS) modified bituminous Cool Roof white granulated membrane roofing system on wood deck, including but not limited to:

a. Roof insulation. Attach ½ inch primed Dens Deck with screws and plates.

b. Roof areas to receive tapered insulation / cricketed systems shall be: Foothill Bldgs E, F & G, Lydiksen -MPR, Vintage Hills – Bldgs 1 & 2 and MPR

c. Roof membrane system consisting of base sheet, modified bitumen cap and membrane base flashings.

d. Installation of modified BUR system with White granulated Cool Roof surfacing sheet.

e. Schools receiving this system: Lydiksen [MPR] Vintage Hills [MPR/Bldgs 1&2], Foothill High school[Bldgs E,F,G], AVHS [Girls Gym/lockerroom, Mat roof]

B. Related Sections:

1. Division 01 73 20 Demolition Section

2. Division 06 10 50 Carpentry section for wood deck repair, curbs, and blocking.

3. Division 07 62 00 Section "Sheet Metal Flashing and Trim" for custom metal roof penetration flashings, flashings, and counterflashings.

C. C. The work to be performed under this specification consists of:

a. Roof replacement consisting of Modifed Bitumen/Endure system, including all labor, miscellaneous materials, tools, transportation, equipment, services, and facilities necessary to, and reasonably incidental to, the completion of the work as shown on the drawings and/or described in the specifications.
b. The Pleasanton Unified School District will provide Tremco roofing materials in the quantities listed below and referred to as “Supplied by District”.

c. These materials will be delivered directly to the job site. It will be the responsibility of the contractor to be on hand to receive, unload and secure the materials on site.
d. The materials will be the responsibility of the Contractor for handling and security at the job-site.
e. The contractor will be responsible for purchasing all materials not “Supplied by District” and all materials required in excess of the quantities being supplied by the District. All materials supplied by contractor must be approved for use by manufacturer.

1.3 DEFINITIONS

A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

B. ENDURE BIO: Is a two [2] part urethane, 100 % solids, bio based, asbestos free, cold process membrane interply adhesive. Is a certified BIO based material approved by USDA. Approved to be used in MB and BUR systems.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work. Provide roof plan showing orientation and types of roof deck, orientation of membrane roofing, and fastening spacing’s and patterns for mechanically fastened components.

1. Base flashings and built-up terminations.

Indicate details meet requirements of NRCA and FMG required by this Section.

2. Crickets, saddles, and tapered insulation, including slopes.

3. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

C. Samples for Verification: For the following products:

1. Sheet roofing materials, of color specified for exposed material.

2. Dens Deck board primed.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Product Certificate: Submit notarized certificate, indicating products intended for Work of this Section, including product names and numbers and manufacturers' names, with statement indicating that products to be provided meet the requirements of the Contract Documents.

B. Qualification Data: For Installer, Manufacturer, and Roofing Inspector.

1. Include letter from Manufacturer written for this Project indicating approval of Installer.

C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of compliance with performance requirements, including UL listing certificate.

2. Indicate that proposed system components are compatible.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of built-up roofing.

E. Warranties: Unexecuted sample copies of special warranties.

F. Field Quality Control Reports: Daily reports of Roofing Inspector. Include weather conditions, description of work performed, tests performed, defective work observed, and corrective actions taken to correct defective work.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: To include in maintenance manuals.

B. Warranties: Executed copies of warranties.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten [10] years' experience installing products comparable to those specified, able to communicate verbally with Contractor, Architect, and employees, and qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified. Contractor must have an established office/shop located within a fifty [50] miles radius of project to properly service project and leak response.

B. Manufacturer Qualifications: Approved manufacturer with UL listed roofing systems comparable to those specified for this Project, with minimum ten [10] years' experience in manufacture of comparable products in successful use in similar applications, and able to furnish warranty with provisions matching specified requirements.

1. Approval of Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:

a. Product data, including certified independent test data indicating compliance with requirements.

b. Samples of each component.

c. Sample submittal from similar project.

d. Project references: Minimum of five installations of specified products not less than five years old, with Owner and Architect contact information.

e. Sample warranty, unexecuted with follow up inspections and dates indicated on warranty form.

f. Sample copy of weekly report

2. Substitutions following award of contract are not allowed except as stipulated in Division 01 General Requirements. Only prime contractor will be allowed to submit request for substitution. Submittals by manufactures and marketing companies will not be allowed.

3. Request for substitution: Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with the requirements of contract documents. Schedule for submittal for Architect review and comment: Ten [10] days prior to date of bid. Give itemized comparison of proposed substitution with specified product, product by product, listing variations and reference to specifications. 3rd party independent test results are required with each product. Highlight all specified standards and limitations in both the specified product submittal and the substituted product request to make comparison direct and obvious. Submittals that are not complete, not highlighted and not clear shall be rejected upon receipt.

4. Provide same warranty for substitution as for specified system.

5. Approved manufacturers must meet separate requirements of Submittals Article.

C. Roofing Inspector Qualifications: A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer’s compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:

1. An authorized full-time technical employee of the manufacturer.

2. An independent party certified as a Registered Roof Observer by the Roof Consultants Institute, retained by the Contractor or the Manufacturer and approved by the Manufacturer.

D. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

4. Examine substrate conditions and finishes for compliance with requirements, including flatness and fastening.

5. Review structural loading limitations of roof deck during and after roofing.

6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.

7. Review governing regulations and requirements for insurance and certificates if applicable.

8. Review temporary protection requirements for roofing system during and after installation.

9. Review roof observation and repair procedures after roofing installation.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.9 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

B. Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1. Provide tie-offs at end of each day's work to cover exposed roofing and insulation with a course of roofing sheet securely in place with joints and edges sealed.

2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.

3. Remove temporary plugs from roof drains at end of each day.

4. Remove and discard temporary seals before beginning work on adjoining roofing.

1.10 WARRANTY

A. Warranty, General: Warranties specified shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

B. Manufacturer's Warranty: Manufacturer's standard or customized form, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.

1. Manufacturer's warranty includes roofing membrane, base flashings, fasteners, roofing membrane accessories and other components of roofing system specified in this Section.

2. Warranty Period: 20 years from date of Substantial Completion.

C. Installer's Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:

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

D. Manufacturer Inspection and Preventive Maintenance Requirement: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's annual inspections and preventive maintenance is included in the Contract Sum.

1. Inspections to occur in the following years subsequent to completion: 2, 5, 10 and 15 completing: Follow up inspections with reports to owner, preventative maintenance and housekeeping.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Manufacturer/Product: The roof system specified in this Section is based upon products of Tremco, Inc., www.tremcoroofing.com, named in other Part 2 articles. Subject to

compliance with requirements, provide the named product or an approved comparable product by one of the following:

1. Owner Approved Equal based upon meeting:

   Product/System requirements, warranty coverage/ language, project monitoring and listed in most current edition of the CRRC listings.

B. Source Limitations: Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. General Performance: Roofing shall withstand exposure to weather without failure or leaks due to defective manufacture or installation.

1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.

2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

C. Flashings and Fastening: Comply with requirements of Division 07 Sections "Sheet Metal Flashing and Trim" and "Roof Specialties." Provide base flashings, perimeter flashings, detail flashings and component materials and installation techniques that comply with requirements and recommendations of the following:

1. NRCA Roofing Manual (Sixth Edition) for construction details and recommendations.

2. SMACNA Architectural Sheet Metal Manual (Seventh Edition) for construction details.

D. Exterior Fire-Test Exposure: ASTM E 108, UL Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

E. Fire-Resistance Ratings: Where indicated, provide fire-resistance-rated roof assemblies identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

F. Energy Star Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.

G. Energy Performance: Roofing system shall have an initial solar reflectance index of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.

H. FM requirements: Comply with FM requirements for wind uplift based on I-90 fastening pattern.

2.3 ROOFING MEMBRANE MATERIALS

A. Sheathing Paper: Red rosin type, minimum 3 lb/100 sq. ft. (0.16 kg/sq. m).

1. Base Sheet: ASTM D 6163 Type III Grade S heavy-duty base sheet.

a. Basis of design product: Tremco, Heavy duty Base or equal.

b. Tear strength, ASTM D 5147 220 lbf/in MD and 190 lbf/in XMD

c. Tensile Strength, ASTM 5147 220 lbf/in MD and 240 lbf/in XMD

d. Thickness: 3.0 mm

B. SBS Modified Bituminous Cap Sheet:

1. Roof finishing sheet: ASTM D 6163 Type I Grade G SBS-modified asphalt-coated glass-fiber-reinforced sheet, granular surfaced with a factory applied white reflective granule; CRRC listed and California Title 24 Energy Code compliant.

a. Basis of design product: Tremco, POWERply Standard FR GT24W, or equal

b. Exterior Fire-Test Exposure, ASTM E 108: Class A.

c. Tensile Strength at 73 deg. F (23 deg. C), minimum, ASTM D 5147: Machine direction 70 lbf/in (12.0 kN/m); Cross machine direction 50 lbf/in (8.8 kN/m).

d. Tear Strength at 73 deg. F (23 deg. C), minimum, ASTM D 5147: Machine direction, 90 lbf (400 N); Cross machine direction 90 lbf (400 N).

e. Elongation at 73 deg. F (23 deg. C), minimum, ASTM D 5147: Machine direction 4 percent; Cross machine direction 4 percent.

f. Low Temperature Flex, maximum, ASTM D 5147: -10 deg. F (-23 deg. C).

g. Thickness, minimum, ASTM D 5147: 0.157 inch (4 mm).

h. Solar Reflectance Index (SRI), ASTM E 1980: 88.

C. Base Flashing Backer Sheet:

1. ASTM D 6163 Type III Grade S heavy-duty base sheet, or equal

a. Basis of design product: Tremco, Powerply Heavy Duty Base

b. Tear strength, ASTM D 5147 220 lbf/in/MD and 240 lbf/in XMD

c. Tensile Strength, ASTM 5147 220 lbf/in MD and 190 lbf/in XMD

d. Thickness: 3.0 mm

D. Base Flashing Sheet: for walls and curbs

1. ASTM D 6163 Type I Grade G SBS-modified asphalt-coated glass-fiber-reinforced sheet, granular surfaced with a factory applied white reflective granule; CRRC listed and California Title 24 Energy Code compliant.

a. Basis of design product: Tremco, POWERply Standard FR GT24W, or equal

b. Exterior Fire-Test Exposure, ASTM E 108: Class A.

c. Tensile Strength at 73 deg. F (23 deg. C), minimum, ASTM D 5147: Machine direction 70 lbf/in (12.0 kN/m); Cross machine direction 50 lbf/in (8.8 kN/m).

d. Tear Strength at 73 deg. F (23 deg. C), minimum, ASTM D 5147: Machine direction, 90 lbf (400 N); Cross machine direction 90 lbf (400 N).

e. Elongation at 73 deg. F (23 deg. C), minimum, ASTM D 5147: Machine direction 4 percent; Cross machine direction 4 percent.

f. Low Temperature Flex, maximum, ASTM D 5147: -10 deg. F (-23 deg. C).

g. Thickness, minimum, ASTM D 5147: 0.157 inch (4 mm).

h. Solar Reflectance Index (SRI), ASTM E 1980: 88.

E. Glass-Fiber Fabric: Woven glass-fiber cloth treated with asphalt, ASTM D 1668 Type I.

2.4 FLUID APPLIED MATERIALS

A. BIO Adhesive

1. Basis of design product: Tremco, BIO ENDURE ADHESIVE, or equal

2. Bio base content: ASTM D6866 71%

3. Density ASTM D1475 11.1lbs./gal

4. Volume solids ASTM D2697 100%

5. Weight solids ASTM D1644 100%

B. Asphalt primer, water-based, polymer modified.

1. Basis of design product: Tremco, TREMprime WB.

2. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: 2 g/L.

C. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by roofing system manufacturer for application.

2.5 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing membrane.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.

B. Cold-Applied Adhesive:

1. Roof Cement, Asphalt-Based: ASTM D 4586, Type II, Class I, fibrated roof cement formulated for use in installation and repair of asphalt ply and modified bitumen roofing plies and flashings; UL-classified for fire resistance.

a. Basis of design product: Tremco, ELS.

b. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: 190 g/L.

c. Non-Volatile Matter, ASTM D 4586: 85 percent.

C. Joint Sealant: Elastomeric joint sealant compatible with roofing materials, with movement capability appropriate for application.

1. Joint Sealant, Polyurethane:ASTM C 920, Type S, Grade NS, Class 25 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints..

a. Basis of design product: Tremco, TremSEAL D.

b. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: 85 g/L.

c. Hardness, Shore A, ASTM C 661: 40.

d. Color: White.

D. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FM Global 4470, designed for fastening roofing components to substrate, tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.

E. Metal Flashing Sheet: Metal flashing sheet is specified in Division 07 Section "Sheet Metal Flashing and Trim."

F. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

G. Fluid applied membrane: Fluid applied reinforced membrane for pipes, penetrations and projections: Two [2] part Bio based fluid applied membrane by roof systems manufacture.

2.6 ROOF INSULATION

A. Roof Insulation, General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.

1. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes at backside of curbs.

B. Roof Board Primed Dens Deck:

1. Dens Deck: ASTM C 1177 ½ inch primed Dens Deck

C. Insulation Cant Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.

D. Cant Strips: ASTM C 208, Type II, Grade I, cellulosic –fiber.

E. Tapered Edge Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.

F. Substrate Joint Tape: Minimum 6 inch (150 mm) wide, coated, glass-fiber joint tape.

G. Tapered insulation: ASTM C 209 Polyioscyanurate tapered system.

2.7 SURFACING MATERIALS

A. Acrylic Roof Coating, Fire-Retardant Elastomeric:Intumescent and solar reflectant, Energy Star qualified, CRRC listed, and California Title 24 Energy Code compliant, formulated for use on bituminous roof surfaces.

1. Basis of design product: Tremco, Polarcote FR, or equal

2. Volatile Organic Compounds (VOC), maximum, ASTM D 3960: Not more than 30 g/L.

3. Reflectance, minimum, ASTM C 1549: 82 percent.

4. 4. Solar Reflectance Index (SRI), ASTM E 1980: 103.

2.8 WALKWAYS

A. Walkway pads, ceramic-granule-surfaced reinforced asphaltic composition slip-resisting pads, manufactured as a traffic pad for foot traffic, 1/2-inch (13 mm) thick minimum.

1. Basis of design product: Tremco, Trem-Tred, or equal

2. Flexural Strength at max. load, minimum, ASTM C 203: 210 psi (1.5 kPa).

3. Granule adhesion (weight loss), maximum, ASTM D 4977: 1.1 gram.

4. Impact Resistance at 77 deg. F (25 deg. C), ASTM D 3746: No Damage to Roof.

5. Pad Size: 36 by 48 inch (914 by 1220 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.

2. Wood Roof Deck: Verify that wood deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

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

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 INSTALLATION, GENERAL

A. Install roofing system in accordance with manufacturer's recommendations.

B. Install roofing system in accordance with the following NRCA Manual Plates and NRCA recommendations, as applicable; modify as required to comply with requirements of FM Global references above:

1. Base Flashing for Wall-supported Deck: Plates MB-5 and MB-5S.

2. Base and Surface-mounted Counterflashing: Plates MB-4 and MB-4S..

3. Embedded Edge Metal Flashing Edge (Gravel-stop): Plates MB-3 and MB-3S.

4. Gutter at Draining Edge: Plates MB-22 and MB-22S.

5. Expansion Joint with Metal Cover: Plates MB-7 and MB-7S and Division 07 Section "Sheet Metal Flashing and Trim."

6. Equipment Support Curb: Plates MB-9 and MB-9S.

7. Raised Curb Detail at Rooftop HVAC Units (Job site constructed wood curb): Plates MB-13 and MB-13S and Division 06 Section "Miscellaneous Rough Carpentry."

8. Penetration, Structural Member through Roof Deck: Plates MB-15 and MB-15S.

9. Penetration, Sheet Metal Enclosure for Piping Through Roof Deck: Plates MB-16 and MB-16S

10. Penetration, Isolated Stack Flashing: Plates MB-17 and MB-17S.

11. Penetration, Plumbing Vent: Plates MB-18 and MB-18S.

12. Stucco stop detail at building walls.

13. New expansion joint Vintage Hills Building #2: Field fabricate [n] expansion using TPA 60 mil single ply, TPA coated metal and related materials.

3.4 INSULATION INSTALLATION

A. Comply with built-up roofing manufacturer's written instructions for installing roof insulation.

B. Cant Strips: Install and secure preformed 45-degree cant strips at junctures of built-up roofing with vertical surfaces or angle changes greater than 45 degrees.

C. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.

1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.

D. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

E. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

F. Mechanically Fastened Insulation: Install layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

1. Fasten first layer of insulation according to requirements in FM Global's "RoofNav" for specified Windstorm Resistance Classification. Requirements based upon FM I-90 wind uplift fastening pattern.

2. Set cants and tapered edge and secondary layers in low rise foam application.

3.5 FLUID APPLIED ROOFING MEMBRANE INSTALLATION, GENERAL

A. Install roofing membrane system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing" and as follows:

1. Deck Type: Wood deck.

2. Base Sheet: One.

    a. Adhering Method: Fluid applied.

3. Granular-Surfaced SBS-Modified Asphalt Cap Sheet:

    a. Adhering Method: Fluid applied.

B. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.

C. Cooperate with testing agencies engaged or required to perform services for installing roofing system.

D. Coordinate installation of roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1. Provide tie-offs at end of each day's work configured as recommended by NRCA Roofing Manual Appendix: Quality Control Guidelines - Insulation to protect new [and existing] roofing.

2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.

3. Remove temporary plugs from roof drains at end of each day.

4. Remove and discard temporary seals before beginning work on adjoining roofing.

E. Fluid applied mixing: Mix Part A [base] for 1 minute before adding Part B [curative]. After adding part B, mix the combined materials for a minimum of two [2] minutes. Make sure to mix areas around the side walls and bottom of pail.

1. Apply fluid applied adhesive at the rate of two [2] gallons per 100 square feet, interply.

F. Substrate-Joint Penetrations: Prevent adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

3.6 BASE-SHEET INSTALLATION

A. Loosely lay one course of rosin sheet, lapping edges and ends a minimum of 2 inches and 6 inches, respectively. Scatter nail in place with square head nails driven flush.

B. Install lapped base-sheet course, extending sheet over and terminating beyond cants. Attach base sheet as follows:

1. Adhere to insulation in a solid application of fluid applied adhesive @ the rate of two [2] gallons per 100 square feet.

2. Press base sheet into adhesive with weighted roller.

3.7 SBS-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

A. Install modified bituminous roofing membrane [basesheet] cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:

1. Unroll roofing membrane sheets and allow them to relax for minimum time period required by manufacturer. Back nail as required for slope.

2. Adhere to base sheet in a continuous application of fluid applied adhesive at the rate of two [2] gallons per 100 square feet.

3. Press membrane into adhesive using a weighted roll. Side laps 4 inches and end laps 6 inches. Heat weld all laps

B. Laps: Accurately align roofing membrane sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Install roofing membrane sheets so side and end laps shed water. Completely bond and seal laps, leaving no voids.

1. Repair tears and voids in laps and lapped seams not completely sealed.

2. Heat weld all laps.

3.8 FLASHING AND STRIPPING INSTALLATION

A. Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof; secure to substrates according to roofing system manufacturer's written instructions, and as follows:

1. Prime substrates with asphalt primer if required by roofing system manufacturer.

2. Backer Sheet Application: Install backer sheet and adhere to substrate in a continuous application of fluid applied adhesive.

3. Flashing Sheet Application: Adhere flashing sheet to substrate in a continuous application of fluid applied adhesive at the rate of two [2] gallons per 100 square feet.

B. Extend base flashing up walls or parapets a minimum of 12 inches (300 mm) above built-up roofing and 6 inches (150 mm) onto field of roof membrane.

C. Flashing Sheet Top Termination: Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.

1. Seal top termination of base flashing with a metal termination bar and joint sealant.

D. Flashing Sheet Bottom Termination: Adhere flashing sheet to roof membrane sheet continuously along bottom of flashing sheet.

E. Install roofing membrane cap-sheet stripping where metal flanges and edgings are set on membrane roofing according to roofing system manufacturer's written instructions.

F. Pipes/penetrations/projections: Clean prime and coat all pipes/penetrations and projections with AG Bio base @ the rate of two [2] gallons per 100 square feet. While base is wet, embed Perma fab reinforcement around projection, allow to cure and top coat with AG top coat @ the rate of one [1] gallon per 100 square feet. Extend onto the field of the roof and square off neatly.

G. Gravelstop: After installation of new cool roof cap, furnish and install a bead of ICE coating at the intersection of the [n] cool roof cap and gravelstop rise. Cover adhesive completely. Cover any exposd endure adhesive with Geoguard or BIO.

H. Baseflashing @ corners: Apply BIO to all corners from field sheet up to counterflashing.

I. Expansion joint – Vintage Hills Bldg #2: Field fabricate [n] expansion joint. Furnish and install backer rod, TPA 60 mil membrane and TPA coated metal to build expansion to facilitate existing conditions.

3.9 SURFACING AND COATING INSTALLATION

A. Apply Coating as required to touch up roof membrane, paint vent pipes, conduits and miscellaneous projections. Note: if the Cool roof cap marred or discolored, the cap will be replaced with new, like kind.

3.10 WALKWAY INSTALLATION

A. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size according to walkway pad manufacturer's written instructions. Set two [2] walk pads at each unit.Pattern to be provided.

1. Set walkway pads in cold-applied adhesive.

3.11 FIELD QUALITY CONTROL

A. Roofing Inspector: Owner will engage a qualified roofing inspector to perform roof tests and inspections and to prepare test reports.

B. Roofing Inspector: Contractor shall engage a qualified roofing inspector for a minimum of 15 full-time days on site to perform roof tests and inspections and to prepare start up, interim, and final reports. Roofing Inspector's quality assurance inspections shall comply with criteria established in ARMA/NRCA's "Quality Control Guidelines for the Application of Built-up Roofing."

C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation at commencement and upon completion.

1. Notify Architect and Owner 48 hours in advance of date and time of inspection.

D. Repair or remove and replace components of built-up roofing where test results or inspections indicate that they do not comply with specified requirements.

1. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.12 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.13 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
1. Owner:
2. Address:
3. Building Name/Type:
4. Address:
5. Area of Work:
6. Acceptance Date:
7. Warranty Period:
8. Expiration Date:

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:
1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
   a. lightning;
   b. peak gust wind speed exceeding 74 mph (33 m/s);
   c. fire;

d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
f. vapor condensation on bottom of roofing; and
g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed by:
1. Authorized Signature:
2. Name:
3. Date:

END OF SECTION 075216.11

SECTION 07 41 13 - STANDING SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Shop Drawings and installation details.

1.2 SUMMARY

A. Section Includes:

1. Architectural standing-seam metal roof panels.

2. Metal roof accessories.

B. The work to be performed under this specification consists of:
   a. Roof replacement consisting of a complete metal roofing system, including all labor, miscellaneous materials, tools, transportation, equipment, services, and facilities necessary to, and reasonably incidental to, the completion of the work as shown on the drawings and/or described in the specifications.
   b. The Pleasanton Unified School District will provide Tremco roofing materials in the quantities listed below and referred to as **"Supplied by District".**
   c. These materials will be delivered directly to the job site. It will be the responsibility of the contractor to be on hand to receive, unload and secure the materials on site.
   d. The materials will be the responsibility of the Contractor for handling and security at the job-site.
   e. The contractor will be responsible for purchasing all materials not "**Supplied by District"** and all materials required in excess of the quantities being supplied by the District.
   f. All materials supplied by contractor must be approved for use by manufacturer.

1.3 DEFINITIONS

A. Metal Roof Panel Assembly: Metal roof panels, attachment system components, miscellaneous metal framing, thermal insulation, and accessories necessary for a complete weathertight roofing system.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Meet with Owner, metal roof panel Installer, metal roof panel manufacturer's representative,

2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

3. Review methods and procedures related to metal roof panel installation, including manufacturer's written instructions.

4. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.

5. Review structural loading limitations of substrate during and after roofing.

6. Review flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect metal roof panels.

7. Review governing regulations and requirements for insurance, certificates, and testing and inspecting if applicable.

8. Review temporary protection requirements for metal roof panel assembly during and after installation.

9. Review roof observation and repair procedures after metal roof panel installation.

10. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of roof panel and accessory.

B. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, side-seam and endlap joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details specific to project, signed and sealed by the qualified professional engineer responsible for their preparation. Distinguish between factory- and field-assembled work.

C. Accessory Details: Include details of the following items:

1. Flashing and trim.

2. Pipe penetration flashings.

3. Saddles.

D. Samples for Initial Selection: For each type of metal roof panel indicated with factory-applied color finishes.

1. Include similar Samples of trim and accessories involving color selection.

E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Metal Roof Panels: 12 inches long by actual panel width. Include fasteners, clips, closures, and other metal roof panel accessories.

2. Trim and Closures: 12 inches long. Include fasteners and other exposed accessories.

3. Accessories: 12-inch long Samples for each type of accessory.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer, Installer, and manufacturer's technical representative.

1. Submit Installer qualifications in the form of an original letter on manufacturer’s letterhead signed by authorized manufacturer representative.

B. Sample Warranties: For special warranties.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal roof panels to include in maintenance manuals.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: A manufacturer of plant-fabricated metal roof panel systems listed in this Section and meeting performance requirements, with a minimum of five years experience providing metal roof panel systems for projects of similar type and scope, offering engineering, warranty, technical inspection, and maintenance inspection services specified.

B. Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of five years experience installing similar work, able to communicate verbally with Contractor, Architect, and employees, and qualified by the manufacturer to furnish warranty of type specified.

1. Manufacturer's On-Site Roll Former Operators: Experienced full-time employees of metal roof panel manufacturer.

C. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

D. Source Limitations: Obtain metal roof panels and accessories and related engineered structural support members from a single source supplied or approved by metal roof panel manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, metal roof panels, and other manufactured items so as not to be damaged or deformed. Package metal roof panels for protection during transportation and handling.

B. Unload, store, and erect metal roof panels in a manner to prevent bending, warping, twisting, and surface damage.

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

D. Protect strippable protective covering on metal roof panels from exposure to sunlight and high humidity, except to extent necessary for period of metal roof panel installation.

E. Protect foam-plastic insulation as follows:

1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.

2. Protect against ignition at all times. Do not deliver foam-plastic insulation materials to Project site before installation time.

3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.10 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed according to manufacturer's written instructions and warranty requirements.

B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.11 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

B. Coordinate metal roof panels with rain drainage work, flashing, trim, and construction of substrate, parapets, walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.12 WARRANTY

A. Warranty, General: Warranties specified shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

B. Roof System Warranty, General: Warranties specified in this Section include the following components and systems specified in other sections supplied by the metal roof panel manufacturer:

1. Manufactured copings, roof edge, counterflashings, and reglets.

2. Roof curbs, hatches, and penetration flashings.

3. Roof expansion joint assemblies.

4. Low slope-roofing system.

5. Penetration flashings.

C. Special Warranty for Metal Roof Panels: Written warranty in which Manufacturer agrees to repair or replace metal roof panels that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including rupturing, cracking, or puncturing.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: 5 years from date of Substantial Completion.

D. Special System Weathertightness Warranty for Metal Roof Panels: Written warranty in which Manufacturer agrees to repair or replace metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.

1. Warranty Period: 30 years from date of Substantial Completion.

2. Limit of Warranty Coverage: Not to exceed original installed cost of metal roof panel assembly including labor and materials.

3. Qualified Installer Requirement: Installer must meet requirements in Quality Assurance Article.

4. Installation Inspection Requirement: By manufacturer’s technical representative in accordance with requirements of Part 3 Field Quality Control Article.

5. Annual Manufacturer Inspection Requirement: By qualified manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's annual inspections is included in the Contract Sum. Inspections to occur in Years 2, 5, 10, 15, 20 and 25 following Substantial Completion.

6. One Manufacturer will provide 30-Year Warranty for both the Standing Seam Metal roof system and Single Ply roof systems specified.

E. Special Warranty on Panel Finishes: Written warranty in which Manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes under normal atmospheric conditions within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: The roof system specified in this Section is based upon products of Tremco, Inc., Beachwood, OH, www.tremcoroofing.com that are named in other Part 2 articles. Provide specified products or Architect Approved Equal.

2.2 PERFORMANCE REQUIREMENTS

A. General Performance: Metal roof panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Wind Loads: As indicated on Drawings.

2. Other Design Loads: As indicated on Drawings.

B. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.

1. Uplift Rating: UL 90.

C. Hail Resistance: Provide metal roof panel assemblies listed with UL as Class 4 hail resistant panels.

D. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E 2140.

2.3 ARCHITECTURAL STANDING-SEAM METAL ROOF PANELS

A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.

B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Factory-formed with vertical ribs at panel edges and flat pan between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels, and mechanically seaming panels together.

1. Basis-of-Design Product: Tremco, Inc., TremLock T-238**.**

a. Thickness: 24 gauge nominal thickness.
b. Surface: as shown in roof plans.
c. Color: As selected by Owner from manufacturer's standard colors meeting energy performance requirements.

2. Clips: Low-movement floating clips to accommodate thermal movement; fixed clips where design permits; intermittent or continuous clips as required to meet performance requirements; and with clip bearing plate where required.

a. Material: 0.064-inch nominal thickness, zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet.

3. Joint Type: Field mechanically seamed.

4. Seam Cap: Match panel material and finish; provide with two rows of integral factory hot-applied sealant.

5. Panel Seam Height: Not less than 2-3/8 inch.

6. Panel Coverage: 18 inches.

2.4 METAL ROOF ACCESSORIES

A. Metal Roof Accessories, General: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.

2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

B. Panel Sealants: Provide one of the following identical to that used in test panels meeting performance requirements:

1. Sealant Tape: Pressure-sensitive, 99 percent solids, gray polyisobutylene or butyl rubber compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1 inch wide and 1/8 inch thick, with nylon spacer beads to prevent overcompression of the sealant tape.

2. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311, with nylon spacer beads to prevent overcompression of the sealant tape.

C. Flashing and Trim: Formed from same material as roof panels, prepainted with coil coating, minimum 0.028 inch thick. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal roof panels.

D. Pipe Penetration Flashings: Flexible boot type, with stainless steel compression ring, and stainless steel pipe strap. Use silicone-type boot at hot pipes.

E. Pipe Penetration Flashing: Premolded EPDM pipe collar with flexible aluminum ring bonded to base and stainless steel pipe clamp to secure collar to pipe.

F. Roof Curbs: Fabricated from aluminum sheet, minimum 0.080 inch thick; with bottom of skirt profiled to match roof panel profiles, and welded top box, integral internal fastener flange, and water diverter. Fabricate curb subframing of minimum 0.0598-inch thick, angle-, C-, or Z-shaped galvanized steel sheet. Fabricate curb and subframing to withstand indicated loads, of size and height indicated. Finish roof curbs to match metal roof panels.

1. Insulate roof curb with 1-inch thick, rigid insulation.

2.5 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: 48 mils thick minimum, consisting of slip-resisting, polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer. Sheet shall be Epilay, Ply Stick Plus or approved equal by manufacture of metal roofing system.

1. Thermal Stability: Stable after testing at 250 deg F; ASTM D 1970.

2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D 1970.

B. Slip Sheet: Manufacturer's recommended slip sheet, of type required for application.

2.6 MISCELLANEOUS METAL FRAMING

A. Miscellaneous Metal Framing, General: ASTM C 645, cold-formed metallic-coated steel sheet, ASTM A 653/A 653M, G60 hot-dip galvanized or coating with equivalent corrosion resistance unless otherwise indicated.

B. Zee Clips: 0.079-inch nominal thickness.

C. Base or Sill Channels: 0.079-inch nominal thickness.

D. Hat-Shaped, Rigid Furring Channels:

1. Nominal Thickness: As required to meet performance requirements, but not less than 0.025 inch.

2. Depth: As indicated.

E. Fasteners for Miscellaneous Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten miscellaneous metal framing members to substrates.

2.7 MISCELLANEOUS MATERIALS

A. Panel Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal roof panels by means of plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.

2.8 FABRICATION

A. Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Fabricate metal roof panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.

E. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

2. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.

3. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal roof panel manufacturer for application, but not less than thickness of metal being secured.

2.9 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: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining 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, for compliance with requirements for installation tolerances, metal roof panel supports, and other conditions affecting performance of the Work.

1. Examine solid roof substrate to verify that substrate joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.

2. Examine roughing-in for components and systems penetrating metal roof panels to verify actual locations of penetrations relative to seam locations of metal roof panels before metal roof panel installation.

3. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

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

3.2 PREPARATION

A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.

3.3 UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Extend underlayment into gutter trough. Roll laps with roller. Cover underlayment within 14 days.

1. Apply over entire roof surface.

B. Apply slip sheet over underlayment before installing metal roof panels.

3.4 METAL ROOF PANEL INSTALLATION, GENERAL

A. Provide metal roof panels of full length from eave to ridge unless otherwise indicated or restricted by shipping limitations.

B. Thermal Movement. Rigidly fasten metal roof panels to structure at one and only one location for each panel. Allow remainder of panel to move freely for thermal expansion and contraction. Predrill panels for fasteners.

1. Point of Fixity: Fasten each panel along a single line of fixing located as shown on drawings.

2. Avoid attaching accessories through roof panels in a manner that will inhibit thermal movement.

C. Install metal roof panels as follows:

1. Commence metal roof panel in presence of factory-authorized representative.

2. Field cutting of metal panels by torch or abrasive saw is not permitted.

3. Install panels perpendicular to supporting purlins.

4. Locate and space fastenings in uniform vertical and horizontal alignment.

5. Provide metal closures at rake edges, rake walls, and each side of ridge and hip caps.

6. Flash and seal metal roof panels with weather closures at eaves, rakes, and perimeter of all openings.

7. Install ridge and hip caps as metal roof panel work proceeds.

8. Install metal flashing to allow moisture to run over and off metal roof panels.

D. Fasteners:

1. Steel Roof Panels: Use stainless-steel fasteners for surfaces exposed to the exterior and galvanized-steel fasteners for surfaces exposed to the interior.

E. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.

F. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.

1. Use slip sheet where roof panels will contact wood, ferrous metal, or cementitious construction.

G. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal roof panel manufacturer.

1. Seal metal roof panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal roof panel manufacturer.

2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."

3.5 METAL ROOF PANEL INSTALLATION

A. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer.

1. Install clips to supports with self-tapping fasteners.

2. Install pressure plates at locations indicated in manufacturer's written installation instructions.

3. Erection Tolerances: Shim and align metal roof panel units within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of splices and alignment of matching profiles.

4. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.

5. Watertight Installation:

a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.

3.6 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

B. Flashing and Trim: Comply with performance requirements and manufacturer's written installation instructions. Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

1. Form trim and transition joints using compressed joints with captive butyl sealant capable of resisting static water pressure. Cleated joints and exposed joint sealants do not meet this requirement.

2. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to

form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.

3. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

C. Roof Curbs: Install curbs at locations indicated on Drawings. Install flashing around bases where they meet metal roof panels.

D. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

E. Sight screen support bases: Fabricate, furnish and install [n] twenty four [24] gauge Kynar metal, color to match roof panels. Fabricate two [2] piece flashing to completely wrap sight screen support base. Fabricate base of [n] flashing to provide flange suitable to be integral with [n] metal roof panels. Extend flashing to highest point. Seal top of flashing with urethane sealant. Secure flashing pieces together with approved fasteners, three [3] O.C.

3.7 FIELD QUALITY CONTROL

A. Manufacturer’s Technical Representative: Engage a qualified manufacturer’s technical representative acceptable to Owner for a minimum of eight [8] days on site to perform roof examination, interim observations, and to prepare reports. Reports will include observations and progress photos.

B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

C. Remove and replace applications of metal roof panels where inspections indicate that they do not comply with specified requirements.

D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.8 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 41 13

SECTION 07 56 00.13 – FLUID-APPLIED MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes cold fluid-applied roofing system, consisting of the following:

1. Clean and prepare roof and flashings for fluid applied system. Cleaning to consist of power-washing and water containment procedures. Perform work per State of California and EPA regulations.
2. Prep flashings, penetrations and projections to receive fluid applied coating.
3. Perform all field repairs etc. as required addressing blisters and defects.
4. Based on results of infrared survey, remove and replace all insulation confirmed to be “wet”. See attached moisture report.
5. Reinforcement of all penetrations and projections.
6. Installation of fluid applied over [e] expansion joints.
7. Re working of all drains/overflows and drainage devices.
8. Application of fluid applied roof membrane and flashings consisting of multiple coats of fluid-applied, fabric-reinforced, polyurethane coating.

B. Related Requirements:
1. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof flashings, counterflashings and scuppers.
2. Division 07 Section Selective Demolition.

C. The work to be performed under this specification consists of:

a. Roof replacement consisting of the BIO Fluid applied system, including all labor, miscellaneous materials, tools, transportation, equipment, services, and facilities necessary to, and reasonably incidental to, the completion of the work as shown on the drawings and/or described in the specifications.
b. The Pleasanton Unified School District will provide Tremco roofing materials in the quantities listed below and referred to as “**Supplied by District”.**
c. These materials will be delivered directly to the job site. It will be the responsibility of the contractor to be on hand to receive, unload and secure the materials on site.
d. The materials will be the responsibility of the Contractor for handling and security at the job-site.
e. The contractor will be responsible for purchasing all materials not “**Supplied by District”** and all materials required in excess of the quantities being supplied by the District.
f. All materials supplied by contractor must be approved for use by manufacturer.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing Manual" for definition of terms related to roofing work in this Section.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

C. **Solar Reflectance Index**: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.

D. **Energy Star Listing**: Provide roof coating that is listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.

E. **Energy Performance**: Roofing system shall have an initial solar reflectance index of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.

F. **Exterior Fire-Test Exposure**: ASTM E 108, Class A for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product specified.

1. Indicate CRRC Compliance.
2. Indicate Energy Star compliance.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Provide roof plan showing orientation and types of roof deck and orientation of membrane roofing and fastening spacings and patterns for mechanically fastened components.

1. Base flashings and terminations.

a. Indicate details meet requirements of NRCA and FMG required by this Section.

C. Samples for Verification: For the following products:

1. 8-by-10-inch (254-by-254-mm) square of fluid-applied hybrid roofing materials, including [base sheet and flashing sheet, of color specified.
2. 8-by-10-inch (254-by-254-mm) square of fabric reinforcement

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Product Certificate: Submit notarized certificate, indicating products intended for Work of this Section, including product names and numbers and manufacturers' names, with statement indicating that products to be provided meet the requirements of the Contract Documents.
   1. Indicate UL listing.

B. Qualification Data: For Installer, Manufacturer, and Roofing Inspector.

   1. Letter written for this Project indicating manufacturer approval of Installer to apply specified products and provide specified warranty.
   2. Certificate indicating Installer is qualified in Project jurisdiction to perform asbestos abatement.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.

D. Warranties: Unexecuted sample copies of special warranties.

E. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, which might be misconstrued as having been damaged by re-coating operations. Submit before Work begins.

F. Inspection Reports: Daily reports of Roofing Inspector. Include weather conditions, description of work performed, tests performed, defective work observed, and corrective actions required and carried out.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: To include in maintenance manuals.

B. Warranties: Executed copies of approved warranty forms.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten [10] years experience installing products comparable to those specified, able to communicate verbally with Contractor, District, and employees, and the following:

   1. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
   2. Have not filed for bankruptcy in the past ten [10] years.
   3. Contractor submitting bid shall perform work.
   4. Manufactures Field reports: Submit the required reports to Van Pelt construction management @ the Pleasanton Unified School District.
   5. Contractor must have an established office/shop located within a fifty [50] mile radius of project to properly service project and leak response.

B. Manufacturer Qualifications: Approved manufacturer listed in this Section with UL listed products, with minimum ten [10] years experience in manufacture of specified products in successful use in similar applications.

   1. Approval of Other Manufacturers and Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:

a. Product data, including certified independent test data indicating compliance with requirements.
b. Samples of each component.
c. Sample submittal from similar project.
d. Project references: Minimum of five installations of specified products not less than five years old, with Owner and Architect contact information.
e. Sample warranty.
f. Sample copy of weekly report

2. Substitutions following award of contract are not allowed except as stipulated in Division 01 General Requirements. Only prime contractors will be allowed to submit request for substitution.

3. Approved manufactures must meet separate requirements of Submittals Article

C. Roofing Inspector Qualifications: A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:

1. An authorized full-time technical employee of the manufacturer.
2. An independent party certified as a Registered Roof Observer by the Roof Consultants Institute, retained by the Contractor or the Manufacturer and approved by the Manufacturer.

D. **Roofing Preinstallation Conference**: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to roofing system.

1. Meet with Owner; roofing materials manufacturer's representative; roofing Installer including project manager and foreman; and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment requiring removal and replacement as part of the Work.
2. Review methods and procedures related to preparation, including membrane roofing system manufacturer's written instructions.
3. Review temporary protection requirements for existing roofing system that is to remain, during and after installation.
4. Review roof drainage during each stage of roofing and review roof drain plugging and plug removal procedures.
5. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
6. Review base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect re-coating.
7. Review HVAC shutdown and sealing of air intakes.
8. Review shutdown of fire-suppression, -protection, and -alarm and -detection systems.
9. Review procedures for asbestos removal or unexpected discovery of asbestos-containing materials.
10. Review governing regulations and requirements for insurance and certificates if applicable.
11. Review existing conditions that may require notification of Owner before proceeding.

1.9 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately below roofing area. Conduct roofing so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

B. Protect building, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from roofing operations.

C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

D. Weather Limitations: Proceed with roofing work only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.

1. Store all materials prior to application at temperatures between 60 and 90 deg. F.
2. Apply coatings within range of ambient and substrate temperatures recommended by manufacturer. Do not apply materials when air temperature is below 50 or above 110 deg. F.
3. Do not apply roofing in rain, fog, or mist.

1.10 WARRANTY

A. Special Warranty: Written warranty in which Manufacturer agrees to repair roof installations that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Membrane failures including rupturing, cracking, or puncturing.
b. Deterioration of membranes, coatings, metals, metal finishes, and other associated materials beyond normal weathering.

2. Qualified Installer Requirement: Installer must meet requirements of Quality Assurance Article.
3. Installation Inspection Requirement: By Roofing Inspector in accordance with requirements of Part 3 Field Quality Control Article.
4. Annual Manufacturer Inspection and Preventive Maintenance Requirement: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's annual inspections and preventive maintenance is included in the Contract Sum. Inspections to occur in Years 2, 5 and, 10 following completion.
5. Warranty Period: Twenty [20] years from date of completion of roofing work.

B. **Installer's Warranty**: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section and related Sections indicated above, including all components of built-up roofing such as built-up roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:

1. Warranty Period: **Five [5]** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. **Basis-of-Design Manufacturer/Product**: The roof system specified in this Section is based upon products of Tremco, Inc. that are named in other Part 2 articles. Subject to compliance with requirements, provide the named product or an approved comparable product by one of the following, based upon meeting the performance and warranty requirements:

B. **Product performance, BIO base content and USDA approval, CRRC approvals and warranty coverage**.

C. Source Limitations: Obtain roofing materials, sheet flashings, protection cover boards, base sheet, baseflashing, cold adhesives and fluid applied membrane from single source from single manufacturer.

2.2 MATERIALS

A. General: Roofing materials recommended by roofing system manufacturer for intended use and compatible with components of existing membrane roofing system.

B. Temporary Roofing Materials: Selection of materials and design of temporary roofing is responsibility of Contractor.

C. General: Provide adhesive and sealant materials recommended by roofing manufacturer for intended use and compatible with built-up roofing.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
2. **Adhesives and sealants that are not on the exterior side of weather barrier** shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. Plastic Foam Adhesives: 50 g/L.
b. Gypsum Board and Panel Adhesives: 50 g/L.
c. Multipurpose Construction Adhesives: 70 g/L.
d. Other Adhesives: 250 g/L.
e. Sealant Primers for Porous Substrates: 775 g/L.

2.3 FLUID-APPLIED ROOFING MEMBRANE

A. Polyurethane Elastomeric Fluid-Applied System: ASTM D 7311, elastomeric, two-coat, two [2] component Bio based polyurethane fluid-applied roofing formulated for application to single ply roofing, with the following minimum physical properties:

1. Aliphatic Urethane Base Coat:

a. Basis of Design Product: Tremco, AlphaGuard Bio Base Coat, or equal.
b. Asbestos Content, EPA/600/R-93/116: None.
c. Volatile Organic Compounds (VOC), ASTM D 3960: Not greater than 40 g/L.
d. Percent solids (by weight), ASTM D 1644: Not less than 85 percent.

2. Aliphatic Urethane Top Coat: UV-stabilized, chemical-resistant top coat:

a. Basis of Design Product: Tremco, AlphaGuard Bio Top Coat, or equal.
b. Asbestos Content, EPA/600/R-93/116: None.
c. Volatile Organic Compounds (VOC), ASTM D 3960: Not greater than 45 g/L.
d. Elongation at break, ASTM D 7311: Not less than 340 percent
e. Tensile Strength, ASTM D 7311: Not less than 1,400 lbf/sq. in.
f. Tear Resistance, ASTM D 7311: Not less than 150 lbf/in.
g. Accelerated Weathering, 5000 hour, ASTM D 7311: Pass, no cracking or checking.
h. Percent solids (by weight), ASTM D 1353: Not less than 85 percent.
i. Color: [White, with Solar Reflectance Index meeting performance requirements] [As selected by Architect from manufacturer's standard colors].

B. Polyester Reinforcement: Polyester mat for fluid-applied membrane and flashing.

1. Basis of Design Product: Tremco, AlphaGuard Perma Fab.

2.4 AUXILIARY ROOFING MEMBRANE MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with existing roofing system and fluid-applied roofing system.

B. Structural Concrete/Masonry Primer: Two-component, 100 percent solids, epoxy penetrating primer for concrete deck surfaces.

1. Basis of Design Product: Tremco, AlphaGuard C-Prime.

C. Metal Surface Primer: Single-component, water based primer to promote adhesion of base coat to metal surfaces.

1. Basis of Design Product: Tremco, AlphaGuard M-Prime.

D. Asphaltic Surfaces Primer: Single-component, multi-substrate primer to promote adhesion of base coat to surfaces recommended by manufacturer.

1. Basis of Design Product: Tremco, AlphaGuard Re-Prime AlphaGuard WB Primer.

E. Aggregate: For finish coat slip resistance: Silica sand, 20 – 40 mesh.

F. Mastic Sealant: Polyisobutylene, plain or modified bitumen, nonhardening, nonmigrating, nonskinning, and nondrying.

G. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacture

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
2. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

3.2 PREPARATION

A. Based upon results of moisture scan, perform required work.

B. Clean substrate of dust, debris, algae growth, and other substances detrimental to roofing installation according to roofing manufacturer's written instructions. Remove sharp projections.

C. Protect existing roofing system that is indicated to remain, and adjacent portions of building and building equipment.

Mask surfaces to be protected. Seal joints subject to infiltration by coating materials.
Limit traffic and material storage to areas of existing roofing membrane that have been protected.
Maintain temporary protection and leave in place until replacement roofing has been completed.

D. **Shut down air intake equipment** in the vicinity of the Work in coordination with the Owner. Cover air intake louvers before proceeding with re-coating work that could affect indoor air quality or activate smoke detectors in the ductwork.

Verify that rooftop utilities and service piping affected by the Work have been shut off before commencing Work.

E. **Maintain roof drains** in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

Do not permit water to enter into or under existing membrane roofing system components that are to remain.

F. Remove existing repairs on field of roof, base flashings, drains and at penetrations/projections. Remove all failed caulking at roof to wall and roof to flashing intersections.

G. Removal and replacement of wet insulation: Remove and replace all wet insulation. See Section 3.4

3.3 FLUID-APPLIED MEMBRANE ROOFING INSTALLATION, GENERAL

A. Install roofing membrane according to roofing manufacturer's written instructions.

1 Commence installation of fluid applied roofing in presence of manufacturer's technical personnel.

B. Coordinate installation of roofing so insulation [if exposed] and other components of roofing not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement with joints and edges sealed.
2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.
3. Remove and discard temporary seals before beginning work on adjoining roofing.

C. Substrate-Joint Penetrations: Prevent fluid-applied materials and adhesives from penetrating substrate joints, entering building, or damaging built-up roofing components or adjacent building construction.

3.4 REMOVAL AND REPLACMENT OF WET INSULATION

A. As outlined in paint on roof, remove and replace all wet insulation.

B. Carefully remove [e] wet insulation to deck. Ensure area is clean and dry.

C. Furnish and install base layer of Isocyanurate insulation and secure to deck with screws and plates. Match [e] thickness.

D. Furnish and install ¼ Dens deck set in low-rise foam.

E. Furnish and install new two ply [2] modified bitumen roofing system. Extend base ply 12 inches past [n] insulation and extend cap sheet 18 inches, over lapping base 6 inches. Set each ply in a continuous application of fluid applied adhesive @ the rate of two [2] gallons per inter ply application.

F. On single ply roofs, furnish and install 60 mil TPA membrane over entire area that is replaced. Over prepared [e] membrane heat weld minimum six [6] inch over and onto field sheet.

3.5 CLEANING OF EXISTING MEMBRANE AND FLASHINGS:

A. Provide one of the following methods of cleaning roof membrane:

1. Power wash with minimum of 2,000 psi with approved power washing equipment.

2. Roof Tec or equal: Self contained roof cleaning process.

B. All water containment must be in compliance with current State and EPA regulations

C. Clean roof membrane to meet manufactures requirements for an acceptable substrate:

1. Power wash roof and flashing surfaces with a high pressure using 2,000 psi. Brush agitate the entire surface.
2. Using a roof cleaning service/system that uses only environmentally safe cleaning product thru cleaning, agitating and reclamation process. Equipment shall deliver over three [3] gallons per minute, rotating wash head, pressure 2,500 psi and water reclamation, 100 %.

D. Disposal of water used in roof cleaning

1. Provide owner with plan to properly dispose of water per local, State and EPA for approval prior to starting work.

3.6 FLUID-APPLIED MEMBRANE APPLICATION

A. Base Coat: Apply coating base coat to single ply surface in accordance with manufacturer's written instructions. Back roll to achieve minimum wet mil coating thickness: SINGLE PLY three [3] gallons per 100 square feet, MODIFIED BITUMEN four [4] gallons per 100 square feet unless otherwise recommended by manufacturer; verify thickness of base coat as work progresses.

1. Apply base coat on prepared and primed surfaces and spread coating evenly. Embed polyester into base coat on all laps and seams.
2. Embed polyester reinforcement into wet base coat. Lap adjacent flashing pieces of polyester minimum 3 inches along edges and 6 inches at end laps.
3. Roll surface of polyester reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.
4. Allow base coat to cure prior to application of top coat.
5. Following curing of base coat and prior to application of top coat, sand raised or exposed edges of polyester reinforcement.

B. Fluid-Applied Flashing Application: Complete base coat and polyester reinforcement at parapets, curbs, penetrations, and drains prior to application of field of fluid-applied membrane.

1. Extend coating minimum of 8 inches up vertical surfaces and 4 inches onto horizontal surfaces.
2. Roof Drains: Install base coat onto surrounding membrane surface and metal drain bowl flange. Install target piece of polyester reinforcement immediately into wet base coat and roll to fully embed and saturate fabric. Reinstall clamping ring and strainer following application of top coat. Replace broken drain ring clamping bolts.

C. Top Coat: Apply top coat uniformly in a complete installation to flashings and field of roof.

1. Prime base coat prior to application of top coat if top coat is not applied within 72 hours of the base coat application, using manufacturer's recommended primer.
2. Apply top coat to flashings extending coating up vertical surfaces and out onto horizontal surfaces 4 inches. Install top coat over field base coat and spread coating evenly.
3. Back roll to achieve wet mil thickness of Two [2] gallons per 100 square feet, unless otherwise recommended by manufacturer.
4. Avoid foot traffic on new fluid-applied membrane for a minimum of 24 hours.

D. Drains: Remove strainer and clamping ring. Furnish and install waterblock/sealant to insure no water enters between the membrane and the drain /drain bowl. Set clamping ring in TF tape prior to securing. Furnish and install [n] bolts and washers. Re-install strainer.

E. Penetrations/projections: Install fluid applied roofing to and around penetration/projection. Remove and replace caulking at top of flashings/storm collar.

F. Walkways: Furnish and field apply fluid applied roofing and silca sand to match [e] walkways to form new walkway path. Broadcast specified aggregate to excess. Roll aggregate into fresh top coat and lock in. Remove excess aggregate. Walk ways to have a four [4] inch wide stripe on either side of the walkways. Walkways stripping shall be safety yellow.

G. Caulking: Remove and replace [e] caulking at all roofing to metal flashings and metal to metal flashings.

H. Large expansion joints: Clean and repair all laps, seams and defects with like same materials prior to coating with fluid applied roofing.

I. Perimeter of Upper roof @ Fairlands: During demolition phase, neatly trim back [e] membrane roof a minimum of fourteen [14] inch wide strip around the perimeter. Remove [e] edge metal and any underlayment to substrate. Furnish and install [n] metal panels as specified. Furnish and install [n] single ply membrane, heat welded to [e] field sheet, over transition and heat weld to [n] coated metal secured over top of metal panel. Overlap of field sheet shall be a minimum six [6] inches, heat welded.

3.7 FIELD QUALITY CONTROL

A. Roof Inspection: **Contractor shall engage** roofing system manufacturer's technical personnel to inspect roofing installation, and submit report to the owner. A minimum of five [5] eight [8] hour days are required. Notify owner 48 hours in advance of dates and times of inspections. Inspect work as follows:

1. Upon completion of preparation of first component of work, prior to application of re-coating materials.
2. Following application of re-coating to flashings and application of base coat to field of roof.
3. Upon completion of re-coating but prior to re-installation of other roofing components.

B. Repair fluid-applied membrane where test inspections indicate that they do not comply with specified requirements.

C. Arrange for additional inspections, at Contractor's expense, to verify compliance of replaced or additional work with specified requirements.

3.8 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period.

B. Correct deficiencies in or remove coating that does not comply with requirements, repair substrates, and reapply coating.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

SECTION CONTINUES

3.9 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1. Owner: _____
2. Address: _____
3. Building Name/Type: _____
4. Address: _____
5. Area of Work: _____
6. Acceptance Date: _____
7. Warranty Period: _____
8. Expiration Date: _____

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:

    a. lightning;
    b. peak gust wind speed exceeding **[74 mph (33 m/s)]**;
    c. fire;
    d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
    e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
    f. vapor condensation on bottom of roofing; and
    g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not

become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

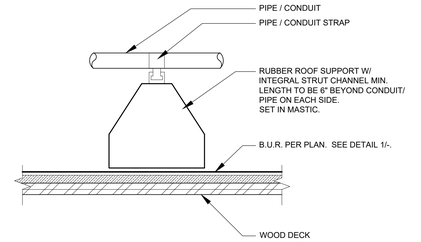
E. IN WITNESS THEREOF, this instrument has been duly executed by:

1. Authorized Signature: _____
2. Name: _____
3. Date: _____

END OF SECTION 07 56 00.13

12

8

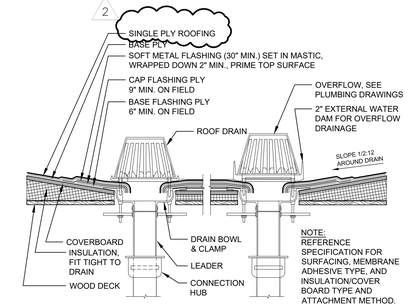


4 FLOATING SLEEPER

3"=1'-0"

11

7

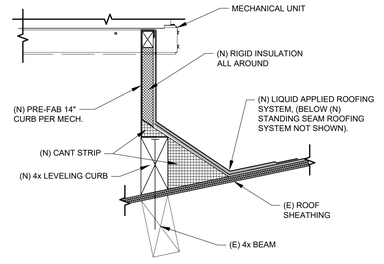


3 ROOF DRAIN AND OVERFLOW

1-1/2"=1'-0"

10

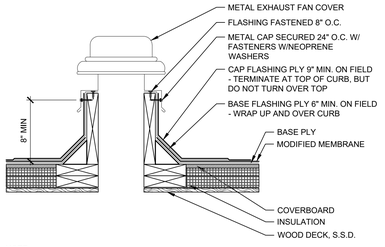
6



2 AC UNIT FLASHING

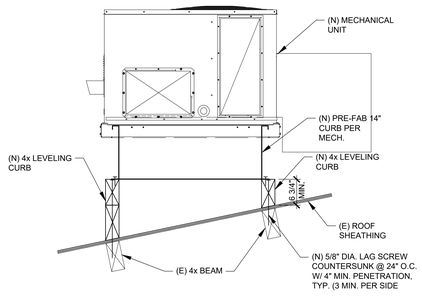
1-1/2"=1'-0"

9



5 FLASHING DETAIL @ EXHAUST FAN

1-1/2"=1'-0"



1 MECHANICAL LEVELING CURB @ SLOPE ROOF - 2.5 : 12

3/4"=1'-0"

(DSA STAMP AREA)

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING
2155 SOUTH BASCOM AVE.
SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0606
FAX: 408-377-6066

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-23
STATE OF CALIFORNIA

TYPICAL DETAILS

ROOFING AND HVAC REPLACEMENT
FAIRLANDS ELEMENTARY SCHOOL
4151 W. LAS PASITAS BLVD, PLEASANTON, CA. 94588
PLEASANTON UNIFIED SCHOOL DISTRICT

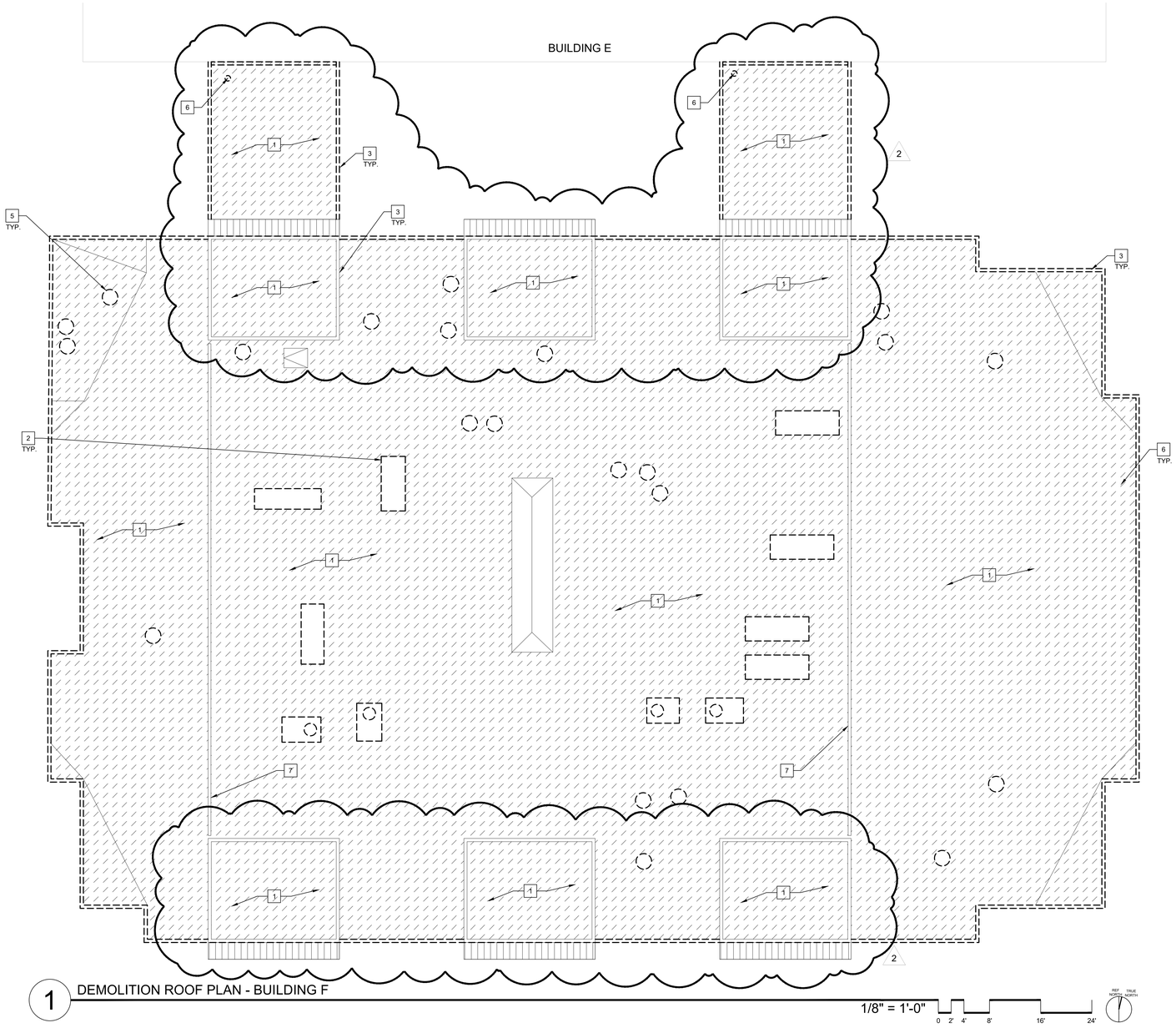
REVISIONS

NO.	ITEM	DATE
2	ADDENDUM 2	12/09/2021

DRAWN BY: KNU
CHECKED BY: MB
SFA JOB NO: 21071
DATE: 11/15/2021

2

AD2-A9.1



1 DEMOLITION ROOF PLAN - BUILDING F

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

GENERAL NOTES

A. NOT ALL ROOF APPURTENANCES ARE SHOWN ON DRAWINGS. CONTRACTOR TO FIELD VERIFY QUANTITIES AND LOCATIONS OF ALL DEVICES AND EQUIPMENT. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL SCOPE OF WORK.

B. CONTRACTOR TO REMOVE AND REINSTALL MECHANICAL UNITS, DUCTWORK AND ALL OTHER ROOF TOP APPURTENANCES AS REQUIRED FOR INSTALLATION OF ROOFING. CONTRACTOR TO REINSTALL AND RECONNECT ALL DEVICES AND RETURN THEM TO WORKING ORDER. CONTRACTOR TO NOTIFY DISTRICT AND ARCHITECT OF ANY DEVICES NOT FUNCTIONING PRIOR TO REMOVAL.

C. PATCH AND REPAIR BUILT-UP ROOFING WHERE REQUIRED AS A RESULT OF NEW WORK.

D. PROVIDE R-30 INSULATION AT ROOF FRAMING.

E. COORDINATE SLEEPER LOCATIONS WITH MECHANICAL, PLUMBING, AND/OR ELECTRICAL AS REQUIRED. SEE DETAIL XX.

PM VERIFY THE FOLLOWING:

F. ALL EXISTING ROOF SYSTEM, INSULATION, FLASHING, ETC. ARE TO BE REMOVED AND PREPARED FOR INSTALLATION OF NEW ROOFING AND FLASHING SYSTEMS.

DEMOLITION ROOF PLAN NOTES

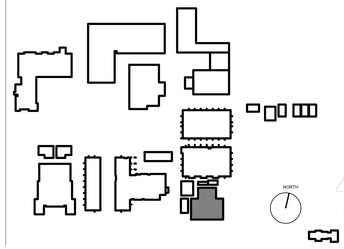
1. REMOVE (E) ROOFING TO EXPOSE SHEATHING, INCLUDING SIDE OF PARAPET WALL. PREPARE FOR NEW ROOFING SYSTEM, SEE SPECS.
2. REMOVE (E) AC UNITS, PREPARE AREA FOR NEW HVAC UNITS, SEE MECHANICAL DRAWINGS.
3. REMOVE (E) PARAPET FLASHING AND CAP.
4. (E) SKYLIGHTS TO REMAIN.
5. REMOVE (E) EXHAUST FANS AND RELIEF HOODS, PREPARE FOR NEW FANS AND HOODS, SEE MECHANICAL DRAWINGS.
6. REMOVE (E) ROOF DRAINS, PREPARE FOR NEW DRAINS.
7. PRESSURE WASHER INNER EQUIPMENT SCREEN WALL. PREPARE FOR PAINT.

GRAPHIC KEY

EXISTING TO BE DEMOLISHED

EXISTING ROOFING TO BE REMOVED

BUILDING KEY



(DSA STAMP AREA)

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING
2155 SOUTH BASCOM AVE.
SUITE 209
CAMPBELL, CA 95008
PHONE: 408-879-0699
FAX: 408-377-6969

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-23
STATE OF CALIFORNIA

DEMOLITION ROOF PLAN
BUILDING F

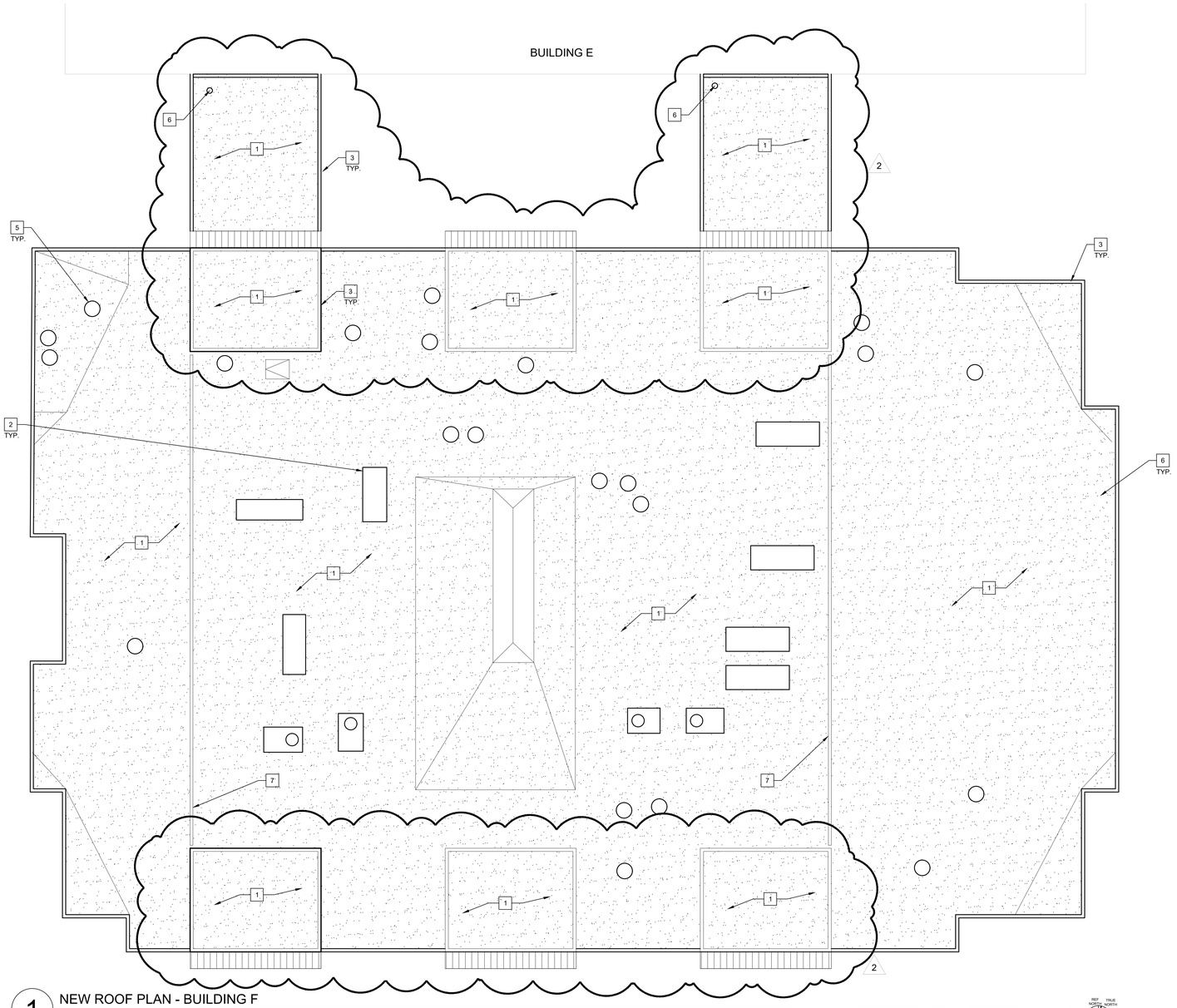
NEW HVAC AND REROOFING
FOOTHILL HIGH SCHOOL
4375 FOOTHILL ROAD, PLEASANTON, CA 94588
PLEASANTON UNIFIED SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
2	ADDENDUM 2	12/08/2021

DRAWN BY:	RB
CHECKED BY:	MB
SFA JOB NO: 20090	DATE: 12/08/2021

AD2-A4.3



1 NEW ROOF PLAN - BUILDING F

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

GENERAL NOTES

A. NOT ALL ROOF APPURTENANCES ARE SHOWN ON DRAWINGS. CONTRACTOR TO FIELD VERIFY QUANTITIES AND LOCATIONS OF ALL DEVICES AND EQUIPMENT. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL SCOPE OF WORK.

B. CONTRACTOR TO REMOVE AND REINSTALL MECHANICAL UNITS, DUCTWORK AND ALL OTHER ROOF TOP APPURTENANCES AS REQUIRED FOR INSTALLATION OF ROOFING. CONTRACTOR TO REINSTALL AND RECONNECT ALL DEVICES AND RETURN THEM TO WORKING ORDER. CONTRACTOR TO NOTIFY DISTRICT AND ARCHITECT OF ANY DEVICES NOT FUNCTIONING PRIOR TO REMOVAL.

C. PATCH AND REPAIR BUILT-UP ROOFING WHERE REQUIRED AS A RESULT OF NEW WORK.

D. PROVIDE R-30 INSULATION AT ROOF FRAMING.

E. COORDINATE SLEEPER LOCATIONS WITH MECHANICAL, PLUMBING, AND/OR ELECTRICAL AS REQUIRED. SEE DETAIL XX.

PM VERIFY THE FOLLOWING:

F. ALL EXISTING ROOF SYSTEM, INSULATION, FLASHING, ETC. ARE TO BE REMOVED AND PREPARED FOR INSTALLATION OF NEW ROOFING AND FLASHING SYSTEMS.

NEW ROOF PLAN NOTES

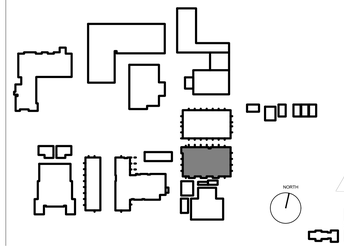
1. (N) ROOFING SYSTEM, INCLUDING INSIDE OF PARAPET WALL, SEE SPECS.
2. (N) AC UNITS, SEE MECHANICAL DRAWINGS.
3. (N) PARAPET FLASHING AND CAP.
4. (E) SKYLIGHTS TO REMAIN.
5. (N) EXHAUST FANS AND RELIEF HOODS, SEE MECHANICAL DRAWINGS.
6. (N) ROOF DRAINS.
7. PAINT (E) EQUIPMENT SCREEN WALL, REFER TO DISTRICT FOR COLOR.

GRAPHIC KEY

EXISTING TO BE DEMOLISHED

NEW BUILT-UP ROOFING

BUILDING KEY



(DSA STAMP AREA)

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING
2155 SOUTH BASCOM AVE.
SUITE 210
CAMPBELL, CA 95008
PHONE: 408-879-0699
FAX: 408-377-6969

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-23
STATE OF CALIFORNIA

NEW ROOF PLAN
BUILDING F

NEW HVAC AND REROOFING
FOOTHILL HIGH SCHOOL
4375 FOOTHILL ROAD, PLEASANTON, CA 94588
PLEASANTON UNIFIED SCHOOL DISTRICT

REVISIONS

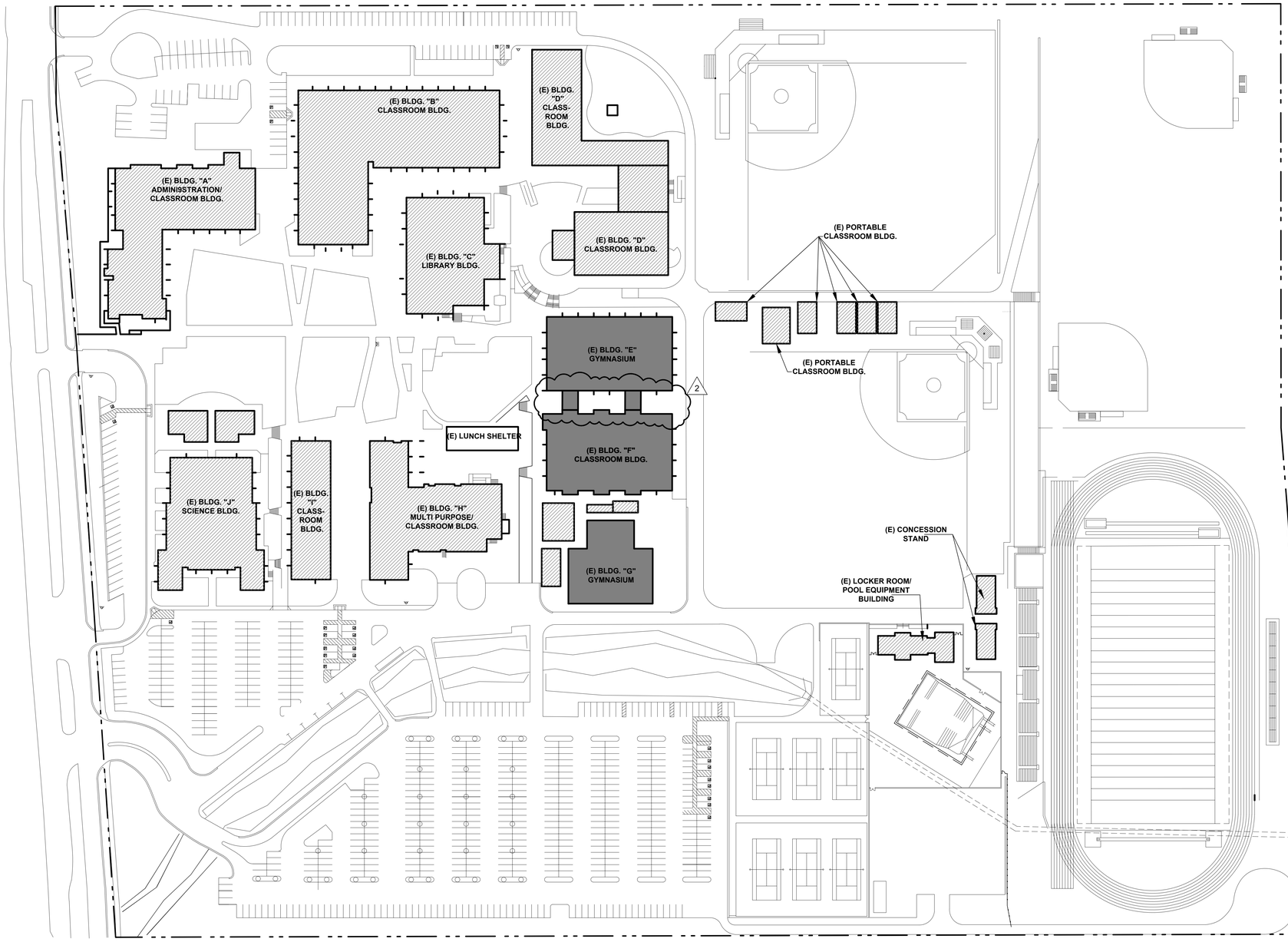
NO.	ITEM	DATE
2	ADDENDUM 2	12/08/2021

DRAWN BY:	RB
CHECKED BY:	MB
SFA JOB NO: 20090	DATE: 12/08/2021

AD2-A4.4

GENERAL NOTES

A. REFER TO LANDSCAPE, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, FIRE ALARM, AND FIRE PROTECTION DRAWINGS FOR EXTENT OF OTHER RELATED WORK.
B. CONTRACTOR TO VERIFY PORTABLE BUILDING NUMBERS WITH THE DISTRICT PRIOR TO SIGNAGE.
C. CONTRACTOR TO VERIFY ALL BARRIERS IN P.O.T. HAVE BEEN REMOVED.



1 SITE PLAN

1" = 60'-0"

0 15' 30' 60' 120' 180'

REF NORTH TRUE NORTH

GRAPHIC KEY

- EXISTING PROPERTY LINE
- ROOF OVERHANG
- CHAINLINK FENCE
- WOOD FENCE
- DECORATIVE FENCE
- EXISTING BUILDING
- SCOPE OF WORK

(DSA STAMP AREA)

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING
2155 SOUTH BASCOM AVE.
SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0609
FAX: 408-377-6069

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-23
STATE OF CALIFORNIA

SITE PLAN

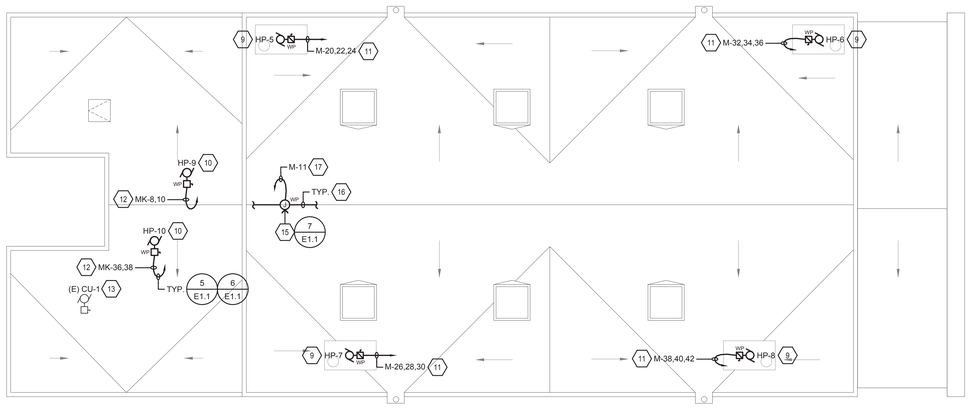
NEW HVAC AND REROOFING
FOOTHILL HIGH SCHOOL
4375 FOOTHILL ROAD, PLEASANTON, CA 94588
PLEASANTON UNIFIED SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
2	ADDENDUM 2	12/08/2021

DRAWN BY: RB
CHECKED BY: MB
SFA JOB NO: 20090
DATE: 12/08/2021

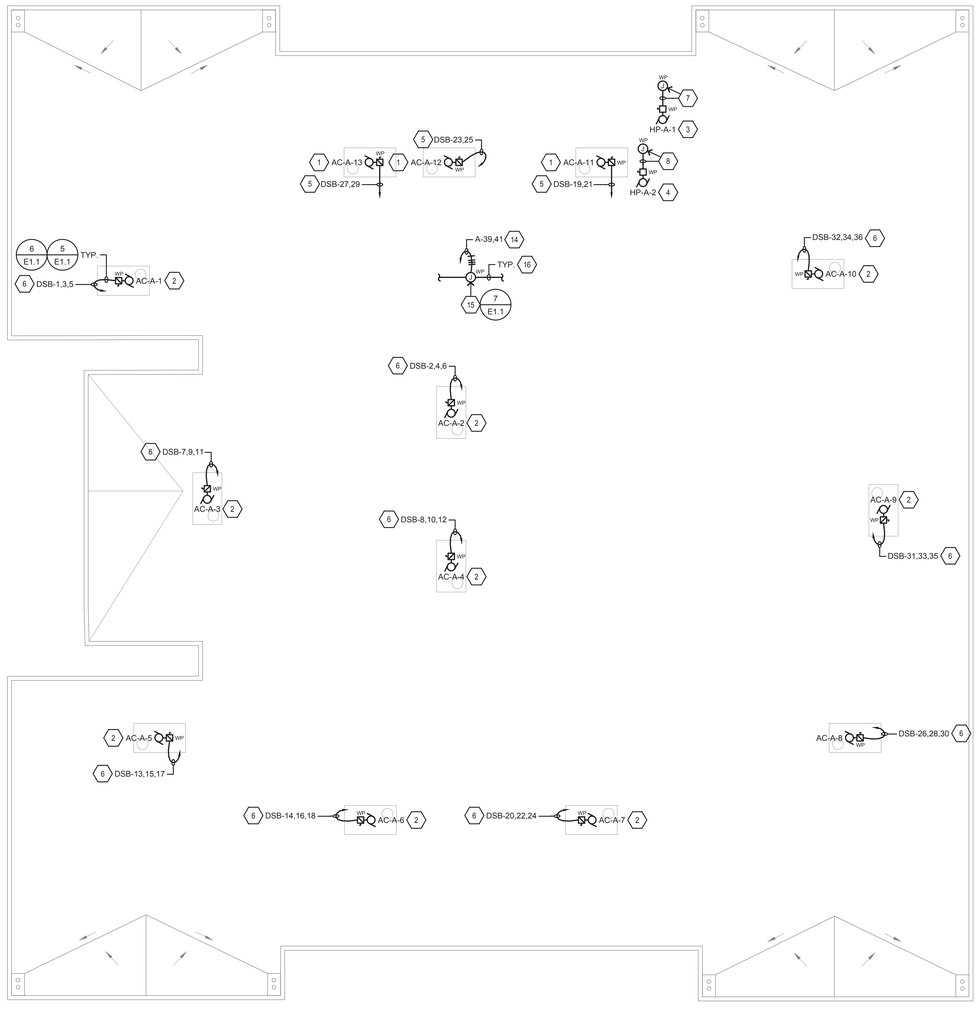
2 AD2-A0.2



2 ELECTRICAL ROOF PLAN - MULTIPURPOSE BUILDING

SCALE: 1/8"=1'-0"

NORTH



1 ELECTRICAL ROOF PLAN - BUILDING A

SCALE: 1/8"=1'-0"

NORTH

SHEET NOTES

1. AIR CONDITIONING UNIT; 25 MCA, 208V, 1Ø.
2. AIR CONDITIONING UNIT; 25 MCA, 208V, 3Ø.
3. SPLIT SYSTEM HEAT PUMP; 11 MCA, 208V, 1Ø.
4. SPLIT SYSTEM HEAT PUMP; 13.4 MCA, 208V, 1Ø.
5. ¾"C., 2 #8 & 1 #10 GND. TO EXISTING PANEL AS INDICATED. AT EXISTING PANEL CONTRACTOR SHALL PROVIDE AND INSTALL 35 AMP, 2-POLE BREAKER WITH ASSOCIATED MOUNTING HARDWARE; NEW BREAKER SHALL MATCH EXISTING IN RATING AND TYPE.
6. ¾"C., 3 #8 & 1 #10 GND. TO EXISTING PANEL AS INDICATED. AT EXISTING PANEL CONTRACTOR SHALL PROVIDE AND INSTALL 35 AMP, 3-POLE BREAKER WITH ASSOCIATED MOUNTING HARDWARE; NEW BREAKER SHALL MATCH EXISTING IN RATING AND TYPE.
7. CONTRACTOR SHALL INTERCEPT EXISTING FEEDER CONDUIT PRESERVED DURING DEMOLITION WORK WITH JUNCTION BOX AT ACCESSIBLE CEILING SPACE AND SPLICE AND EXTEND WITH ¾"C., 2 #10 & 1 #10 GND. TO NEW MECHANICAL UNITS.
8. CONTRACTOR SHALL INTERCEPT EXISTING FEEDER CONDUIT PRESERVED DURING DEMOLITION WORK WITH JUNCTION BOX AT ACCESSIBLE CEILING SPACE AND SPLICE AND EXTEND WITH ¾"C., 2 #8 & 1 #10 GND. TO NEW MECHANICAL UNITS.
9. ROOF HEAT PUMP; 43.7 MCA, 208V, 3Ø.
10. SPLIT SYSTEM HEAT PUMP; 12 MCA, 208V, 1Ø.
11. ¾"C., 3 #4 & 1 #10 GND. TO EXISTING PANEL AS INDICATED. AT EXISTING PANEL CONTRACTOR SHALL PROVIDE AND INSTALL 50 AMP, 3-POLE BREAKER WITH ASSOCIATED MOUNTING HARDWARE; NEW BREAKER SHALL MATCH EXISTING IN RATING AND TYPE.
12. ¾"C., 2 #10 & 1 #10 GND. TO EXISTING PANEL AS INDICATED. AT EXISTING PANEL CONTRACTOR SHALL PROVIDE AND INSTALL 20 AMP, 2-POLE BREAKER WITH ASSOCIATED MOUNTING HARDWARE; NEW BREAKER SHALL MATCH EXISTING IN RATING AND TYPE.
13. RECONNECT FREEZER CONDENSING UNIT PRESERVED DURING DEMOLITION WORK.
14. ¾"C., 4 #10 & 1 #10 GND. TO EXISTING PANEL AS INDICATED. AT EXISTING PANEL CONTRACTOR SHALL PROVIDE AND INSTALL (2) 20 AMP. 1-POLE BREAKERS WITH ASSOCIATED MOUNTING HARDWARE; NEW BREAKERS SHALL MATCH EXISTING IN RATING AND TYPE.
15. CONTRACTOR SHALL PROVIDE AND INSTALL 8" SQ. X 4" DEEP NEMA 3R PULLCAN. CONTRACTOR SHALL INSTALL AS NECESSARY TO NOT EXCEED 270 DEGREES OF CONDUIT BENDS.
16. CONNECT ALL CONVENIENCE RECEPTACLES FURNISHED WITH NEW AC UNITS; CONTRACTOR SHALL NOT EXCEED (10) RECEPTACLES PER 120V CIRCUIT.
17. ¾"C., 2 #10 & 1 #10 GND. TO EXISTING PANEL AS INDICATED. AT EXISTING PANEL CONTRACTOR SHALL PROVIDE AND INSTALL 20 AMP, 1-POLE BREAKER WITH ASSOCIATED MOUNTING HARDWARE; NEW BREAKERS SHALL MATCH EXISTING IN RATING AND TYPE.

BRANCH CIRCUIT CONDUCTOR SIZING TABLE

CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	REQUIREMENT
20/120	56'-90'	½" C., 2 #10 & 1 #10 GND.
20/120	91'-140'	½" C., 2 #8 & 1 #10 GND.
20/277	131'-205'	½" C., 2 #10 & 1 #10 GND.
20/277	206'-330'	½" C., 2 #8 & 1 #10 GND.

NOTE:
CONTRACTOR SHALL SIZE BRANCH CIRCUIT CONDUCTORS PER THE TABLE ABOVE AS DETERMINED BY THE CIRCUIT CONDUCTOR LENGTH, U.O.N. CONTRACTOR SHALL SPLICE TO #12 AWG WITHIN TERMINATION BOX FOR DEVICE CONNECTION IF NECESSARY.

GENERAL NOTE:

SEAL ALL EXTERIOR/INTERIOR BUILDING PENETRATIONS, CUT AND PATCH WALLS/CEILINGS FOR CONDUIT ROUTING AS NECESSARY. PAINT/FINISH EXPOSED CONDUITS/BOXES TO MATCH BUILDING FINISH. COORDINATE WITH DISTRICT & ARCHITECT FOR EXACT REQUIREMENTS. CONTRACTOR SHALL CONCEAL CONDUIT WITHIN BUILDING INTERIOR.

(DSA STAMP AREA)

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE · INTERIORS · PLANNING
2155 SOUTH BASCOM AVE.
SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0209
FAX: 408-377-6068

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-22
STATE OF CALIFORNIA

BID SET
NOT FOR PERMIT, CONSTRUCTION, RECORDATION OR GOVERNMENTAL REVIEW
PREPARED BY A LICENSED PROFESSIONAL
ELECTRICAL
STATE OF CALIFORNIA

AURUM CONSULTING ENGINEERS MONTEREY BAY, INC.
Project No. 21-416.00
60 Garden Court • Suite 210 • Monterey, CA 93940
T.831.646.3330 • F.831.646.3336 • www.acemb.com

ELECTRICAL ROOF PLANS - BUILDING A & MULTIPURPOSE BUILDING

NEW HVAC AND REROOFING
VINTAGE HILLS ELEMENTARY SCHOOL
1125 CONCORD STREET, PLEASANTON, CA 94566
PLEASANTON UNION SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
1		

DRAWN BY:	FS
CHECKED BY:	NA
SFA JOB NO:	DATE:
20087	11/05/2021

E4.1

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. MATERIALS AND EQUIPMENT SHALL BE U.L. LISTED AND LABELED FOR THE APPLICATION.
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTION FEES REQUIRED BY THIS CONTRACT WORK.
3. CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING AND ALLOW FOR ALL FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NOTED AND CALLED OUT ON ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN INFORMATION AND BE FAMILIAR WITH ALL OTHER TRADES WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN OTHER TRADES ON PROJECT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY AND PERSONAL, PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.
5. CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL AT THE CONCLUSION OF THE PROJECT PROVIDE ACCURATE "AS-BUILT" DRAWINGS ACCEPTABLE TO THE ARCHITECT.
6. ALL MATERIALS PROVIDED TO THE PROJECT SHALL BE NEW. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL INCIDENTAL MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.
7. CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.
8. CONTRACTOR SHALL PROVIDE ALL REQUIRED "CUTTING, PATCHING, EXCAVATION, BACKFILL AND REPAIRS" NECESSARY TO RESTORE DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING AT START OF WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PAINTING ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.
10. ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOORS SHALL BE WEATHERPROOF. EXTERIOR CONDUITS RUN INTO BUILDINGS SHALL BE INSTALLED WITH FLASHING, CAULKED AND SEALED. CONDUITS FOR EXTERIOR ELECTRICAL DEVICES SHALL BE RUN INSIDE BUILDING UNLESS OTHERWISE NOTED ON DRAWINGS.
11. ALL CONDUITS UNLESS OTHERWISE NOTED ON DRAWINGS SHALL HAVE AS A MINIMUM: TWO (2) #12s WITH ONE (1) #12 GROUND. "TICK" MARKS SHOWN ON CIRCUITRY ARE FOR ROUGH ESTIMATING ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRES AND WIRE SIZES REQUIRED BY LATEST CODE.
12. ALL BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS. SHARED NEUTRALS ON MULTIWIRE CIRCUITS IS NOT ALLOWED.
13. COORDINATE ALL CONDUIT RUNS, ELECTRICAL EQUIPMENT AND PANELS WITH ALL OTHER WORK TO AVOID CONFLICTS.
14. CONTRACTOR SHALL PROVIDE IN EVERY NEW EMPTY CONDUIT A DRAW STRING FOR USE IN FUTURE CONSTRUCTION.
15. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. CUT AND PATCH EXISTING WALLS WHERE NECESSARY. WHERE IT IS NECESSARY TO CUT OR BORE EXISTING STRUCTURAL WALLS FOR NEW ELECTRICAL WORK OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO STARTING WORK. REUSE EXISTING CONDUIT WHERE POSSIBLE.
16. WHERE IT IS NOT POSSIBLE TO REUSE EXISTING CONDUIT OR RUN NEW CONCEALED CONDUIT USE NON-METALLIC SURFACE RACEWAY AND BOXES. ROUTING OF ALL NON-METALLIC RACEWAYS SHALL BE APPROVED BY THE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING UNDERGROUND SYSTEMS (GAS, WATER, TELEPHONE, ELECTRICAL, SEWER, ETC.). THE CONTRACTOR SHALL REPAIR & PAY ALL EXPENSES FOR DAMAGE TO EXISTING UNDERGROUND SYSTEMS AS A RESULT OF NEW WORK. REPAIR TO DAMAGED UNDERGROUND SYSTEMS SHALL BE TO THE OWNERS SATISFACTION WITHOUT EXTRA EXPENSE TO THE OWNER.
18. WHERE NON-METALLIC SHEATHED CONDUCTORS ARE FOUND, THE CONTRACTOR SHALL REMOVE TO FULLEST EXTENT PER THE GENERAL DEMOLITION NOTES AND REPLACE WITH CONDUIT. METAL CLAD CABLE WILL BE PERMITTED ON A CASE-BY-CASE BASIS ONLY BY WRITTEN APPROVAL FROM THE ARCHITECT.
19. ALL INSTALLATION OF EXPOSED SURFACE MOUNTED RACEWAY IN PUBLIC AREAS SHALL BE REVIEWED BY ARCHITECT BEFORE ROUGH-IN. CONTRACTOR IS TO DETERMINE THE ACCESSIBILITY OF ATTIC, FURRED SPACE, HOLLOW MULLIONS, ETC. IN EACH AREA AND REVIEW WITH ARCHITECT. IF SYSTEM CAN BE ROUTED CONCEALED EITHER BY FISHING OR ACCESSIBILITY, CONTRACTOR IS TO DO SO. IF INACCESSIBILITY IS DETERMINED, CONTRACTOR SHALL INSTALL SURFACE MOUNTED RACEWAY IN THE MOST AESTHETICALLY PLEASING MEANS AS DETERMINED BY THE ARCHITECT. NO ALLOWANCE FOR ADDITIONAL COMPENSATION DUE TO ROUTING AS DIRECTED BY THE ARCHITECT WILL BE MADE.

ELECTRICAL SYMBOLS & ABBREVIATIONS

SYMBOLS & ABBREVIATIONS SHOWN ARE FOR GENERAL USE. DISREGARD THOSE WHICH DO NOT APPEAR ON THE PLANS.

- SECURITY DOOR CONTACTS
- MD — SECURITY MOTION DETECTOR
- SC — CCTV CAMERA
- KP — SECURITY SYSTEM KEYPAD
- DOOR BELL PUSHBUTTON
- CH — DOOR CHIME WITH LED
- RECEPTACLE - DUPLEX *
- DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT
- GFCI CONVENIENCE RECEPTACLE - DUPLEX *
- GFCI CONVENIENCE DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT
- RECEPTACLE DOUBLE DUPLEX *
- HALF SWITCHED DUPLEX RECEPTACLE *
- SINGLE RECEPTACLE *
- DUPLEX RECEPTACLE - CEILING MOUNTED
- HC — LETTER INDICATES DUPLEX HALF CONTROLLED RECEPTACLE *
- C — LETTER INDICATES DUPLEX FULLY CONTROLLED RECEPTACLE *
- FLOOR MOUNTED DUPLEX RECEPTACLE
- FLOOR MOUNTED BOX
- POWER OUTLET - SEE PLANS FOR NEMA TYPE *
- POWER POLE
- WALL TELEPHONE OUTLET **
- [#] VOICE/DATA WALL OUTLET *
- [#] VOICE/DATA OUTLET MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT
- [#] SURFACE MOUNTED VOICE/DATA WALL OUTLET *
- [#] SURFACE MOUNTED VOICE/DATA OUTLET MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT
- WIRELESS ACCESS POINT (WAP) - CEILING MOUNTED
- WIRELESS ACCESS POINT (WAP) - WALL MOUNTED - FIELD VERIFY HEIGHT
- [#] VOICE/DATA OUTLET - FLOOR MOUNTED
- TV OUTLET *
- [#] VOICE/DATA OUTLET - CEILING MOUNTED
- S — INTERIOR SPEAKERS CEILING MOUNTED
- S — INTERIOR SPEAKERS WALL MOUNTED
- C — CLOCK +8'-0" AFF U.O.N. VERIFY BEFORE INSTALLATION

- PANELBOARD - FLUSH MOUNTED
- EQUIPMENT PANEL - FLUSH MOUNTED
- PANELBOARD - SURFACE MOUNTED
- EQUIPMENT PANEL - SURFACE MOUNTED
- M — METER W/ CURRENT TRANSFORMER
- J / J — JUNCTION BOX - CEILING OR WALL MOUNTED, SIZE PER CODE, TAPE AND TAG WIRES
- MOTOR CONNECTION
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH; FUSED WITH DUAL-ELEMENT FUSES SIZED PER EQUIPMENT MFGR'S NAMEPLATE DATA
- COMBINATION STARTER/FUSED DISCONNECT SWITCH; FUSED DISCONNECT SWITCH ELEMENT FUSES SIZED PER EQUIPMENT MFGRS NAMEPLATE DATA
- MAGNETIC STARTER - NEMA SIZE INDICATED NEMA 3R ENCLOSURE UNLESS OTHERWISE SPECIFIED
- CIRCUIT BREAKER
- GROUND ROD WITH GROUNDWELL BOX
- GROUND ELECTRODE
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- TRANSFORMER - SEE SINGLE LINE FOR SIZE
- PULLBOX
- FLEX CONDUIT WITH CONNECTION
- CONDUIT - UP
- CONDUIT - DOWN
- SURFACE METAL OR NON-METALLIC RACEWAY
- CONDUIT - EXISTING
- CONDUIT - CONCEALED IN WALLS OR CEILING
- CONDUIT - BELOW SLAB OR UNDERGROUND: 3/4"MIN.
- CAPPED OR STUB-OUT CONDUIT
- CONDUIT CONTINUATION
- CONDUIT - HOME RUN TO PANEL, TERMINAL CABINET, ETC. AS INDICATED
  - RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF #12 AWG WIRES WHEN MORE THAN TWO. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
  - #10 — CROSS HATCHES WITH NUMBER ADJACENT INDICATES WIRE SIZE OTHER THAN #12 AWG.
- 2 — SHEET NOTE REFERENCE SYMBOL; SEE ASSOCIATED NOTE ON SAME SHEET
- 3 — SCHEDULE SYMBOL; SEE ASSOCIATED NOTE ON SAME SHEET

- 2 — DETAIL NOTE REFERENCE SYMBOL SEE ASSOCIATED NOTE ON SAME DETAIL
- F301 — FEEDER DESIGNATION; SEE ASSOCIATED NOTE ON SAME DETAIL
- 1 / E3.0 — DETAIL NUMBER (1); DETAIL OR SECTION REFERENCE; SHEET NUMBER (E3.0)
- 1 / 2 — INDICATES QUANTITY OF TELEPHONE OUTLETS (1); INDICATES QUANTITY OF DATA OUTLETS (2)

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
ALUM/AL	ALUMINUM
ARCH	ARCHITECT
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CATV	CABLE TV
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TV
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
C.O.	CONDUIT ONLY
CTR	CENTER
D	DIMMER
DIM	DIMENSION
DIST	DISTRIBUTION
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
(EL)	EVENING LIGHT
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EV	ELECTRICAL VEHICLE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT CANDLE
FIN	FINISH
FL	FLOOR
FLA	FULL LOAD AMPS
FLUOR	FLUORESCENT
(F)	FUTURE
GC	GENERAL CONTRACTOR
GFCI / GFI	GROUND FAULT INTERRUPTING
GND, G	GROUND
GRS	GALVANIZED RIGID STEEL
HT	HEIGHT
IC	INTERCOM
IDF	INTERMEDIATE DISTRIBUTION FRAME
INCAND	INCANDESCENT
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LCP	LIGHTING CONTROL PANEL
LTG	LIGHTING
LV	LOW VOLTAGE
KCM	THOUSAND CIRCULAR MILS
M.B.	MAIN CIRCUIT BREAKER
MCA	MINIMUM CIRCUIT AMPS
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
MPOE	MAIN POINT OF ENTRANCE
MTD	MOUNTED
MTG	MOUNTING
MOCP	MAXIMUM OVER CURRENT PROTECTION
(N)	NEW
NIC	NOT IN CONTRACT
NIEC	NOT IN ELECTRICAL CONTRACT
(NL)	NIGHT LIGHT
NO.	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OAH	OVERALL HEIGHT
OC	ON CENTER
OH	OVERHEAD
PA	PUBLIC ADDRESS
PB	PULL BOX
PF	POWER FACTOR
PH	PHASE
PIR	PASSIVE INFRARED
PNL	PANEL
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
PWR	POWER
(R)	RELOCATE
(RP)	REMOVABLE POLE
RECPT'S	RECEPTACLES
REQD	REQUIRED
REQMT'S	REQUIREMENT(S)
SHT	SHEET
SLD	SINGLE LINE DIAGRAM
STC	SYSTEMS TERMINATION CABINET
SW	SWITCH
SWBD	SWITCHBOARD
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UG	UNDERGROUND
V	VOLT
VD	VOLTAGE DROP
W	WATT
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER

* +15" A.F.F. TO BOTTOM OF BOX, U.O.N.
** +48" A.F.F. TO TOP OF BOX, U.O.N.
[#] NUMBER IN BRACKETS DENOTES NUMBER OF CABLE DROPS WHEN MORE THAN (2).

GENERAL DEMOLITION NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXTENT OF ELECTRICAL DEMOLITION AND QUANTITIES OF ELECTRICAL TO BE REMOVED AS DICTATED BY THE REQUIREMENTS OF THE PROJECT.

B. REMOVAL SHALL INCLUDE WIRING, RACEWAY, BOXES, SWITCHES, LIGHT FIXTURES, ETC. AS INDICATED ON THE PLANS AND AS REQUIRED BY THESE DEMOLITION NOTES.

C. RACEWAYS ASSOCIATED WITH ELECTRICAL BEING DEMOLISHED WHICH ARE CONCEALED IN EXISTING REMAINING WALLS MAY BE ABANDONED IN PLACE. REMOVE WIRING FROM CONDUIT.

D. RACEWAYS ASSOCIATED WITH ELECTRICAL BEING DEMOLISHED WHICH ARE EXPOSED SHALL BE REMOVED.

E. WHERE REMOVAL OF EQUIPMENT OR WIRING IS INDICATED, IT SHALL INCLUDE ALL ASSOCIATED WIRING BACK TO LAST ACTIVE REMAINING OUTLET, DEVICE, FIXTURE OR PANEL.

F. ELECTRICAL CONTRACTOR SHALL INSURE THAT ALL REMAINING ACTIVE CIRCUITS, DEVICES, OUTLETS, LIGHT FIXTURES, ETC. HAVE NOT BEEN DISCONNECTED OR MADE INOPERATIVE DURING DEMOLITION. ELECTRICAL CONTRACTOR SHALL RESTORE ALL INTERRUPTED OR DISCONNECTED CIRCUITS TO OPERATION.

G. ELECTRICAL CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL REMOVED ELECTRICAL EQUIPMENT AND MATERIAL.

H. NO REMOVED EQUIPMENT OR MATERIAL SHALL BE REUSED AS PART OF NEW WORK, U.O.N.

I. EXISTING REMAINING CONCEALED RACEWAYS MAY BE REUSED FOR NEW WORK PROVIDED THEY MEET ALL REQUIREMENTS OF THE SPECIFICATION FOR NEW WORK.

J. EXISTING FLUSH OUTLETS MAY BE REUSED FOR NEW WORK PROVIDED THEY MEET ALL REQUIREMENTS OF THE SPECIFICATION FOR NEW WORK, MEET THE REQUIREMENTS OF THE CURRENT C.E.C. FOR VOLUME AND COINCIDE WITH LOCATION SHOWN FOR THE NEW WORK.

K. FLUSH OUTLET BOXES IN EXISTING WALLS TO REMAIN MAY BE ABANDONED IN PLACE. REMOVE DEVICES AND WIRING, PLUG OPENING AND PROVIDE AND INSTALL A BLANK DEVICE PLATE.

L. EXISTING WIRING SHOWN HAS BEEN TAKEN FROM OLD PLANS AND IS ASSUMED TO BE CORRECT. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS AND MAKE ADJUSTMENTS TO SUIT ACTUAL CONDITIONS AND TO MEET THE INTENT OF THE CONTRACT DOCUMENTS.

M. WHERE TELEPHONE, COMPUTER DATA, FIBER OPTICS, FIRE ALARM OR OTHER COMMUNICATIONS OUTLETS OR WIRING IS TO BE DEMOLISHED IT SHALL BE REMOVED BACK TO THE NEXT TERMINAL POINT. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER OR HIS REPRESENTATIVE TO HAVE EQUIPMENT AND WIRING DESIGNATED FOR REMOVAL OR PRESERVATION PRIOR TO REMOVAL OF OUTLET BOXES, CONDUIT OR WIRING BY ELECTRICAL CONTRACTOR.

N. COORDINATE WITH OWNER PRIOR TO START OF DEMOLITION TO MINIMIZE POWER INTERRUPTIONS, WORK MAY HAVE TO OCCUR DURING NON-REGULAR BUSINESS HOURS. COORDINATE IN WRITING WITH OWNER ONE WEEK PRIOR TO PLANNED POWER INTERRUPTIONS.

EQUIPMENT ANCHORAGE

M/E/P COMPONENT ANCHORAGE NOTES:

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTION 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 & 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED(e.g. HARD WIRE) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 120 / 220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED IN THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT. FELXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

A. COMPONENTS WEIGHTING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHTING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT OF THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8 AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON PRE-APPROVED INSTALLATION GUIDE (e.g. OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.
MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☐ PP ☐ E ■ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
MP ☐ MD ☐ PP ☐ E ☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM #) #____________.

APPLICABLE CODES & STANDARDS

CODES:

1. 2019 CALIFORNIA ADMINISTRATIVE CODE C.C.R., TITLE 24, PART 1.
2. 2019 CALIFORNIA BUILDING CODE (CBC) C.C.R., TITLE 24, VOL. 1 & 2 BASED ON THE 2018 INTERNATIONAL BUILDING CODE (IBC) WITH CALIFORNIA AMENDMENTS.
3. 2019 CALIFORNIA ELECTRICAL CODE (CEC) C.C.R., TITLE 24, PART 3 BASED ON THE 2017 NATIONAL ELECTRICAL CODE (NEC) WITH CALIFORNIA AMENDMENTS.
4. 2019 CALIFORNIA MECHANICAL CODE (CMC) C.C.R., TITLE 24, PART 4 BASED ON THE 2018 UNIFORM MECHANICAL CODE (UMC) WITH CALIFORNIA AMENDMENTS.
5. 2019 CALIFORNIA PLUMBING CODE (CPC) C.C.R., TITLE 24, PART 5 BASED ON THE 2018 UNIFORM PLUMBING CODE (UPC) WITH CALIFORNIA AMENDMENTS.
6. 2019 CALIFORNIA ENERGY CODE C.C.R., TITLE 24, PART 6.
7. 2019 CALIFORNIA FIRE CODE (CFC) C.C.R., TITLE 24, PART 9 BASED ON THE 2018 INTERNATIONAL FIRE CODE (IFC) WITH CALIFORNIA AMENDMENTS.
8. 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE C.C.R., TITLE 24, PART 11.
9. 2019 CALIFORNIA REFERENCED STANDARDS CODE C.C.R., TITLE 24, PART 12.
10. TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
11. NATIONAL FIRE ALARM CODE (NFPA 72) 2016.

STANDARDS:

1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
2. ELECTRONICS INDUSTRIES ASSOCIATION (EIA)
3. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
4. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
5. NATIONAL ELECTRICAL TESTING ASSOCIATION (NETA)
6. UNDERWRITER LABORATORIES (UL)
7. CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT STANDARDS (CAL/OSHA)

SHEET INDEX

E0.1	SYMBOLS, ABBREVIATIONS, CODES, STANDARDS, EQUIPMENT ANCHORAGE, NOTES & SHEET INDEX.
E1.1	PARTIAL ELECTRICAL SINGLE LINE DIAGRAM, DETAILS & PANELBOARD SCHEDULE.
E2.1	ELECTRICAL SITE PLAN.
E3.1	ELECTRICAL DEMOLITION PLANS - BUILDINGS F & G.
E4.1	ELECTRICAL ROOF PLANS - BUILDINGS F & G.
~~E4.2~~	~~POWER PLAN - BUILDING F.~~
~~FA0.1~~	~~FIRE ALARM SYMBOLS, ABBREVIATIONS, EQUIPMENT LIST, BATTERY CALCULATION, OPERATIONAL MATRIX, NOTES & FIRE ALARM RISER DIAGRAM.~~
~~FA4.1~~	~~FIRE ALARM PLAN - BUILDING F.~~

(DSA STAMP AREA)

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING
2155 SOUTH BASCOM AVE.
SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0600
FAX: 408-377-6066

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-23
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
NAJIB ANWAR
ELECTRICAL
STATE OF CALIFORNIA
BID SET

AURUM CONSULTING ENGINEERS MONTEREY BAY, INC.
Project No. 21-417.00
60 Garden Court • Suite 210 • Monterey, CA 93940
T.831.646.3330 • F.831.646.3336 • www.acemb.com

SYMBOLS, ABBREVIATIONS, CODES, STANDARDS, EQUIPMENT ANCHORAGE, NOTES & SHEET INDEX

NEW HVAC AND REROOFING
FOOTHILL HIGH SCHOOL
4375 FOOTHILL ROAD. PLEASANTON, CA 94588
PLEASANTON UNIFIED SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
1		

DRAWN BY: FS
CHECKED BY: NA
SFA JOB NO: 20090
DATE: 11/12/2021

E0.1

A·C·C ENVIRONMENTAL CONSULTANTS
An Employee Owned Company

December 6, 2021

Ms. Jenny Choi
Van Pelt Construction Services
4707 Mangels Boulevard
Fairfield, CA 94534
(*Agent for Pleasanton Unified School District)*

Transmitted Electronically: jenny.choi@vpcsonline.com

Re: Limited Asbestos and Lead Survey for the Planned Roof Replacement Projects

- ***Amador Valley High School – Building P: 1155 Santa Rita Road***
- ***Fairlands Elementary School – Building A: 4161 W. Las Positas Boulevard***
- ***Foothill High School – Buildings E, F G: 4375 Foothill Road***
- ***Hearst Elementary School – Building A, B, C: 5301 Case Avenue***
- ***Lydiksen Elementary School – MPR: 7700 Highland Oaks Drive***
- ***Vintage Hill Elementary School – Buildings A, C & MPR: 1125 Concord Street***

Pleasanton, California
ACC Project No. 9690-012.00

Dear Ms. Choi:

Per your request, ACC Environmental Consultants, Inc. (ACC) performed limited asbestos roof surveys of the above referenced Pleasanton Unified School District school sites on November 26th, 29th, and December 1st, 2021. The surveys were limited to Fairlands, Hearst, Lydiksen, & Vintage Hill Elementary Schools, as well as Amador Valley and Foothill High Schools (subject sites), respectively. The surveys were performed to identify suspect asbestos-containing building materials and loose & peeling lead-containing paint that may be impacted during the planned roof replacement projects at each site. Common suspect asbestos-containing building materials that may be impacted by typical roof renovation may include but are not limited to, the following materials:

- Roofing Tar
- Roofing Felt
- Composite Roofing Materials
- Asphalt Shingles
- Roof Patching Compounds
- Reflective Paint

ACC conducted the surveys of the buildings according to the scope of work as outlined in the proposal dated November 23, 2021. Building components not associated with the planned roof replacement projects were not sampled. Furthermore, lead sampling was conducted to identify suspect lead-containing coatings that may be disturbed by project activities for the purpose of compliance with Cal-OSHA's Lead in Construction Standard and is not intended to be a "Lead Inspection" or "Lead Risk Assessment" as defined by the California Department of Public Health.

ACC did not conduct destructive sampling and as such, if any planned renovation, maintenance or demolition activities will impact concealed materials, additional investigation and sampling should be conducted prior to disturbance of these systems.

Asbestos Bulk Sample Results

Mr. Fred Cereno, a Cal-OSHA Certified Asbestos Consultant (CAC #06-3939) with ACC, performed bulk sampling of suspect asbestos-containing roof materials at the subject sites on November 26th, 29th, and December 1st, 2021. A total of eighty-nine (89) samples of suspect materials were submitted for analysis. Copies of the laboratory results are attached.

The samples were delivered to EMSL Analytical, Inc., of San Leandro, California, an independent laboratory that participates in the bulk sample proficiency analysis program conducted by the United States Environmental Protection Agency (EPA) and is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). The samples were analyzed using Polarized Light Microscopy (PLM) with dispersion staining to estimate percent composition by volume. Samples with less than 1% (<1%) asbestos are designated as "Trace asbestos." Samples with no observable asbestiform minerals are designated as "no asbestos detected."

Summary of Asbestos Bulk Sample Results

Amador Valley High School – Building P: 1155 Santa Rita Road

Sample Number	Material Description	Material Location	Results	Approx. Quantity*	NESHAPS Category[1]	OSHA Class[2]
RR-1-1, 2, 3, & 4	Rolled Roofing with Tar	Bldg P: Low Level Roof	Roofing: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A
RC-2-1, 2	Roofing Tar with Felt and Gravel	Bldg P: Mid Level Roof	Tar: No Asbestos Detected Felt: No Asbestos Detected Gravel: No Asbestos Detected Roofing: No Asbestos Detected	N/Q	N/A	N/A
RP-3-1, 2, 3, 4, 5, & 6	**Roof Patching Compound**	**Bldg P: Low, Mid, & High Level Roof**	**5% Chrysotile Asbestos**	**600 SF**	**Category 1**	**Class 2**
JM-4-1, 2	HVAC Mudding Compound	Bldg P: Mid Level Roof	No Asbestos Detected	N/Q	N/A	N/A

**Approximate quantities should be verified during any project planning. ACC did not perform a fully destructive investigation to identify all concealed conditions.*

Fairlands Elementary School – Building A: 4161 W. Las Positas Boulevard

Sample Number	Material Description	Material Location	Results	Approx. Quantity*	NESHAPS Category[1]	OSHA Class[2]
RF-1-1, 2	Roofing Felt - Shingles	Bldg A: Roof	Felt: No Asbestos Detected Shingle: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	**Roof Patching Compound**	**Bldg A: Roof Various Locations**	**Roof Patch1: No Asbestos Detected Roof Patch2: <1% Chrysotile Asbestos**	**300 SF**	**Category 1**	**Class 2**

**Approximate quantities should be verified during any project planning. ACC did not perform a fully destructive investigation to identify all concealed conditions.*

Foothill High School – Buildings E, F G: 4375 Foothill Road

Sample Number	Material Description	Material Location	Results	Approx. Quantity*	NESHAPS Category[1]	OSHA Class[2]
RR-1-1, 2	Rolled Roofing, Tar	Bldg E (MPR), Roof	Shingle: No Asbestos Detected Tar: No Asbestos Detected Rolled Roofing1: No Asbestos Detected Rolled Roofing2: No Asbestos Detected Felt1: No Asbestos Detected Felt2: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	Roof Patching Compound	Bldg E (MPR): Roof	Patching Compound: No Asbestos Detected Tar: No Asbestos Detected Stucco: No Asbestos Detected	N/Q	N/A	N/A
JM-3-1 2	HVAC Mudding Compound	Bldg E (MPR): Roof	Mudding Compound: No Asbestos Detected Mastic: No Asbestos Detected Mudding Compound1: No Asbestos Detected Mudding Compound2: No Asbestos Detected	N/Q	N/A	N/A
SU-4-1, 2	Stucco	Bldg E (MPR): Roof, 5' Parapet Perimeter Wall	Stucco1: No Asbestos Detected Stucco2: No Asbestos Detected	N/Q	N/A	N/A
RR-1-1, 2	Rolled Roofing, Tar	Bldg F: Roof	Tar: No Asbestos Detected Shingle: No Asbestos Detected Felt1: No Asbestos Detected Felt2: No Asbestos Detected Felt3: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	Roof Patching Compound	Bldg F: Roof	Patching Compound: No Asbestos Detected Sealant: No Asbestos Detected	N/Q	N/A	N/A
RR-1-1, 2, 3, & 4	Rolled Roofing, Tar	Bldg G: Low Level Roof, Top Level Roof	Rolled Roofing: No Asbestos Detected Tar: No Asbestos Detected Shingle: No Asbestos Detected Shingle2: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	**Roof Patching Compound**	**Bldg G: Low Level and Top Level Roofs**	**Rolled Roofing: No Asbestos Detected Patching Compound: 4% - 7% Chrysotile Asbestos Tar: No Asbestos Detected**	**400 SF**	**Category 1**	**Class 2**

**Approximate quantities should be verified during any project planning. ACC did not perform a fully destructive investigation to identify all concealed conditions.*

Hearst Elementary School – Building A, B, C: 5301 Case Avenue

Sample Number	Material Description	Material Location	Results	Approx. Quantity*	NESHAPS Category[1]	OSHA Class[2]
RR-1-1, 2	Rolled Roofing, Tar	Bldg A: Low Level and Top Level Roofs	Rolled Roofing: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A
RR-2-1, 2, 3, & 4	Roof Patching Compound	Bldg A: Low Level and High Level Roofs	No Asbestos Detected	N/Q	N/A	N/A
JM-3-1, 2	HVAC Sealant	Bldg A: Low Level Roof	No Asbestos Detected	N/Q	N/A	N/A
SU-4-1, 2	Stucco	Bldg A: Low Level Roof, South Wall	No Asbestos Detected	N/Q	N/A	N/A
RR-1-1, 2	Rolled Roofing, Tar	Bldg B: Roof	Rolled Roofing: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A

Sample Number	Material Description	Material Location	Results	Approx. Quantity*	NESHAPS Category[1]	OSHA Class[2]
RP-2-1, 2, 3, & 4	Roof Patching Compound	Bldg B: Roof	No Asbestos Detected	N/Q	N/A	N/A
MI-3-1, 2	Sealant on Skylight Dome	Bldg B: Roof	No Asbestos Detected	N/Q	N/A	N/A
SU-4-1, 2	Stucco	Bldg B: Roof, 5' Parapet Center Field Wall	Stucco: No Asbestos Detected Skim Coat: No Asbestos Detected	N/Q	N/A	N/A
RR-1-1, 2	Rolled Roofing, Tar	Bldg C: Roof	Tar: No Asbestos Detected Felt: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	Roof Patching Compound	Bldg C: Roof	Patching Compound1: No Asbestos Detected Compound2: No Asbestos Detected	N/Q	N/A	N/A
MI-3-1, 2	Sealant on Sleepers	Bldg C: Roof	Sealant1: No Asbestos Detected Sealant2: No Asbestos Detected	N/Q	N/A	N/A
SU-4-1, 2	Stucco	Bldg C; Roof, 5' Parapet Center Field Wall	Stucco1: No Asbestos Detected Stucco2: No Asbestos Detected	N/Q	N/A	N/A

**Approximate quantities should be verified during any project planning. ACC did not perform a fully destructive investigation to identify all concealed conditions.*

Lydiksen Elementary School – MPR: 7700 Highland Oaks Drive

Sample Number	Material Description	Material Location	Results	Approx. Quantity*	NESHAPS Category[1]	OSHA Class[2]
RR-1-1, 2, 3, & 4	Rolled Roofing, Tar	MPR Bldg: 1st and 2nd Level Roof	Rolled Roofing: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	Roof Patching Compound	MPR Bldg: 1st and 2nd Level Roof	No Asbestos Detected: No Asbestos Detected	N/Q	N/A	N/A

**Approximate quantities should be verified during any project planning. ACC did not perform a fully destructive investigation to identify all concealed conditions.*

Vintage Hill Elementary School – Buildings A, C & MPR: 1125 Concord Street

Sample Number	Material Description	Material Location	Results	Approx. Quantity*	NESHAPS Category[1]	OSHA Class[2]
RR-1-1, 2, & 3	Rolled Roofing, Tar	Bldg A: Roof	Roofing: No Asbestos Detected Insulation: No Asbestos Detected Sealant: No Asbestos Detected Tar: No Asbestos Detected Roofing1: No Asbestos Detected Roofing2: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	Roofing Patching Compound	Bldg A: Roof	Roofing Patching: No Asbestos Detected Tar: No Asbestos Detected Roofing: No Asbestos Detected	N/Q	N/A	N/A
RR-1-1, 2, & 3	Rolled Roofing, Tar	Bldg C: Roof	Roofing: No Asbestos Detected Insulation: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	Roofing Patching Compound	Bldg C: Roof	Roofing Patch: No Asbestos Detected Roofing: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A
RR-1-1, 2, & 3	Rolled Roofing, Tar	MPR: Low and Top Level Roofs	Rolled Roofing: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A
RP-2-1, 2, 3, & 4	Roofing Patching Compound	MPR: Low and Top Level Roofs	Roof Patch: No Asbestos Detected Roofing: No Asbestos Detected Tar: No Asbestos Detected	N/Q	N/A	N/A

**Approximate quantities should be verified during any project planning. ACC did not perform a fully destructive investigation to identify all concealed conditions.*

[1]*EPA's NESHAPS regulations define categories of asbestos-containing materials (ACM) based on their potential of asbestos fiber release when disturbed:*

- *Friable - Any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.*
- *Category I Non-friable ACM (Cat 1 NF) - Asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing more than 1 percent asbestos.*
- *Category II Non-friable ACM (Cat II NF) - Any material, excluding Category I non-friable ACM containing more than 1 percent asbestos as determined using the methods specified under AHERA, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.*

[2]*OSHA's Asbestos in Construction Standard (Federal - 29 CFR 1910.126 and California – 8 CCR 1529) define specific "Classes" of work based on the risk of exposure to employees with the potential for disturbance of asbestos-containing materials. The classes of work are defined as*

- *Class 1 - Asbestos-related activities involving the removal of thermal systems insulation (TSI) and surfacing ACM or presumed ACM.*
- *Class 2 - Asbestos-related activities involving the removal of ACM which are not TSI or surfacing ACM.*

The following tables identify the location where each asbestos bulk sample was collected.

Asbestos Bulk Sample Locations

Amador Valley High School – Building P: 1155 Santa Rita Road

Sample Number	Sample Location
RR-1-1	P: Mid Field Roof Area
RR-1-2	P: Northwest Corner Roof Area
RR-1-3	P: North Roof Area
RR-1-4	P: South Roof Area
RC-2-1	P: North Roof Area
RC-2-2	P: South Roof Area
RP-3-1	P: North Roof Area
RP-3-2	P: South Roof Area
RP-3-3	P: North Roof Area
RP-3-4	P: South Roof Area
RP-3-5	P: North Roof Area
RP-3-6	P: South Roof Area
JM-4-1	P: East Roof Area
JM-4-2	P: West Roof Area

Fairlands Elementary School – Building A: 4161 W. Las Positas Boulevard

Sample Number	Sample Location
RF-1-1	A: Northeast Field Roof Area
RF-1-2	A: Southwest Field Roof Area
RP-2-1	A: North Roof Area
RP-2-2	A: South Roof Area
RP-2-3	A: North Roof Area
RP-2-4	A: South Roof Area

Foothill High School – Buildings E, F G: 4375 Foothill Road

Sample Number	Sample Location
RR-1-1	E: Mid Roof Field Area
RR-1-2	E: Northwest Corner Roof Area

Sample Number	Sample Location
RP-2-1	E: North Roof Area
RP-2-2	E: South Roof Area
RP-2-3	E: East Roof Area
RP-2-4	E: West Roof Area
JM-3-1	E: East Roof Area
JM-3-2	E: West Roof Area
SU-4-1	E: North Side Parapet Perimeter Wall
SU-4-2	E: South Side Parapet Perimeter Wall
RR-1-1	F: Mid Field Roof Area
RR-1-2	F: Southwest Corner Roof Area
RP-2-1	F: North Roof Area
RP-2-2	F: South Roof Area
RP-2-3	F: East Roof Area
RP-2-4	F: West Roof Area
RR-1-1	G: Mid Field Roof Area
RR-1-2	G: North Roof Area
RR-1-3	G: North Roof Area
RR-1-4	G: South Roof Area
RP-2-1	G: North Roof Area
RP-2-2	G: North Roof Area
RP-2-3	G: North Roof Area
RP-2-4	G: North Roof Area

Hearst Elementary School – Building A, B, C: 5301 Case Avenue

Sample Number	Sample Location
RR-1-1	A: North Field Roof Area
RR-1-2	A: South Field Roof Area
RP-2-1	A: North Roof Area
RP-2-2	A: South Roof Area
RP-2-3	A: East Roof Area
RP-2-4	A: West Roof Area
JM-3-1	A: East Roof Area
JM-3-2	A: West Roof Area
SU-4-1	A: Southeast Corner Roof Area
SU-4-2	A: Southwest Corner Roof Area
RR-1-1	B: East Wing Field Roof Area
RR-1-2	B: South Wing Field Roof Area
RP-2-1	B: East Wing North Roof Area
RP-2-2	B: East Wing South Roof Area
RP-2-3	B: South Wing East Roof Area
RP-2-4	B: South Wing West Roof Area

Sample Number	Sample Location
MI-3-1	B: East Wing Roof Area
MI-3-2	B: South Wing Roof Area
SU-4-1	B: East Wing Center Parapet Wall
SU-4-2	B: South Wing Center Parapet Wall
RR-1-1	C: North Roof Field Area
RR-1-2	C: South Roof Field Area
RP-2-1	C: North Roof Area
RP-2-2	C: South Roof Area
RP-2-3	C: East Roof Area
RP-2-4	C: West Roof Area
MI-3-1	C: East Roof Area
MI-3-2	C: West Roof Area
SU-4-1	C: North Side Parapet Wall
SU-4-2	C: South Side Parapet Wall

Lydiksen Elementary School – MPR: 7700 Highland Oaks Drive

Sample Number	Sample Location
RR-1-1	1st Level: Mid Field Roof Area
RR-1-2	1st Level: Northwest Corner Roof Area
RR-1-3	2nd Level: North Field Roof Area
RR-1-4	2nd Level: South Field Roof Area
RP-2-1	1st Level: North Roof Area
RP-2-2	1st Level: South Roof Area
RP-2-3	2nd Level: North Roof Area
RP-2-4	2nd Level: South Roof Area

Vintage Hill Elementary School – Buildings A, C & MPR: 1125 Concord Street

Sample Number	Sample Location
RR-1-1	A: Mid Field Roof Area
RR-1-2	A: Northwest Roof Area
RR-1-3	A: Southwest Roof Area
RP-2-1	A: North Roof Area
RP-2-2	A: South Roof Area
RP-2-3	A: North Roof Area
RP-2-4	A: South Roof Area
RR-1-1	C: Mid Roof Field Area
RR-1-2	C: Northwest Area
RR-1-3	C: Southwest Area
RP-2-1	C: North Area
RP-2-2	C: South Area
RP-2-3	C: North Area
RP-2-4	C: South Area

Sample Number	Sample Location
RR-1-1	MPR: Mid Roof Field Area
RR-1-2	MPR: West Area
RR-1-3	MPR: Northeast Corner Area
RP-2-1	MPR: North Area
RP-2-2	MPR: South Area
RP-2-3	MPR: North Area
RP-2-4	MPR: South Area

Observation of Damage to Asbestos-containing Materials

ACC did not observe damage to the accessible asbestos-containing materials identified at the subject sites and all materials are considered in good condition. Materials may be impacted by age, wind/water damage, mechanical abrasion, and maintenance, renovation & demolition activities. As such, all asbestos-containing materials (including presumed materials) should be periodically inspected to verify condition. If asbestos-containing material conditions deteriorate, appropriate actions should be taken to repair and clean associated debris per regulatory requirements.

Asbestos Sampling Conclusions & Recommendations

Based on the sample results, the roof replacement projects at Amador Valley High School, Fairlands Elementary School, and Foothill High School may impact asbestos-containing roof patching compound. The roofing contractor should be notified of the presence, quantity, location and asbestos content of this material prior to disturbance activities. They should remove and dispose of these materials in accordance with all local, State and Federal regulations.

The suspect roof materials sampled at Hearst Elementary School, Lydiksen Elementary School, and Vintage Hill Elementary School that will reportedly be disturbed at during planned project activities, do not contain asbestos. If additional suspect materials and/or concealed conditions are identified in the project area that have not been sampled, please contact ACC for direction and sampling prior to disturbing the materials.

A review of all other asbestos survey information available for the property in conjunction with these results should be conducted prior to proceeding with project activities and when a change in the project scope is developed. If suspect asbestos-containing materials will be impacted that are not addressed in this survey or in the historical survey records, additional sampling should be conducted prior to disturbance. Historical records (typically predating 1995) have limited value for project planning and should be verified with confirmatory inspection and additional sampling as necessary prior to project planning.

Lead Sampling Results

Mr. Fred Cereno, a California Department of Public Health Lead Inspector/Assessor (#0514) with ACC, a total collected twenty (20) bulk samples at the subject sites, to establish lead-paint concentration for clean up and disposal requirements. Samples with detectable amounts of lead must be properly removed and disposed of according to local, state and federal regulations. Lead sampling was conducted to identify suspect lead-containing coatings that may be disturbed by project activities for the purpose of compliance with Cal-OSHA's Lead in Construction Standard and is not intended to be a "Lead Inspection" or "Lead Risk Assessment" as defined by the California Department of Public Health.

The bulk samples were obtained from suspect lead-containing lead paint identified at the subject sites. Paint sampling was limited to major paint colors on exterior surfaces and may not represent all colors found at the properties. Paint colors and/or descriptions are identified based on the surface color observed by ACC at the time of the survey and does not necessarily identify paint descriptions underlying the surface coat.

The samples were delivered to EMSL Analytical, Inc. of San Leandro, California, an independent American Industrial Hygiene Association (AIHA) accredited laboratories, for analysis. Samples were analyzed by Atomic Absorption (AA) Spectroscopy in accordance with the EPA 3050B/7420 Method. The colors, locations, and lead contents of these paints are listed below. See attached chain of custody forms for exact sample locations.

Summary of Lead Bulk Sample Results

Amador Valley High School

Sample Number	Material Description	Material Location	Lead Content (ppm unless otherwise noted)	Approximate Quantity*
PT-1	**Purple Paint over Coping Cap**	**Bldg P: Roof**	**1.4% wt**	**Intact**
PT-2	Beige Paint over Flashing	Bldg P: Roof	<0.0080% wt	Intact

**Quantity for "paint" reflects approximate area of loose & peeling only, not all painted surfaces.*

One (1) of the two (2) samples collected at Amador Valley High School was reported to contain lead above 0.5%, 5,000 parts per million (weight by weight), or 1.0 mg/cm^2 which is the definition for Lead Based Paint by the Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH).

Only the one sample collected was found to have detectable amounts of lead. The OSHA Lead in Construction Standard requires the use of special work practices during the disturbance of paint with any detectable amounts of lead. See OSHA Lead Regulation Summary below.

Fairlands Elementary School

Sample Number	Material Description	Material Location	Lead Content (ppm unless otherwise noted)	Approximate Quantity*
PT-1	Blue Paint over Coping Cap	Bldg A: Roof Perimeter	<0.017% wt	Intact
PT-2	**Brown Paint over Center Field Parapet**	**Bldg A: Roof**	**0.010 % wt**	**Intact**

**Quantity for "paint" reflects approximate area of loose & peeling only, not all painted surfaces.*

Neither of the two (2) samples collected at Fairlands Elementary School were reported to contain lead above 0.5%, 5,000 parts per million (weight by weight), or 1.0 mg/cm^2 which is the definition for Lead Based Paint by the Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH).

One (1) of the two samples collected, however, was found to have detectable amounts of lead. The OSHA Lead in Construction Standard requires the use of special work practices during the disturbance of paint with any detectable amounts of lead. See OSHA Lead Regulation Summary below.

Foothill High School

Sample Number	Material Description	Material Location	Lead Content (ppm unless otherwise noted)	Approximate Quantity*
PT-1	**Red Paint over Coping Cap**	**Bldg E (MPR): Roof**	**2.0 % wt**	**Intact**
PT-2	**White Paint over Flashing**	**Bldg E (MPR): Roof**	**0.016 % wt**	**Intact**

Sample Number	Material Description	Material Location	Lead Content (ppm unless otherwise noted)	Approximate Quantity*
PT-1	**Blue Paint over Coping Cap**	**Bldg F: Roof**	**0.27 % wt**	**Intact**
PT-2	**White Paint over Parapet**	**Bldg F: Roof**	**0.34 % wt**	**Intact**
PT-1	Blue/Red Paint over Coping Cap	Bldg G: Roof	<0.0087 % wt	Intact

**Quantity for "paint" reflects approximate area of loose & peeling only, not all painted surfaces.*

Of the five (5) samples collected at Foothill High School, one (1) was reported to contain lead above 0.5%, 5,000 parts per million (weight by weight), or 1.0 mg/cm^2 which is the definition for Lead Based Paint by the Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH).

However, four (4) of the five samples collected were found to have detectable amounts of lead. The OSHA Lead in Construction Standard requires the use of special work practices during the disturbance of paint with any detectable amounts of lead. See OSHA Lead Regulation Summary below.

Hearst Elementary School

Sample Number	Material Description	Material Location	Lead Content (ppm unless otherwise noted)	Approximate Quantity*
PT-1	Orange Paint over Stucco Wall	Bldg A: Low Level Roof South Side	<0.0080 % wt	Intact
PT-2	Brown-White Paint over HVAC Duct	Bldg A: Low Level Roof	<0.0080 % wt	Intact
PT-1	Red Paint over Coping Cap	Bldg B: Roof	<0.022 % wt	Intact
PT-2	Yellow Paint over 5' Stucco Wall	Bldg B: Roof	<0.0080 % wt	Intact
PT-1	Red Paint over Coping Cap	Bldg C: Roof	<0.023 % wt	Intact
PT-2	Yellow Paint over 5' Stucco Wall	Bldg C: Roof	<0.0080 % wt	Intact

**Quantity for "paint" reflects approximate area of loose & peeling only, not all painted surfaces.*

None of the samples collected at Hearst Elementary School were found to have detectable amounts of lead. The OSHA Lead in Construction Standard requires the use of special work practices during the disturbance of paint with any detectable amounts of lead. See OSHA Lead Regulation Summary below.

Lydiksen Elementary School

Sample Number	Material Description	Material Location	Lead Content (ppm unless otherwise noted)	Approximate Quantity*
PT-1	Green Paint over Coping Cap	MPR Bldg: 1st Level Roof	<0.046 % wt	Intact
PT-1	Beige Paint over Flashing	MPR Bldg: 1st Level Roof	<0.0082 % wt	Intact

**Quantity for "paint" reflects approximate area of loose & peeling only, not all painted surfaces.*

None of the samples collected at Lydiksen Elementary School were found to have detectable amounts of lead. The OSHA Lead in Construction Standard requires the use of special work practices during the disturbance of paint with any detectable amounts of lead. See OSHA Lead Regulation Summary below.

Vintage Hill Elementary School

Sample Number	Material Description	Material Location	Lead Content (ppm unless otherwise noted)	Approximate Quantity*
PT-1	Beige Paint over Coping Cap	Bldg A: Roof	<0.072 % wt *Assumed Lead-Containing based on Bldg. C result*	Intact
PT-1	**Beige Paint over Coping Cap**	**Bldg C: Roof**	**0.085 % wt**	**Intact**
PT-1	Beige Paint over Coping Cap	MPR: Roof	<0.053 % wt *Assumed Lead-Containing based on Bldg. C result*	Intact

**Quantity for "paint" reflects approximate area of loose & peeling only, not all painted surfaces.*

None of the three (3) samples collected at Vintage Hills Elementary School were reported to contain lead above 0.5%, 5,000 parts per million (weight by weight), or 1.0 mg/cm^2 which is the definition for Lead Based Paint by the Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH).

One of the samples collected at Vintage Hill Elementary School was found to have detectable amounts of lead. Based on this result we are assuming the beige paint over coping cap on all three buildings to be lead-containing. The OSHA Lead in Construction Standard requires the use of special work practices during the disturbance of paint with any detectable amounts of lead. See OSHA Lead Regulation Summary below.

Lead containing waste materials with a concentration greater than 0.1%, for total lead, is considered hazardous waste in the State of California. Lead containing waste materials with a total lead concentration between 0.005% (50 ppm) and 0.10% (1000 ppm) must be re-analyzed using the waste extraction test (WET) method to determine the soluble lead content for waste disposal requirements.

The EPA – Renovation, Repair and Painting Final Rule (40 CFR 745) requires that renovations conducted for compensation (where lead-based paint will be disturbed) in Target Housing or Child-Occupied facilities, must be performed by Certified Firms using Certified Renovators following the requirements set forth in the regulation.

Contractors are also required to notify the Division of Occupational Safety and Health (DOSH) prior to disturbing greater than 100 square feet or l00 linear feet of material containing lead greater than 0.5% by weight, 5000 parts per million (ppm) or 1.0 milligram per square centimeter (mg/cm^2).

OSHA Lead Regulation Summary

The Federal Occupational Safety and Health Administration (OSHA), has enacted a lead standard, which was adopted by the Cal/OSHA as 8 CCR 1532.1. The purpose of both standards is to protect construction workers from exposure to lead. OSHA is primarily concerned with activities that disturb paints with any detectable amounts of lead. Lead was used in most paints until the mid 1950's and was banned in amounts in excess of 0.06% by weight in 1978 for most non-industrial paints by the Consumer Product Safety Commission (CPSC).

The Cal/OSHA standard requires contractors and employers to notify the State of California Division of Occupational Safety and Health (DOSH) prior to disturbing greater than 100 square feet or 100 linear feet of material containing lead greater than 0.5%, 5,000 parts per million (weight by weight), or 1.0 mg/cm^2. The Cal/OSHA standard also requires contractors and employers who perform paint removal activities to monitor their employees to determine whether they are being exposed in excess of the action level of 30 micrograms per cubic

meter of air (µg/m^3) over an eight-hour time weighted average (TWA) or the "Permissible Exposure Limit" (PEL) of 50 µg/m^3 TWA. Monitoring is performed by personal air sampling.

Even when concentrations are below the action level, an employer must provide employees with High Efficiency Particulate Air (HEPA) filtered vacuums, wetting agents and hand-washing facilities. If the exposure exceeds the action level or the PEL, other procedures such as containing the area, local exhaust ventilation, respiratory and worker protection, worker training, decontamination facilities and medical monitoring are required.

OSHA has identified several work practices that pose varying levels of lead exposure to laborers disturbing lead-containing paint. Estimated exposure levels of lead are founded on the activity itself, rather than the concentrations of lead present in paint. Therefore, as an example, paint that contains 0.5% versus 15% of lead by weight or 0.8 mg/cm^2 versus 3.5 mg/cm^2 of lead in paint could pose the same exposure levels to workers depending on the activities that cause the disturbance and the administrative and engineering controls that are followed.

The following is a summary of work activities that disturb paint, the expected exposure and the respiratory protection requirements that result as outlined in the OSHA standards:

Activities	Potential Exposure	Minimum Respiratory Protection
Class I activities include: Manual demolition, manual scraping, manual sanding, heat gun applications, general cleanup, power tool cleaning with dust collection systems and spray painting activities	50 µg/m^3 to 500 µg/m^3	Half mask air purifying respirator equipped with HEPA filters having a protection factor of 10
Class II activities include: Using lead-containing mortars, lead burning, lead riveting, rivet busting, power tool cleaning without dust collection systems, cleanup of dry expendable abrasives and abrasive blasting	500 µg/m^3 to 2,500 µg/m^3	Full face powered air purifying respirators equipped with HEPA filters having a protection factor of 100
Class III activities include: Abrasive blasting, welding, cutting and torch burning on steel structures	Greater than 2,500 µg/m^3	Full face supplied air respirator operated in pressure demand mode or other positive pressure mode (type "C")

Limitations

ACC conducted the survey with the standard of care ordinarily exercised by qualified and reputable members of the environmental/industrial hygiene profession based on conditions and practices observed at the property and information provided to ACC related to the project and/or purpose of the survey at the time of the investigation. The survey was limited to specific project areas and was not intended to identify all suspect asbestos-containing materials within the building. Areas and materials not included in the survey should be inspected and sampled prior to any renovation, maintenance, demolition or other activity that may cause disturbance to the materials. This report does not intend to identify all hazards or unsafe practices, nor to indicate that other hazards or unsafe conditions do not exist at the property.

ACC encountered the following inaccessible areas in addition to general concealed conditions (i.e. within wall cavities, above/below solid ceilings or flooring/sub-flooring materials, etc.) and are excluded from the scope of the survey. These areas should be inspected and any suspect materials and sampled accordingly prior to any renovation, maintenance, demolition or other activity that may cause disturbance to the materials.

Inaccessible Areas

- No inaccessible areas/equipment were identified within the provided project areas

Materials that would require intrusive or destructive sampling were generally not sampled as part of the project unless written direction was provided to ACC to perform intrusive and/or destructive sampling on specific building systems, the area was unoccupied at the time of the survey and by performing intrusive/destructive sampling would not create an unsafe condition. Furthermore, ACC shall not be responsible for identifying and/or sampling suspect materials concealed within walls, columns, beneath flooring, above solid ceilings, underground or in any other concealed areas. ACC shall not be responsible for identification, sampling and/or characterization of lead-containing materials, PCB and lighting/mercury wastes, and water or mold impacted materials. General observations may be noted if ACC observed suspect conditions to the client either separately or within this report.

ACC excludes sampling concrete and asphalt paving as suspect asbestos-containing materials. Aggregate found in these materials may contain asbestos if supplied from quarries located in known ultra-mafic areas. It is possible that prior to recycling and/or disposal, recycling agents or landfills may require sampling of these materials to determine the presence of asbestos prior to acceptance.

ACC excludes characterization of soils in areas on known ultramafic rock (where naturally occurring asbestos may be found in soils) as part of the scope of work. If the project area is located within a known ultramafic rock area, provisions should be made to address regulatory requirements for any planned excavation and grading as part of the project. ACC can provide further detail on regulatory requirements related to naturally occurring asbestos in soils.

Quantities identified may not represent entire quantities of each material in the building based on the scope of the survey.

The analyzing laboratory quantifies asbestos concentrations by calibrated visual estimation using standard PLM methodology, with detection of asbestos is material/matrix dependent. Detection of trace asbestos (<1%) may not be reliable or reproducible by PLM and percentage of asbestos weight cannot be determined with standard PLM methodology. Confirmation of asbestos concentrations within complex matrices (i.e. plaster, gypsum wallboard/taping/joint compounds, stucco, resilient flooring, roofing) or when asbestos concentrations are 1% or less may warrant additional analysis by PLM point counting, gravimetric reduction or Transmission Electron Microscopy for proper characterization of asbestos-containing materials and/or waste-stream analysis.

This report is prepared for the express use of Pleasanton Unified School District and Van Pelt Construction Services, its agents and employees. The information in this report or portions thereof may be required to be included in notifications to employees, occupants, contractors, vendors or other visitors to the building. This report is *not* intended to be used as a specification or work plan for removal of asbestos-containing or other hazardous materials identified in the report or for any work suggested by the report.

Please contact me at (510) 638-8400 extension 104 if you have any questions.

Sincerely,
ACC ENVIRONMENTAL CONSULTANTS, INC.

Mark A. Sanchez, CHMM
President & CEO
Cal-OSHA Certified Asbestos Consultant #92-0082
California Department of Public Health Lead I/A #2101, P/M #2102, S #2100

/jpt

Attachments: **Amador Valley High School:**
Asbestos Bulk, EMSL Analytical, Inc. #092119085, dated 12/2/21
Lead in Paint Chips, EMSL Analytical, Inc. #092119145, dated 12/1/21

Fairlands Elementary School:
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119123, dated 12/2/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119140, dated 12/1/21

(Attachments: continued)

Foothill High School:
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119083, dated 12/2/21
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119084, dated 12/2/21
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119135, dated 12/2/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119145, dated 12/1/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119146, dated 12/1/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119134, dated 12/1/21

Hearst Elementary School:
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119204, dated 12/2/21
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119206, dated 12/2/21
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119205, dated 12/2/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119180, dated 12/2/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119181, dated 12/2/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119179, dated 12/2/21

Lydiksen Elementary School:
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119106, dated 12/2/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119144, dated 12/1/21

Vintage Hill Elementary School:
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119109, dated 12/1/21
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119118, dated 12/1/21
Asbestos Analysis of Bulk, EMSL Analytical, Inc., #092119122, dated 12/1/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119143, dated 12/1/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119142, dated 12/1/21
Lead in Paint Chips, EMSL Analytical, Inc., #092119141, dated 12/1/21

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119085
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	11/30/2021 5:45 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - AMADOR HIGH SCHOOL: 1155 SANTA RITA RD. PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Roofing *092119085-0001*	ROLLED ROOFING, TAR - BUILDING P: LOW LEVEL ROOF (600 SF) - MID FIELD AREA	White/Black Fibrous Homogeneous	15% Synthetic	3% Quartz 10% Ca Carbonate 40% Matrix 32% Non-fibrous (Other)	None Detected
RR-1-1-Tar *092119085-0001A*	ROLLED ROOFING, TAR - BUILDING P: LOW LEVEL ROOF (600 SF) - MID FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Roofing *092119085-0002*	ROLLED ROOFING, TAR - BUILDING P: LOW LEVEL ROOF (600 SF) - NW CORNER AREA	Black Fibrous Homogeneous	20% Glass	60% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119085-0002A*	ROLLED ROOFING, TAR - BUILDING P: LOW LEVEL ROOF (600 SF) - NW CORNER AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-3-Roofing *092119085-0003*	ROLLED ROOFING, TAR - BUILDING P: TOP LEVEL ROOF (4500 SF) - NORTH AREA	White/Black Fibrous Homogeneous	15% Synthetic	10% Ca Carbonate 50% Matrix 25% Non-fibrous (Other)	None Detected
RR-1-3-Tar *092119085-0003A*	ROLLED ROOFING, TAR - BUILDING P: TOP LEVEL ROOF (4500 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-4-Roofing *092119085-0004*	ROLLED ROOFING, TAR - BUILDING P: TOP LEVEL ROOF (4500 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous	10% Synthetic	70% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-4-Tar *092119085-0004A*	ROLLED ROOFING, TAR - BUILDING P: TOP LEVEL ROOF (4500 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RC-2-1-Tar *092119085-0005*	ROOFING TAR, FELT W. GRAVEL - BUILDING P: MID LEVEL ROOF (3800 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RC-2-1-Felt *092119085-0005A*	ROOFING TAR, FELT W. GRAVEL - BUILDING P: MID LEVEL ROOF (3800 SF) - NORTH AREA	Brown/Black Fibrous Homogeneous	30% Glass	50% Matrix 20% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 15:24:13

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 092119085
Customer ID: ACCE56
Customer PO: 9690-012.00
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RC-2-1-Gravel *092119085-0005B*	ROOFING TAR, FELT W. GRAVEL - BUILDING P: MID LEVEL ROOF (3800 SF) - NORTH AREA				Layer Not Present
RC-2-2-Roofing *092119085-0006*	ROOFING TAR, FELT W. GRAVEL - BUILDING P: MID LEVEL ROOF (3800 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous		70% Matrix 30% Non-fibrous (Other)	None Detected
RC-2-2-Felt *092119085-0006A*	ROOFING TAR, FELT W. GRAVEL - BUILDING P: MID LEVEL ROOF (3800 SF) - SOUTH AREA	Black Fibrous Homogeneous	30% Glass	50% Matrix 20% Non-fibrous (Other)	None Detected
RC-2-2-Gravel *092119085-0006B*	ROOFING TAR, FELT W. GRAVEL - BUILDING P: MID LEVEL ROOF (3800 SF) - SOUTH AREA				Layer Not Present
RP-3-1 *092119085-0007*	ROOFING PATCHING COMPOUND - BUILDING P: LOW LEVEL ROOF (100 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 15% Non-fibrous (Other)	5% Chrysotile
RP-3-2 *092119085-0008*	ROOFING PATCHING COMPOUND - BUILDING P: LOW LEVEL ROOF (100 SF) - SOUTH AREA				Positive Stop (Not Analyzed)
RP-3-3 *092119085-0009*	ROOFING PATCHING COMPOUND - BUILDING P: LOW LEVEL ROOF (200 SF) - NORTH AREA				Positive Stop (Not Analyzed)
RP-3-4 *092119085-0010*	ROOFING PATCHING COMPOUND - BUILDING P: MID LEVEL ROOF (200 SF) - SOUTH AREA				Positive Stop (Not Analyzed)
RP-3-5 *092119085-0011*	ROOFING PATCHING COMPOUND - BUILDING P: TOP LEVEL ROOF (300 SF) - NORTH AREA				Positive Stop (Not Analyzed)
RP-3-6 *092119085-0012*	ROOFING PATCHING COMPOUND - BUILDING P: TOP LEVEL ROOF (300 SF) - SOUTH AREA				Positive Stop (Not Analyzed)

Initial report from: 12/02/2021 15:24:13

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119085
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
JM-4-1 *092119085-0013*	HVAC MUDDING COMPOUND - BUILDING P: MID LEVEL ROOF - EAST AREA	Gray Non-Fibrous Homogeneous		15% Ca Carbonate 60% Matrix 25% Non-fibrous (Other)	None Detected
JM-4-2 *092119085-0014*	HVAC MUDDING COMPOUND - BUILDING P: MID LEVEL ROOF - WEST AREA	Gray Non-Fibrous Homogeneous		20% Ca Carbonate 60% Matrix 20% Non-fibrous (Other)	None Detected

Analyst(s)
Kevin Lares (10)
William Bradford (5)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 15:24:13

OrderID: 092119085

#092119085

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Amador High School: 1155 Santa Rita Rd. Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes	No	Turnaround Time: 48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building P: Low Level Roof (600 SF)	Mid Field Area	PLM Bulk
RR-1-2			NW Corner Area	PLM Bulk
RR-1-3		Building P: Top Level Roof (4,500 SF)	North Area	PLM Bulk
RR-1-4			South Area	PLM Bulk
RC-2-1	Roofing Tar, Felt w/Gravel	Building P: Mid Level Roof (3,800 SF)	North Area	PLM Bulk
RC-2-2			South Area	PLM Bulk
RP-3-1	Roofing Patching Compound	Building P: Low Level Roof (100 SF)	North Area	PLM Bulk
RP-3-2			South Area	PLM Bulk
RP-3-3		Building P: Mid Level Roof (200 SF)	North Area	PLM Bulk
RP-3-4			South Area	PLM Bulk
RP-3-5		Building P: Top Level Roof (300 SF)	North Area	PLM Bulk
RP-3-6			South Area	PLM Bulk
JM-4-1	HVAC Mudding Compound	Building P: Mid Level Roof	East Area	PLM Bulk
JM-4-2			West Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:		Signature:		Date:	11/30/21	Time:	5:45pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119123
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	11/30/2021 5:45 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021
Project:	9690-012.00 - PUSD ROOF SURVEYS - FAIRLANDS ELEMENTARY SCHOOL; 4161 W LAS POSITAS BLVD. PLEASANTON, CA		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RF-1-1-Felt *092119123-0001*	ROOFING FELT-SHINGLES - BUILDING A: ROOF (8000 SF) - NORTHEAST FIELD AREA	Black Fibrous Homogeneous	10% Glass	10% Quartz 60% Matrix 20% Non-fibrous (Other)	None Detected
RF-1-1-Shingle *092119123-0001A*	ROOFING FELT-SHINGLES - BUILDING A: ROOF (8000 SF) - NORTHEAST FIELD AREA	Brown/Black Fibrous Homogeneous	10% Glass	12% Quartz 60% Matrix 18% Non-fibrous (Other)	None Detected
RF-1-2-Felt *092119123-0002*	ROOFING FELT-SHINGLES - BUILDING A: ROOF (8000 SF) - SOUTHWEST FIELD AREA	Black Fibrous Homogeneous	15% Glass	60% Matrix 25% Non-fibrous (Other)	None Detected
RF-1-2-Shingle *092119123-0002A*	ROOFING FELT-SHINGLES - BUILDING A: ROOF (8000 SF) - SOUTHWEST FIELD AREA	Brown/Black Fibrous Homogeneous	10% Glass	15% Quartz 50% Matrix 25% Non-fibrous (Other)	None Detected
RP-2-1-Roof Patch 1 *092119123-0003*	ROOF PATCHING COMPOUND - BUILDING A: ROOF (300 SF) - NORTH AREA	Gray/Black Fibrous Homogeneous	10% Glass	15% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	<1% Chrysotile
RP-2-1-Roof Patch 2 *092119123-0003A*	ROOF PATCHING COMPOUND - BUILDING A: ROOF (300 SF) - NORTH AREA	Black Fibrous Homogeneous	10% Glass	15% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	None Detected
RP-2-2 *092119123-0004*	ROOF PATCHING COMPOUND - BUILDING A: ROOF (300 SF) - SOUTH AREA	Gray/Black Fibrous Homogeneous	6% Cellulose 5% Glass	5% Quartz 60% Matrix 24% Non-fibrous (Other)	<1% Chrysotile
RP-2-3-Roof Patch 1 *092119123-0005*	ROOF PATCHING COMPOUND - BUILDING A: ROOF (300 SF) - NORTH AREA	Tan/White Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-3-Roof Patch 2 *092119123-0005A*	ROOF PATCHING COMPOUND - BUILDING A: ROOF (300 SF) - NORTH AREA	Black Non-Fibrous Homogeneous	5% Cellulose	80% Matrix 15% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 17:03:54

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119123
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-4-Roof Patch 1 *092119123-0006*	ROOF PATCHING COMPOUND - BUILDING A: ROOF (300 SF) - SOUTH AREA	Gray/Black Non-Fibrous Homogeneous	6% Cellulose	80% Matrix 14% Non-fibrous (Other)	None Detected
RP-2-4-Roof Patch 2 *092119123-0006A*	ROOF PATCHING COMPOUND - BUILDING A: ROOF (300 SF) - SOUTH AREA	Brown/Black Non-Fibrous Homogeneous	5% Cellulose	80% Matrix 15% Non-fibrous (Other)	None Detected

Analyst(s)

Gavin Lee (7)
Jose Madrid (4)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 17:03:54

OrderID: 092119123

#092119123

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com			Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys						
Project Address:	Fairlands Elementary School: 4161 W Las Positas Blvd. Pleasanton, CA					Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514					Date Collected:	11/26/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer?	✓ Yes	No	Turnaround Time:	48 Hours
Comments:							

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RF-1-1	Roofing Felt-Shingles	Building A: Roof (8,000 SF)	Northeast Field Area	PLM Bulk
RF-1-2			Southwest Field Area	PLM Bulk
RP-2-1	Roof Patching Compound	Building A: Roof (300 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3			North Area	PLM Bulk
RP-2-4			South Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	Fed Ex WI	Signature:		Date:	11/30/21	Time:	5:45 pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119083
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	11/30/2021 5:45 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - FOOTHILL HIGH SCHOOL: 4375 FOOTHILL ROAD, PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Shingle *092119083-0001*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - MID FIELD AREA	White/Black Fibrous Homogeneous	15% Synthetic	10% Quartz 20% Ca Carbonate 40% Matrix 15% Non-fibrous (Other)	None Detected
RR-1-1-Tar *092119083-0001A*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - MID FIELD AREA	Black Non-Fibrous Homogeneous		5% Quartz 70% Matrix 25% Non-fibrous (Other)	None Detected
RR-1-1-Rolled Roofing 1 *092119083-0001B*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - MID FIELD AREA	Black Non-Fibrous Homogeneous	5% Synthetic	20% Ca Carbonate 55% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-1-Rolled Roofing 2 *092119083-0001C*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - MID FIELD AREA	Black Fibrous Homogeneous	5% Synthetic 4% Glass	15% Ca Carbonate 55% Matrix 21% Non-fibrous (Other)	None Detected
RR-1-1-Felt 1 *092119083-0001D*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - MID FIELD AREA	Black Fibrous Homogeneous	35% Glass	55% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-1-Felt 2 *092119083-0001E* *Result includes a small amount of inseparable attached material*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - MID FIELD AREA	Tan Fibrous Homogeneous	80% Cellulose	10% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-2-Rolled Roofing 1 *092119083-0002*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - NW CORNER AREA	Black Fibrous Homogeneous	15% Synthetic	15% Quartz 40% Matrix 30% Non-fibrous (Other)	None Detected
RR-1-2-Rolled Roofing 2 *092119083-0002A*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - NW CORNER AREA	Gray/Black Fibrous Homogeneous	15% Synthetic	15% Quartz 40% Matrix 30% Non-fibrous (Other)	None Detected
RR-1-2-Felt *092119083-0002B*	ROLLED ROOFING TAR - BUILDING E (MPR): ROOF (4,000SF) - NW CORNER AREA	Black Fibrous Homogeneous	20% Cellulose	60% Matrix 20% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 14:26:59

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119083
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-1-Patching Compound *092119083-0003*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - NORTH AREA	White/Black Fibrous Homogeneous	10% Synthetic	5% Quartz 15% Ca Carbonate 50% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-1-Tar *092119083-0003A*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-2-Patching Compound *092119083-0004*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - SOUTH AREA	White/Black Fibrous Homogeneous	12% Synthetic	8% Quartz 15% Ca Carbonate 45% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-2-Tar *092119083-0004A*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous	2% Glass	80% Matrix 18% Non-fibrous (Other)	None Detected
RP-2-3-Patching Compound *092119083-0005*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - EAST AREA	Gray Non-Fibrous Homogeneous		20% Ca Carbonate 60% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-3-Tar *092119083-0005A*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - EAST AREA	Black Non-Fibrous Homogeneous	3% Glass	80% Matrix 17% Non-fibrous (Other)	None Detected
RP-2-3-Stucco *092119083-0005B*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - EAST AREA	Tan/White Non-Fibrous Homogeneous		30% Quartz 35% Ca Carbonate 10% Matrix 25% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
RP-2-4-Patching Compound *092119083-0006*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - WEST AREA	Gray Non-Fibrous Homogeneous		60% Matrix 40% Non-fibrous (Other)	None Detected
RP-2-4-Tar *092119083-0006A*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - WEST AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-4-Stucco *092119083-0006B*	ROOFING PATCHING COMPOUND - BUILDING E (MPR): ROOF (500 SF) - WEST AREA	White Non-Fibrous Homogeneous		30% Quartz 50% Ca Carbonate 20% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 14:26:59

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 092119083
Customer ID: ACCE56
Customer PO: 9690-012.00
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
JM-3-1-Mudding Compound *092119083-0007*	HVAC MUDDING COMPOUND - BUILDING E (MPR): ROOF (100 SF) - EAST AREA	Gray Non-Fibrous Homogeneous		15% Ca Carbonate 60% Matrix 25% Non-fibrous (Other)	None Detected
JM-3-1-Mastic *092119083-0007A*	HVAC MUDDING COMPOUND - BUILDING E (MPR): ROOF (100 SF) - EAST AREA	Brown Fibrous Homogeneous	10% Cellulose	70% Matrix 20% Non-fibrous (Other)	None Detected
JM-3-1-Compound *092119083-0007B*	HVAC MUDDING COMPOUND - BUILDING E (MPR): ROOF (100 SF) - EAST AREA	White Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
JM-3-2-Mudding Compound 1 *092119083-0008*	HVAC MUDDING COMPOUND - BUILDING E (MPR): ROOF (100 SF) - WEST AREA	Gray Non-Fibrous Homogeneous	7% Synthetic	50% Matrix 43% Non-fibrous (Other)	None Detected
JM-3-2-Mudding Compound 2 *092119083-0008A*	HVAC MUDDING COMPOUND - BUILDING E (MPR): ROOF (100 SF) - WEST AREA	Tan Non-Fibrous Homogeneous		60% Matrix 40% Non-fibrous (Other)	None Detected
JM-3-2-Mastic *092119083-0008C*	HVAC MUDDING COMPOUND - BUILDING E (MPR): ROOF (100 SF) - WEST AREA	Brown Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
SU-4-1-Stucco 1 *092119083-0009*	STUCCO - BUILDING E (MPR): ROOF, 5' PARAPET PERIMETER WALL (1,500 SF) - NORTH SIDE -	Gray Non-Fibrous Homogeneous		35% Quartz 45% Ca Carbonate 20% Non-fibrous (Other)	None Detected
SU-4-1-Stucco 2 *092119083-0009A* *Inseparable paint / coating layer included in analysis*	STUCCO - BUILDING E (MPR): ROOF, 5' PARAPET PERIMETER WALL (1,500 SF) - NORTH SIDE -	White Non-Fibrous Homogeneous		40% Quartz 35% Ca Carbonate 10% Matrix 15% Non-fibrous (Other)	None Detected
SU-4-2-Stucco 1 *092119083-0010*	STUCCO - BUILDING E (MPR): ROOF, 5' PARAPET PERIMETER WALL (1,500 SF) - SOUTH SIDE - HOLD	Gray Non-Fibrous Homogeneous		30% Quartz 50% Ca Carbonate 20% Non-fibrous (Other)	None Detected
SU-4-2-Stucco 2 *092119083-0010A*	STUCCO - BUILDING E (MPR): ROOF, 5' PARAPET PERIMETER WALL (1,500 SF) - SOUTH SIDE - HOLD	White Non-Fibrous Homogeneous		40% Quartz 40% Ca Carbonate 20% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 14:26:59

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119083
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Analyst(s)

Brianne Franquelin (18)
Jon Abdon (11)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 14:26:59

OrderID: 092119083

092119083

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Foothill High School: 4375 Foothill Road, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes	No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building E (MPR): Roof (4,000 SF)	Mid Field Area	PLM Bulk
RR-1-2			NW Corner Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building E (MPR): Roof (500 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3			East Area	PLM Bulk
RP-2-4			West Area	PLM Bulk
JM-3-1	HVAC Mudding Compound	Building E (MPR): Roof (100 SF)	East Area	PLM Bulk
JM-3-2			West Area	PLM Bulk
SU-4-1	Stucco	Building E (MPR): Roof, 5' Parapet Perimeter Wall (1,500 SF)	North Side	PLM Bulk
SU-4-1			South Side	PLM Blk
Released:				
Received:				

Lab Info:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
	Fc WI	Signature:		Date:	11/30/21	Time:	5:45pm
	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119084
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	11/30/2021 5:45 PM
	Suite 100	**Analysis Date:**	12/01/2021 - 12/02/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - FOOTHILL HIGH SCHOOL: 4375 FOOTHILL ROAD, PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Tar *092119084-0001*	ROLLED ROOFING, TAR - BUILDING F: ROOF (4,800 SF) - MID FIELD AREA	Black Fibrous Homogeneous	3% Glass	90% Matrix 7% Non-fibrous (Other)	None Detected
RR-1-1-Shingle *092119084-0001A*	ROLLED ROOFING, TAR - BUILDING F: ROOF (4,800 SF) - MID FIELD AREA	Black Fibrous Homogeneous	6% Glass	4% Quartz 60% Ca Carbonate 20% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-1-Felt 1 *092119084-0001B*	ROLLED ROOFING, TAR - BUILDING F: ROOF (4,800 SF) - MID FIELD AREA	Black Fibrous Homogeneous	6% Glass	5% Ca Carbonate 80% Matrix 9% Non-fibrous (Other)	None Detected
RR-1-1-Felt 2 *092119084-0001C*	ROLLED ROOFING, TAR - BUILDING F: ROOF (4,800 SF) - MID FIELD AREA	Black Fibrous Homogeneous	7% Glass	5% Ca Carbonate 80% Matrix 8% Non-fibrous (Other)	None Detected
RR-1-1-Felt 3 *092119084-0001D*	ROLLED ROOFING, TAR - BUILDING F: ROOF (4,800 SF) - MID FIELD AREA	Black Fibrous Homogeneous	7% Glass	10% Ca Carbonate 70% Matrix 13% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119084-0002*	ROLLED ROOFING, TAR - BUILDING F: ROOF (4,800 SF) - SW CORNER AREA	Black Fibrous Homogeneous	8% Glass	80% Matrix 12% Non-fibrous (Other)	None Detected
RR-1-2-Shingle *092119084-0002A*	ROLLED ROOFING, TAR - BUILDING F: ROOF (4,800 SF) - SW CORNER AREA	Black Non-Fibrous Homogeneous		15% Ca Carbonate 70% Matrix 15% Non-fibrous (Other)	None Detected
RP-2-1-Patching Compound *092119084-0003*	ROOFING PATCHING COMPOUND - BUILDING F: ROOF (500 SF) - NORTH AREA	White/Black/Beige Non-Fibrous Homogeneous	5% Synthetic	20% Ca Carbonate 50% Matrix 25% Non-fibrous (Other)	None Detected
RP-2-1-Sealant *092119084-0003A*	ROOFING PATCHING COMPOUND - BUILDING F: ROOF (500 SF) - NORTH AREA	Gray/Black Fibrous Homogeneous	15% Cellulose	40% Ca Carbonate 30% Matrix 15% Non-fibrous (Other)	None Detected
RP-2-2-Patching Compound *092119084-0004*	ROOFING PATCHING COMPOUND - BUILDING F: ROOF (500 SF) - SOUTH AREA	White/Black Non-Fibrous Homogeneous	3% Cellulose	80% Matrix 17% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 15:09:22

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119084
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-2-Sealant *092119084-0004A*	ROOFING PATCHING COMPOUND - BUILDING F: ROOF (500 SF) - SOUTH AREA	White Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-3-Patching Compound *092119084-0005*	ROOFING PATCHING COMPOUND - BUILDING F: ROOF (500 SF) - EAST AREA	White/Black/Beige Non-Fibrous Homogeneous	15% Cellulose	5% Ca Carbonate 70% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-3-Sealant *092119084-0005A*	ROOFING PATCHING COMPOUND - BUILDING F: ROOF (500 SF) - EAST AREA	Gray/Black Fibrous Homogeneous	15% Cellulose	50% Ca Carbonate 30% Matrix 5% Non-fibrous (Other)	None Detected
RP-2-4 *092119084-0006*	ROOFING PATCHING COMPOUND - BUILDING F: ROOF (500 SF) - WEST AREA	Black Non-Fibrous Homogeneous	8% Cellulose	10% Ca Carbonate 80% Matrix 2% Non-fibrous (Other)	None Detected

Analyst(s)

Karina Martinez (3)
Stacy Trinh Le (11)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 15:09:22

OrderID: 092119084

092119084

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Foothill High School: 4375 Foothill Road, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM / Lead / Stop at 1st Positive Layer? ✓ Yes / No			Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location (Primary Location: Secondary, Secondary, Secondary - Component (Quantity))	Sample Location (Secondary Location - Component)	Sample Size
RR-1-1	Rolled Roofing, Tar	Building F: Roof (4,800 SF)	Mid Field Area	PLM Bulk
RR-1-2			SW Corner Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building F: Roof (500 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3			East Area	PLM Bulk
RP-2-4			West Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	WI	Signature:		Date:	11/30/21	Time:	5:45pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119135
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	11/30/2021 5:45 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - FOOTHILL HIGH SCHOOL: 4375 FOOTHILL ROAD, PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Rolled Roofing *092119135-0001*	ROLLED ROOFING, TAR - BUILDING G: LOW LEVEL ROOF (600 SF) - MID FIELD	Black Fibrous Homogeneous	15% Glass	3% Quartz 60% Matrix 22% Non-fibrous (Other)	None Detected
RR-1-1-Tar *092119135-0001A*	ROLLED ROOFING, TAR - BUILDING G: LOW LEVEL ROOF (600 SF) - MID FIELD	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Rolled Roofing *092119135-0002*	ROLLED ROOFING, TAR - BUILDING G: LOW LEVEL ROOF (600 SF) - NORTH AREA	Black Fibrous Homogeneous	5% Glass	30% Ca Carbonate 50% Matrix 15% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119135-0002A*	ROLLED ROOFING, TAR - BUILDING G: LOW LEVEL ROOF (600 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-2-Shingle *092119135-0002B*	ROLLED ROOFING, TAR - BUILDING G: LOW LEVEL ROOF (600 SF) - NORTH AREA	Black Fibrous Homogeneous	6% Glass	50% Ca Carbonate 30% Matrix 14% Non-fibrous (Other)	None Detected
RR-1-2-Shingle 2 *092119135-0002C*	ROLLED ROOFING, TAR - BUILDING G: LOW LEVEL ROOF (600 SF) - NORTH AREA	Black Fibrous Homogeneous	4% Glass	50% Ca Carbonate 40% Matrix 6% Non-fibrous (Other)	None Detected
RR-1-3-Rolled Roofing *092119135-0003*	ROLLED ROOFING, TAR - BUILDING G: TOP LEVEL ROOF (2400 SF) - NORTH AREA	Black Fibrous Homogeneous	15% Glass	3% Quartz 70% Matrix 12% Non-fibrous (Other)	None Detected
RR-1-3-Tar *092119135-0003A*	ROLLED ROOFING, TAR - BUILDING G: TOP LEVEL ROOF (2400 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-4-Rolled Roofing *092119135-0004*	ROLLED ROOFING, TAR - BUILDING G: TOP LEVEL ROOF (2400 SF) - SOUTH AREA	Black Fibrous Homogeneous	4% Glass	50% Ca Carbonate 30% Matrix 16% Non-fibrous (Other)	None Detected
RR-1-4-Tar *092119135-0004A*	ROLLED ROOFING, TAR - BUILDING G: TOP LEVEL ROOF (2400 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 12:50:54

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119135
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-4-Shingle *092119135-0004B*	ROLLED ROOFING, TAR - BUILDING G: TOP LEVEL ROOF (2400 SF) - SOUTH AREA	Black Fibrous Homogeneous	4% Glass	70% Ca Carbonate 10% Matrix 16% Non-fibrous (Other)	None Detected
RP-2-1-Rolled Roofing *092119135-0005*	ROOFING PATCHING COMPOUND - BUILDING G: LOW LEVEL ROOF (100 SF) - NORTH AREA	White/Black Fibrous Homogeneous	15% Glass	5% Quartz 60% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-1-Patching Compound *092119135-0005A*	ROOFING PATCHING COMPOUND - BUILDING G: LOW LEVEL ROOF (100 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 13% Non-fibrous (Other)	7% Chrysotile
RP-2-2 *092119135-0006*	ROOFING PATCHING COMPOUND - BUILDING G: LOW LEVEL ROOF (100 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous		8% Ca Carbonate 80% Matrix 7% Non-fibrous (Other)	5% Chrysotile
RP-2-3-Patching Compound *092119135-0007*	ROOFING PATCHING COMPOUND - BUILDING G: TOP LEVEL ROOF (300 SF) - NORTH AREA	Gray/Black Non-Fibrous Homogeneous		80% Matrix 14% Non-fibrous (Other)	6% Chrysotile
RP-2-3-Tar *092119135-0007A*	ROOFING PATCHING COMPOUND - BUILDING G: TOP LEVEL ROOF (300 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-4-Patching Compound *092119135-0008*	ROOFING PATCHING COMPOUND - BUILDING G: TOP LEVEL ROOF (300 SF) - SOUTH AREA	Gray/Black Fibrous Homogeneous		70% Ca Carbonate 10% Matrix 16% Non-fibrous (Other)	4% Chrysotile
RP-2-4-Tar *092119135-0008A*	ROOFING PATCHING COMPOUND - BUILDING G: TOP LEVEL ROOF (300 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous	2% Cellulose	5% Ca Carbonate 80% Matrix 13% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 12:50:54

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119135
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Analyst(s)

Gavin Lee (8)

Stacy Trinh Le (10)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 12:50:54

OrderID: 092119135

#092119135

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Foothill High School: 4375 Foothill Road, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes	No	Turnaround Time: 48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building G: Low Level Roof (600 SF)	Mid Field Area	PLM Bulk
RR-1-2			North Area	PLM Bulk
RR-1-3		Building G: Top Level Roof (2,400 SF)	North Area	PLM Bulk
RR-1-4			South Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building G: Low Level Roof (100 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3		Building G: Top Level Roof (300 SF)	North Area	PLM Bulk
RP-2-4			South Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	Fm WI	Signature:		Date:	11/30/21	Time:	5:45 pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119204
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	12/01/2021 2:30 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	12/01/2021
Project:	9690-012.00 - PUSD ROOF SURVEYS - HEARST ELEMENTARY SCHOOL: 5301 CASE AVENUE, PLEASANTON, CA		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Rolled Roofing *092119204-0001*	ROLLED ROOFING, TAR - BUILDING A LOWER LEVEL ROOF (1,000 SF) - NORTH FIELD AREA	Black Fibrous Homogeneous	10% Glass	10% Quartz 60% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-1-Tar *092119204-0001A*	ROLLED ROOFING, TAR - BUILDING A LOWER LEVEL ROOF (1,000 SF) - NORTH FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Rolled Roofing *092119204-0002*	ROLLED ROOFING, TAR - BUILDING A TOP LEVEL ROOF (1,500 SF) - SOUTH FIELD AREA	Black Fibrous Homogeneous	10% Glass	70% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119204-0002A*	ROLLED ROOFING, TAR - BUILDING A TOP LEVEL ROOF (1,500 SF) - SOUTH FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-1 *092119204-0003*	ROOFING PATCHING COMPOUND - BUILDING A: LOW LEVEL ROOF (200 SF) - NORTH AREA	Black Non-Fibrous Homogeneous	4% Cellulose	80% Matrix 16% Non-fibrous (Other)	None Detected
RP-2-2 *092119204-0004*	ROOFING PATCHING COMPOUND - BUILDING A: LOW LEVEL ROOF (200 SF) - SOUTH AREA	Black Fibrous Homogeneous	4% Cellulose 10% Synthetic	70% Matrix 16% Non-fibrous (Other)	None Detected
RP-2-3 *092119204-0005*	ROOFING PATCHING COMPOUND - BUILDING A: HIGH LEVEL ROOF (300 SF) - EAST AREA	Black Non-Fibrous Homogeneous	4% Cellulose	10% Ca Carbonate 70% Matrix 16% Non-fibrous (Other)	None Detected
RP-2-4 *092119204-0006*	ROOFING PATCHING COMPOUND - BUILDING A: HIGH LEVEL ROOF (300 SF) - WEST AREA	Black Non-Fibrous Homogeneous	7% Cellulose	75% Matrix 18% Non-fibrous (Other)	None Detected
JM-3-1 *092119204-0007*	HVAC SEALANT - BUILDING A: LOW LEVEL ROOF (100 SF) - EAST AREA	Gray Non-Fibrous Homogeneous		70% Matrix 30% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 17:47:54

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119204
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
JM-3-2 *092119204-0008*	HVAC SEALANT - BUILDING A: LOW LEVEL ROOF (100 SF) - WEST AREA	Gray Non-Fibrous Homogeneous		75% Matrix 25% Non-fibrous (Other)	None Detected
SU-4-1 *092119204-0009*	STUCCO - BUILDING A: LOW LEVEL ROOF, SOUTH WALL (800 SF) - SE CORNER	Gray Non-Fibrous Homogeneous		40% Quartz 40% Ca Carbonate 20% Non-fibrous (Other)	None Detected
SU-4-2 *092119204-0010*	STUCCO - BUILDING A: LOW LEVEL ROOF, SOUTH WALL (800 SF) - SW CORNER	Gray Non-Fibrous Homogeneous		40% Quartz 40% Ca Carbonate 20% Non-fibrous (Other)	None Detected

Analyst(s)
Gavin Lee (12)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 17:47:54

OrderID: 092119204

092119204

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Hearst Elementary School: 5301 Case Avenue, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	12/01/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes No	Turnaround Time:	24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building A: Low Level Roof (1,000 SF)	North Field Area	PLM Bulk
RR-1-2		Building A: Top Level Roof (1,500 SF)	South Field Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building A: Low Level Roof (200 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3		Building A: High Level Roof (300 SF)	East Area	PLM Bulk
RP-2-4			West Area	PLM Bulk
JM-3-1	HVAC Sealant	Building A: Low Level Roof (100 SF)	East Area	PLM Bulk
JM-3-2			West Area	PLM Bulk
SU-4-1	Stucco	Building A: Low Level Roof, South Wall (800 SF)	SE Corner	PLM Bulk
SU-4-2			SW Corner	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	12/01/2021	Time:	
Received:	Z WII	Signature:		Date:	12-1-21	Time:	2:30PM
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119206
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	12/01/2021 2:30 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	12/01/2021
Project:	9690-012.00 - PUSD ROOF SURVEYS - HEARST ELEMENTARY SCHOOL: 5301 CASE AVENUE, PLEASANTON, CA		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Rolled Roofing *092119206-0001*	ROLLED ROOFING, TAR - BUILDING B: ROOF (12,000 SF) - EAST WING - FIELD AREA	Black Fibrous Homogeneous	10% Synthetic	5% Quartz 60% Matrix 25% Non-fibrous (Other)	None Detected
RR-1-1-Tar *092119206-0001A*	ROLLED ROOFING, TAR - BUILDING B: ROOF (12,000 SF) - EAST WING - FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Rolled Roofing *092119206-0002*	ROLLED ROOFING, TAR - BUILDING B: ROOF (12,000 SF) - SOUTH WING - FIELD AREA	Black Fibrous Homogeneous	15% Synthetic	60% Matrix 25% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119206-0002A*	ROLLED ROOFING, TAR - BUILDING B: ROOF (12,000 SF) - SOUTH WING - FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-1 *092119206-0003*	ROOFING PATCHING COMPOUND - BUILDING B: ROOF (500 SF) - EAST WING - NORTH AREA	Black Non-Fibrous Homogeneous	4% Cellulose	10% Ca Carbonate 70% Matrix 16% Non-fibrous (Other)	None Detected
RP-2-2 *092119206-0004*	ROOFING PATCHING COMPOUND - BUILDING B: ROOF (500 SF) - EAST WING - SOUTH AREA	Black Non-Fibrous Homogeneous	4% Cellulose	10% Ca Carbonate 70% Matrix 16% Non-fibrous (Other)	None Detected
RP-2-3 *092119206-0005*	ROOFING PATCHING COMPOUND - BUILDING B: ROOF (500 SF) - SOUTH WING - EAST AREA	Black Fibrous Homogeneous	4% Cellulose	10% Ca Carbonate 70% Matrix 16% Non-fibrous (Other)	None Detected
RP-2-4 *092119206-0006*	ROOFING PATCHING COMPOUND - BUILDING B: ROOF (500 SF) - SOUTH WING - WEST AREA	Black Non-Fibrous Homogeneous	4% Cellulose	10% Ca Carbonate 70% Matrix 16% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 18:49:16

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119206
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
M1-3-1 *092119206-0007*	SEALANT ON SKYLIGHT-DOME - BUILDNIG B: ROOF (100 SF) - EAST WING AREA	Tan Non-Fibrous Homogeneous		15% Ca Carbonate 70% Matrix 15% Non-fibrous (Other)	None Detected
M1-3-2 *092119206-0008*	SEALANT ON SKYLIGHT-DOME - BUILDNIG B: ROOF (100 SF) - SOUTH WING AREA	Gray Fibrous Homogeneous	10% Cellulose	10% Ca Carbonate 70% Matrix 10% Non-fibrous (Other)	None Detected
SU-4-1 *092119206-0009*	STUCCO - BUILDING B: ROOF, 5' PARAPET CENTER FIELD WALL (1,500 SF) - EAST WING CENTER	Gray Non-Fibrous Homogeneous		40% Quartz 40% Ca Carbonate 20% Non-fibrous (Other)	None Detected
SU-4-2-Stucco *092119206-0010*	STUCCO - BUILDING B: ROOF, 5' PARAPET CENTER FIELD WALL (1,500 SF) - SOUTH WING CENTER	Gray Non-Fibrous Homogeneous		40% Quartz 40% Ca Carbonate 20% Non-fibrous (Other)	None Detected
SU-4-2-Skim Coat *092119206-0010A*	STUCCO - BUILDING B: ROOF, 5' PARAPET CENTER FIELD WALL (1,500 SF) - SOUTH WING CENTER	Tan Non-Fibrous Homogeneous		50% Quartz 30% Ca Carbonate 20% Non-fibrous (Other)	None Detected

Analyst(s)
Gavin Lee (13)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 18:49:16

OrderID: 092119206

092119206

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Hearst Elementary School: 5301 Case Avenue, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	12/01/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes	No	Turnaround Time: 24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building B: Roof (12,000 SF)	East Wing – Field Area	PLM Bulk
RR-1-2			South Wing – Field Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building B: Roof (500 SF)	East Wing – North Area	PLM Bulk
RP-2-2			East Wing – South Area	PLM Bulk
RP-2-3			South Wing – East Area	PLM Bulk
RP-2-4			South Wing – West Area	PLM Bulk
MI-3-1	Sealant on Skylight-Dome	Building B: Roof (100 SF)	East Wing Area	PLM Bulk
MI-3-2			South Wing Area	PLM Bulk
SU-4-1	Stucco	Building B: Roof, 5' Parapet Center Field Wall (1,500 SF)	East Wing Center	PLM Bulk
SU-4-2			South Wing Center	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	12/01/2021	Time:	
Received:	WI	Signature:		Date:	12-1-21	Time:	2:30PM
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119205
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	12/01/2021 2:30 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	12/01/2021
Project:	9690-012.00 - PUSD ROOF SURVEYS - HEARST ELEMENTARY SCHOOL: 5301 CASE AVENUE, PLEASANTON, CA		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Tar *092119205-0001*	ROLLED ROOFING TAR - BUILDING C: ROOF (6,000 SF) - NORTH FIELD AREA	Black Fibrous Homogeneous	15% Synthetic	15% Ca Carbonate 50% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-1-Felt *092119205-0001A*	ROLLED ROOFING TAR - BUILDING C: ROOF (6,000 SF) - NORTH FIELD AREA	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119205-0002*	ROLLED ROOFING TAR - BUILDING C: ROOF (6,000 SF) - SOUTH FIELD AREA	White/Black Fibrous Homogeneous	12% Synthetic	5% Quartz 15% Ca Carbonate 45% Matrix 23% Non-fibrous (Other)	None Detected
RR-1-2-Felt *092119205-0002A*	ROLLED ROOFING TAR - BUILDING C: ROOF (6,000 SF) - SOUTH FIELD AREA	Tan Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
RP-2-1-Patching Compound 1 *092119205-0003*	ROOFING PATCHING COMPOUND - BUILDING C: ROOF (500 SF) - NORTH AREA	Black Fibrous Homogeneous	10% Cellulose	10% Ca Carbonate 70% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-1-Patching Compound 2 *092119205-0003A*	ROOFING PATCHING COMPOUND - BUILDING C: ROOF (500 SF) - NORTH AREA	Black Fibrous Homogeneous	10% Synthetic	10% Ca Carbonate 60% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-2 *092119205-0004*	ROOFING PATCHING COMPOUND - BUILDING C: ROOF (500 SF) - SOUTH AREA	Black Fibrous Homogeneous	7% Cellulose	10% Ca Carbonate 50% Matrix 33% Non-fibrous (Other)	None Detected
RP-2-3 *092119205-0005*	ROOFING PATCHING COMPOUND - BUILDING C: ROOF (500 SF) - EAST AREA	White/Black Fibrous Homogeneous	10% Cellulose	7% Quartz 15% Ca Carbonate 50% Matrix 18% Non-fibrous (Other)	None Detected
RP-2-4-Patching Compound 1 *092119205-0006*	ROOFING PATCHING COMPOUND - BUILDING C: ROOF (500 SF) - WEST AREA	White/Black Fibrous Homogeneous	15% Cellulose	7% Quartz 15% Ca Carbonate 50% Matrix 13% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 17:56:27

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119205
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-4-Patching Compound 2 *092119205-0006A*	ROOFING PATCHING COMPOUND - BUILDING C: ROOF (500 SF) - WEST AREA	Gray/Black Non-Fibrous Homogeneous		20% Ca Carbonate 65% Matrix 15% Non-fibrous (Other)	None Detected
MI-3-1 *092119205-0007*	SEALANT ON SLEEPERS - BUILDING C: ROOF (100 SF) - EAST AREA	Gray Non-Fibrous Homogeneous		5% Ca Carbonate 80% Matrix 15% Non-fibrous (Other)	None Detected
MI-3-2-Sealant 1 *092119205-0008*	SEALANT ON SLEEPERS - BUILDING C: ROOF (100 SF) - WEST AREA	Gray Non-Fibrous Homogeneous		20% Ca Carbonate 65% Matrix 15% Non-fibrous (Other)	None Detected
MI-3-2-Sealant 2 *092119205-0008A*	SEALANT ON SLEEPERS - BUILDING C: ROOF (100 SF) - WEST AREA	White Non-Fibrous Homogeneous		25% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	None Detected
SU-4-1 *092119205-0009*	STUCCO - BUILDING C: ROOF, 5' PARAPET CENTER FIELD WALL (1,500 SF) - NORTH SIDE	Gray Non-Fibrous Homogeneous		30% Quartz 50% Ca Carbonate 20% Non-fibrous (Other)	None Detected
SU-4-2-Stucco 1 *092119205-0010*	STUCCO - BUILDING C: ROOF, 5' PARAPET CENTER FIELD WALL (1,500 SF) - SOUTH SIDE	Gray Non-Fibrous Homogeneous		35% Quartz 45% Ca Carbonate 20% Non-fibrous (Other)	None Detected
SU-4-2-Stucco 2 *092119205-0010A*	STUCCO - BUILDING C: ROOF, 5' PARAPET CENTER FIELD WALL (1,500 SF) - SOUTH SIDE	Tan Non-Fibrous Homogeneous		40% Quartz 40% Ca Carbonate 20% Non-fibrous (Other)	None Detected

Analyst(s)

Brianne Franquelin (9)
Xeena Paul (7)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 17:56:27

OrderID: 092119205

092119205

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)		Email:	msanchez@accenv.com		Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys						
Project Address:	Hearst Elementary School: 5301 Case Avenue, Pleasanton, CA					Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514					Date Collected:	12/01/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer?	✓ Yes	No	Turnaround Time:	24 Hours
Comments:							

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building C: Roof (6,000 SF)	North Field Area	PLM Bulk
RR-1-2			South Field Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building C: Roof (500 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3			East Area	PLM Bulk
RP-2-4			West Area	PLM Bulk
MI-3-1	Sealant on Sleepers	Building C: Roof (100 SF)	East Area	PLM Bulk
MI-3-2			West Area	PLM Bulk
SU-4-1	Stucco	Building C: Roof, 5' Parapet Center Field Wall (1,500 SF)	North Side	PLM Bulk
SU-4-2			South Side	PLM Bulk
Released:				
Received:				

Lab Info:	Fred Cereno	Signature:		Date:	12/01/2021	Time:	
	WIL	Signature:		Date:	12-1-21	Time:	2:30PM
	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119106
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	11/30/2021 5:45 PM
	Suite 100	**Analysis Date:**	12/02/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - LYDIKSEN ELEMENTARY SCHOOL: 7700 HIGHLAND OAKS DRIVE, PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Rolled Roofing *092119106-0001*	ROLLED ROOFING, TAR - MPR BUILDING : 1ST LEVEL ROOF (600 SF) - MID FIELD AREA	Black Fibrous Homogeneous	10% Synthetic	60% Matrix 30% Non-fibrous (Other)	None Detected
RR-1-1-Tar *092119106-0001A*	ROLLED ROOFING, TAR - MPR BUILDING : 1ST LEVEL ROOF (600 SF) - MID FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Rolled Roofing *092119106-0002*	ROLLED ROOFING, TAR - MPR BUILDING : 1ST LEVEL ROOF (600 SF) - NW CORNER AREA	Black Non-Fibrous Homogeneous	10% Synthetic	80% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119106-0002A*	ROLLED ROOFING, TAR - MPR BUILDING : 1ST LEVEL ROOF (600 SF) - NW CORNER AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-3-Rolled Roofing *092119106-0003*	ROLLED ROOFING, TAR - MPR BUILDING : 2ND LEVEL ROOF (2000 SF) - NORTH FIELD AREA	Black Fibrous Homogeneous	10% Synthetic	70% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-3-Tar *092119106-0003A*	ROLLED ROOFING, TAR - MPR BUILDING : 2ND LEVEL ROOF (2000 SF) - NORTH FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-4-Rolled Roofing *092119106-0004*	ROLLED ROOFING, TAR - MPR BUILDING : 2ND LEVEL ROOF (2000 SF) - SOUTH FIELD AREA	Black Non-Fibrous Homogeneous	10% Synthetic	70% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-4-Tar *092119106-0004A*	ROLLED ROOFING, TAR - MPR BUILDING : 2ND LEVEL ROOF (2000 SF) - SOUTH FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2021 15:12:21

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119106
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-1 *092119106-0005*	ROOF PATCHING COMPOUND - MPR BUILDING: 1ST LEVEL ROOF (100 SF) - NORTH AREA	Black Non-Fibrous Homogeneous	8% Cellulose	70% Matrix 22% Non-fibrous (Other)	None Detected
RP-2-2 *092119106-0006*	ROOF PATCHING COMPOUND - MPR BUILDING: 1ST LEVEL ROOF (100 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-3 *092119106-0007*	ROOF PATCHING COMPOUND - MPR BUILDING: 2ND LEVEL ROOF (500 SF) - NORTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-4 *092119106-0008*	ROOF PATCHING COMPOUND - MPR BUILDING: 2ND LEVEL ROOF (500 SF) - SOUTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected

Analyst(s)

Gavin Lee (6)

William Bradford (6)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/02/2021 15:12:21

OrderID: 092119106

#092119106

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Lydiksen Elementary School: 7700 Highland Oaks Drive. Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	MPR Building: 1st Level Roof (600 SF)	Mid Field Area	PLM Bulk
RR-1-2			NW Corner Area	PLM Bulk
RR-1-3		MPR Building: 2nd Level Roof (2,000 SF)	North Field Area	PLM Bulk
RR-1-4			South Field Area	PLM Bulk
RP-2-1	Roof Patching Compound	MPR Building: 1st Level Roof (100 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3		MPR Building: 2nd Level Roof (500 SF)	North Area	PLM Bulk
RP-2-4			South Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	FM AJI	Signature:		Date:	11/30/21	Time:	5:45pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119109
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	12/01/2021 9:45 AM
	Suite 100	**Analysis Date:**	12/01/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - VINTAGE ELEMENTARY SCHOOL: 1125 CONCORD STREET, PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Roofing *092119109-0001* *Result includes a small amount of inseparable attached material*	ROLLED ROOFING, TAR - MID FIELD AREA	Black Non-Fibrous Homogeneous	3% Cellulose 5% Glass	70% Matrix 22% Non-fibrous (Other)	None Detected
RR-1-1-Insulation *092119109-0001A*	ROLLED ROOFING, TAR - MID FIELD AREA	Gray Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
RR-1-2-Sealant *092119109-0002*	ROLLED ROOFING, TAR - NW AREA	White Non-Fibrous Homogeneous		5% Quartz 70% Matrix 25% Non-fibrous (Other)	None Detected
RR-1-2-Roofing *092119109-0002A*	ROLLED ROOFING, TAR - NW AREA	Black Fibrous Homogeneous	15% Synthetic	10% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119109-0002B*	ROLLED ROOFING, TAR - NW AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-3-Roofing 1 *092119109-0003*	ROLLED ROOFING, TAR - SW AREA	Gray/Black Fibrous Homogeneous	10% Synthetic	10% Ca Carbonate 60% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-3-Tar *092119109-0003A*	ROLLED ROOFING, TAR - SW AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-3-Roofing 2 *092119109-0003B*	ROLLED ROOFING, TAR - SW AREA	Black Fibrous Homogeneous	10% Glass	70% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-1-Roofing Patching *092119109-0004*	ROOFING PATCHING COMPOUND - NORTH AREA	Gray Non-Fibrous Homogeneous		5% Quartz 70% Matrix 25% Non-fibrous (Other)	None Detected
RP-2-1-Tar *092119109-0004A*	ROOFING PATCHING COMPOUND - NORTH AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-1-Roofing *092119109-0004B*	ROOFING PATCHING COMPOUND - NORTH AREA	White/Black Fibrous Homogeneous	3% Cellulose 12% Synthetic	5% Ca Carbonate 60% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-2 *092119109-0005*	ROOFING PATCHING COMPOUND - SOUTH AREA	Brown/Black Non-Fibrous Homogeneous		3% Quartz 80% Matrix 17% Non-fibrous (Other)	None Detected
RP-2-3-Roofing Patching *092119109-0006*	ROOFING PATCHING COMPOUND - NORTH AREA	Gray Non-Fibrous Homogeneous		3% Quartz 60% Matrix 37% Non-fibrous (Other)	None Detected

Initial report from: 12/01/2021 17:06:33

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119109
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-3-Tar *092119109-0006A*	ROOFING PATCHING COMPOUND - NORTH AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-4-Roofing Patching *092119109-0007*	ROOFING PATCHING COMPOUND - SOUTH AREA	Gray/Black Non-Fibrous Homogeneous		10% Ca Carbonate 70% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-4-Tar *092119109-0007A*	ROOFING PATCHING COMPOUND - SOUTH AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected

Analyst(s)
Kevin Lares (11)
Xeena Paul (5)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/01/2021 17:06:33

OrderID: 092119109

#092119109

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Vintage Elementary School: 1125 Concord Street, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes	No	Turnaround Time: 24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building A: Roof (4,500 SF)	Mid Field Area	PLM Bulk
RR-1-2			NW Area	PLM Bulk
RR-1-3			SW Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building A: Roof (400 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3			North Area	PLM Bulk
RP-2-4			South Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	12/1/2021	Time:	
Received:	WI	Signature:		Date:	12/1/21	Time:	9:45a
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119118
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	12/01/2021 9:45 AM
	Suite 100	**Analysis Date:**	12/01/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - VINTAGE ELEMENTARY SCHOOL: 1125 CONCORD STREET, PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Roofing *092119118-0001*	ROLLED ROOFING, TAR - MID FIELD AREA	Black Fibrous Homogeneous	10% Glass	80% Matrix 10% Non-fibrous (Other)	None Detected
RR-1-1-Insulation *092119118-0001A*	ROLLED ROOFING, TAR - MID FIELD AREA	Gray Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
RR-1-2-Roofing *092119118-0002*	ROLLED ROOFING, TAR - NW AREA	White/Black Non-Fibrous Homogeneous	8% Synthetic	10% Ca Carbonate 70% Matrix 12% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119118-0002A* *Result includes a small amount of inseparable attached material*	ROLLED ROOFING, TAR - NW AREA	Black Non-Fibrous Homogeneous	5% Cellulose	80% Matrix 15% Non-fibrous (Other)	None Detected
RR-1-2-Insulation *092119118-0002B*	ROLLED ROOFING, TAR - NW AREA	Gray Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
RR-1-3-Roofing *092119118-0003*	ROLLED ROOFING, TAR - SW AREA	White/Black Non-Fibrous Homogeneous	10% Synthetic	10% Ca Carbonate 60% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-3-Tar *092119118-0003A*	ROLLED ROOFING, TAR - SW AREA	Black Non-Fibrous Homogeneous		10% Ca Carbonate 70% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-1-Roofing Patch *092119118-0004*	ROOFING PATCHING COMPOUND - NORTH AREA	White Fibrous Homogeneous	10% Cellulose 3% Synthetic	10% Ca Carbonate 50% Matrix 27% Non-fibrous (Other)	None Detected
RP-2-1-Roofing *092119118-0004A*	ROOFING PATCHING COMPOUND - NORTH AREA	Brown/Black Fibrous Homogeneous	15% Cellulose	10% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	None Detected
RP-2-2-Roofing Patch *092119118-0005*	ROOFING PATCHING COMPOUND - SOUTH AREA	Brown/White/Black Non-Fibrous Homogeneous	6% Cellulose	5% Quartz 10% Ca Carbonate 50% Matrix 29% Non-fibrous (Other)	None Detected
RP-2-2-Roofing *092119118-0005A*	ROOFING PATCHING COMPOUND - SOUTH AREA	Gray/Black Fibrous Homogeneous	15% Cellulose	10% Ca Carbonate 50% Matrix 25% Non-fibrous (Other)	None Detected
RP-2-3-Roofing Patch *092119118-0006*	ROOFING PATCHING COMPOUND - NORTH AREA	Gray Non-Fibrous Homogeneous		5% Quartz 60% Matrix 35% Non-fibrous (Other)	None Detected
RP-2-3-Roofing *092119118-0006A*	ROOFING PATCHING COMPOUND - NORTH AREA	Gray/Black Fibrous Homogeneous	15% Cellulose	10% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	None Detected

Initial report from: 12/01/2021 16:14:55

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119118
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-3-Tar *092119118-0006B*	ROOFING PATCHING COMPOUND - NORTH AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-4-Roofing Patch *092119118-0007*	ROOFING PATCHING COMPOUND - SOUTH AREA	Gray/Black Non-Fibrous Homogeneous		10% Ca Carbonate 70% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-4-Roofing *092119118-0007A*	ROOFING PATCHING COMPOUND - SOUTH AREA	White/Black Fibrous Homogeneous	10% Cellulose	10% Ca Carbonate 50% Matrix 30% Non-fibrous (Other)	None Detected

Analyst(s)
Kevin Lares (12)
Xeena Paul (4)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/01/2021 16:14:55

OrderID: 092119118

#092119118

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Vintage Elementary School: 1125 Concord Street, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM / Lead	Stop at 1st Positive Layer?	✓ Yes / No	Turnaround Time:	24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building C: Roof (4,200 SF)	Mid Field Area	PLM Bulk
RR-1-2			NW Area	PLM Bulk
RR-1-3			SW Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building C: Roof (400 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3			North Area	PLM Bulk
RP-2-4			South Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	12/1/2021	Time:	
Received:	WI	Signature:		Date:	12/1/21	Time:	9:45a
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119122
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Attention:	Mark Sanchez	**Phone:**	
	ACC Environmental Consultants, Inc.	**Fax:**	
	7977 Capwell Drive	**Received Date:**	12/01/2021 9:45 AM
	Suite 100	**Analysis Date:**	12/01/2021
	Oakland, CA 94621	**Collected Date:**	11/29/2021

Project: 9690-012.00 - PUSD ROOF SURVEYS - VINTAGE ELEMENTARY SCHOOL: 1125 CONCORD STREET, PLEASANTON, CA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RR-1-1-Rolled Roofing *092119122-0001*	ROLLED ROOFING, TAR - MID FIELD AREA	White/Black Fibrous Homogeneous	15% Synthetic 10% Glass	15% Ca Carbonate 40% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-1-Tar *092119122-0001A*	ROLLED ROOFING, TAR - MID FIELD AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-2-Rolled Roofing *092119122-0002*	ROLLED ROOFING, TAR - WEST AREA	Brown/White/Black Fibrous Homogeneous	10% Synthetic 8% Glass	10% Ca Carbonate 40% Matrix 32% Non-fibrous (Other)	None Detected
RR-1-2-Tar *092119122-0002A*	ROLLED ROOFING, TAR - WEST AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RR-1-3-Rolled Roofing *092119122-0003*	ROLLED ROOFING, TAR - NE CORNER AREA	Black Fibrous Homogeneous	10% Synthetic	5% Quartz 10% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	None Detected
RR-1-3-Tar *092119122-0003A*	ROLLED ROOFING, TAR - NE CORNER AREA	Black Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
RP-2-1-Roofing Patch *092119122-0004*	ROOFING PATCHING COMPOUND - NORTH AREA	Gray Non-Fibrous Homogeneous		60% Matrix 40% Non-fibrous (Other)	None Detected
RP-2-1-Roofing *092119122-0004A*	ROOFING PATCHING COMPOUND - NORTH AREA	Black Fibrous Homogeneous	5% Cellulose 10% Glass	5% Ca Carbonate 70% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-1-Tar *092119122-0004B*	ROOFING PATCHING COMPOUND - NORTH AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-2-Roofing Patch *092119122-0005*	ROOFING PATCHING COMPOUND - SOUTH AREA	Gray Non-Fibrous Homogeneous		60% Matrix 40% Non-fibrous (Other)	None Detected
RP-2-2-Roofing *092119122-0005A*	ROOFING PATCHING COMPOUND - SOUTH AREA	Brown Fibrous Homogeneous	10% Cellulose	10% Ca Carbonate 50% Matrix 30% Non-fibrous (Other)	None Detected
RP-2-2-Tar *092119122-0005B*	ROOFING PATCHING COMPOUND - SOUTH AREA	Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected
RP-2-3 *092119122-0006*	ROOFING PATCHING COMPOUND - NORTH AREA	Brown/Black Non-Fibrous Homogeneous		90% Matrix 10% Non-fibrous (Other)	None Detected

Initial report from: 12/01/2021 14:32:25

EMSL Analytical, Inc.
464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order:	092119122
Customer ID:	ACCE56
Customer PO:	9690-012.00
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RP-2-4 *092119122-0007*	ROOFING PATCHING COMPOUND - SOUTH AREA	White/Black Fibrous Homogeneous	10% Synthetic	70% Matrix 20% Non-fibrous (Other)	None Detected

Analyst(s)

Gavin Lee (3)
Kevin Lares (11)

Cecilia Yu, Laboratory Manager
or Other Approved Signatory

Initial report from: 12/01/2021 14:32:25

OrderID: 092119122

#092119122

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Vintage Elementary School: 1125 Concord Street, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	✓ PLM	Lead	Stop at 1st Positive Layer? ✓ Yes	No	Turnaround Time: 24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
RR-1-1	Rolled Roofing, Tar	Building MPR: Low Level Roof (450 SF)	Mid Field Area	PLM Bulk
RR-1-2		Building MPR: Top Level Roof (1,200 SF)	West Area	PLM Bulk
RR-1-3			NE Corner Area	PLM Bulk
RP-2-1	Roofing Patching Compound	Building MPR: Low Level Roof (100 SF)	North Area	PLM Bulk
RP-2-2			South Area	PLM Bulk
RP-2-3		Building MPR: Top Level Roof (300 SF)	North Area	PLM Bulk
RP-2-4			South Area	PLM Bulk

Released:	Fred Cereno	Signature:		Date:	12/1/2021	Time:	
Received:		Signature:		Date:	12/1/21	Time:	9:45a
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119145
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	11/30/2021 05:45 PM
Collected:	11/29/2021

Project: **PUSD ROOF SURVEYS AMADOR HIGH SCHOOL 1155 SANTA RITA RD PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119145-0001*	11/29/2021	12/1/2021	0.2596 g	1.4 % wt
	Site: PURPLE PAINT OVER COPING CAP EAST SIDE				
PT-2	*092119145-0002*	11/29/2021	12/1/2021	0.2774 g	<0.0080 % wt
	Site: BEIGE PAINT OVER FLASHING WEST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 18:05:03

OrderID: 092119145

092119145

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Amador High School: 1155 Santa Rita Rd. Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location, Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Purple Paint over Coping Cap	Building P: Roof (200 SF, Intact)	East Side	Paint Chip
PT-2	Beige Paint over Flashing	Building P: Roof (100 SF, Intact)	West Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	WI	Signature:		Date:	12/30/21	Time:	5:45pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119140
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	11/30/2021 05:45 PM
Collected:	11/29/2021

Project: **PUSD ROOF SURVEYS FAIRLANDS ELEMENTARY SCHOOL 4161 W LAS POSITAS BLVD PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119140-0001*	11/29/2021	12/1/2021	0.1204 g	<0.017 % wt
	Site: BLUE PAINT OVER COPING CAP NORTH SIDE				
PT-2	*092119140-0002*	11/29/2021	12/1/2021	0.2549 g	0.010 % wt
	Site: BROWN PAINT OVER CENTER FIELD PARAPET SOUTH SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 17:52:57

OrderID: 092119140

092119140

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Fairlands Elementary School: 4161 W Las Positas Blvd. Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/26/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Blue Paint over Coping Cap	Building A: Roof - Perimeter (200 SF, Intact)	North Side	Paint Chip
PT-2	Brown Paint over Center Field Parapet	Building A: Roof (400 SF, Intact)	South Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	WP	Signature:		Date:	11/30/21	Time:	5:45 pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119147
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	11/30/2021 05:45 PM
Collected:	11/29/2021

Project: **PUSD ROOF SURVEYS FOOTHILL HIGH SCHOOL 4375 FOOTHILL ROAD, PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119147-0001*	11/29/2021	12/1/2021	0.0622 g	2.0 % wt
	Site: RED PAINT OVER COPING CAP EAST SIDE				
PT-2	*092119147-0002*	11/29/2021	12/1/2021	0.1794 g	0.016 % wt
	Site: WHITE PAINT OVER FLASHING WEST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 18:07:37

OrderID: 092119147

092119147

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Foothill High School: 4375 Foothill Road, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location; Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Red Paint over Coping Cap	Building E (MPR): Roof (200 SF, Intact)	East Side	Paint Chip
PT-2	White Paint over Flashing	Building E (MPR): Roof (200 SF, Intact)	West Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	FC WI	Signature:		Date:	11/30/21	Time:	5:45pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119146
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	11/30/2021 05:45 PM
Collected:	11/29/2021

Project: **PUSD ROOF SURVEYS FOOTHILL HIGH SCHOOL 4375 FOOTHILL ROAD, PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119146-0001*	11/29/2021	12/1/2021	0.0483 g	0.27 % wt
	Site: BLUE PAINT OVER COPING CAP EAST SIDE				
PT-2	*092119146-0002*	11/29/2021	12/1/2021	0.2256 g	0.34 % wt
	Site: WHITE PAINT OVER PARAPET WEST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 18:06:34

OrderID: 092119146

0924914 6

BULK SAMPLE CHAIN-OF-CUSTODY

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Foothill High School: 4375 Foothill Road, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Blue Paint over Coping Cap	Building F: Roof (200 SF, Intact)	East Side	Paint Chip
PT-2	White Paint over Parapet	Building F: Roof (200 SF, Intact)	West Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	WI	Signature:		Date:	12/30/21	Time:	5:45 pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119134
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	11/30/2021 05:45 PM
Collected:	11/29/2021

Project: **PUSD ROOF SURVEYS FOOTHILL HIGH SCHOOL 4375 FOOTHILL ROAD, PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119134-0001*	11/29/2021	12/1/2021	0.2295 g	<0.0087 % wt
	Site: BLUE/RED PAINT OVER COPING CAP EAST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 17:51:06

OrderID: 092119134

092119134

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Foothill High School: 4375 Foothill Road, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Blue/Red Paint over Coping Cap	Building G: Roof (200 SF, Intact)	East Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	WE	Signature:		Date:	11/30/21	Time:	5:45pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675 --						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119180
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	12/1/2021 02:30 PM
Collected:	12/1/2021

Project: **PUSD ROOF SURVEYS HEARST ELEMENTARY SCHOOL: 5301 CASE AVENUE, PLEASANTON, CA 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119180-0001*	12/1/2021	12/2/2021	0.2627 g	<0.0080 % wt
	Site: LOW-MID AREA				
PT-2	*092119180-0002*	12/1/2021	12/2/2021	0.2538 g	<0.0080 % wt
	Site: UNIT				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA AIHA-LAP, LLC-ELLAP Accredited #101748

Initial report from 12/02/2021 14:27:35

OrderID: 092119180

BULK SAMPLE CHAIN-OF-CUSTODY 092119180

A·C·C ENVIRONMENTAL CONSULTANTS

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Hearst Elementary School: 5301 Case Avenue, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	12/01/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	24 Hours
Comments:	4/2/21				

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Orange Paint over Stucco Wall	Building A: Low Level Roof South Wall (200 SF, Intact)	Low-Mid Area	Paint Chip
PT-2	Brown-White Paint over HVAC Duct	Building A: Low Level Roof (10 SF, Intact)	Unit	Paint Chip

Released:	Fred Cereno	Signature:		Date:	12/01/2021	Time:	
Received:	W/I	Signature:		Date:	12-1-21	Time:	3:00PM
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119181
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	12/1/2021 02:30 PM
Collected:	12/1/2021

Project: **PUSD ROOF SURVEYS HEARST ELEMENTARY SCHOOL: 5301 CASE AVENUE, PLEASANTAN, CA 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119181-0001*	12/1/2021	12/2/2021	0.092 g	<0.022 % wt
	Site: EAST SIDE				
PT-2	*092119181-0002*	12/1/2021	12/2/2021	0.2793 g	<0.0080 % wt
	Site: SOUTH SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/02/2021 14:31:22

OrderID: 092119181

092119181

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Hearst Elementary School: 5301 Case Avenue, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	12/01/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	24 Hours
Comments:	12/1/21				

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Red Paint over Coping Cap	Building B: Roof (400 SF, Intact)	East Side	Paint Chip
PT-2	Yellow Paint over 5' Stucco Wall	Building B: Roof (1500 SF, Intact)	South Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	12/01/2021	Time:	
Received:	ZL WIT	Signature:		Date:	12-1-21	Time:	2:30PM
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119179
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	12/1/2021 02:30 PM
Collected:	12/1/2021

Project: **PUSD ROOF SURVEYS HEARTS ELEMENTARY SCHOOL 5301 CASE AVENUE PLEASANTON CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119179-0001*	12/1/2021	12/1/2021	0.0853 g	<0.023 % wt
	Site: RED PAINT OVER COPING CAP EAST SIDE				
PT-2	*092119179-0002*	12/1/2021	12/1/2021	0.2666 g	<0.0080 % wt
	Site: YELLOW PAINT OVER 5' STUCCO WALL WEST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 18:08:30

OrderID: 092119179

092119179

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Hearst Elementary School: 5301 Case Avenue, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	12/01/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Red Paint over Coping Cap	Building C: Roof (200 SF, Intact)	East Side	Paint Chip
PT-2	Yellow Paint over 5' Stucco Wall	Building C: Roof (500 SF, Intact)	West Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	12/01/2021	Time:	
Received:	WSI	Signature:		Date:	12-1-21	Time:	3:00PM
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119144
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	11/30/2021 05:45 PM
Collected:	11/29/2021

Project: **PUSD ROOF SURVEYS LYDIKSEN ELEMENTARY SCHOOL; 7700 HIGHLAND OAKS DRIVE PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119144-0001*	11/29/2021	12/1/2021	0.0434 g	<0.046 % wt
	Site: GREEN PAINT OVER COPING CAP EAST SIDE				
PT-2	*092119144-0002*	11/29/2021	12/1/2021	0.2433 g	<0.0082 % wt
	Site: BEIGE PAINT OVER FLASHING WEST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 18:03:01

OrderID: 092119144

092119144

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Lydiksen Elementary School: 7700 Highland Oaks Drive. Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	48 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Green Paint over Coping Cap	MPR Building: 1st Level Roof (200 SF, Intact)	East Side	Paint Chip
PT-2	Beige Paint over Flashing	MPR Building: 1st Level Roof (100 SF, Intact)	West Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	11/30/2021	Time:	
Received:	WI	Signature:		Date:	11/30/21	Time:	5:45 pm
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119143
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone: (510) 638-8400
Fax:
Received: 12/1/2021 09:45 AM
Collected: 11/29/2021

Project: **PUSD ROOF SURVEYS VINTAGE ELEMENTARY SCHOOL 1125 CONCORD ST PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119143-0001*	11/29/2021	12/1/2021	0.0277 g	<0.072 % wt
	Site: BEIGE PAINT OVER COPING CAP WEST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 18:01:55

OrderID: 092119143

092119143

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Vintage Elementary School: 1125 Concord Street, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Beige Paint over Coping Cap	Building A: Roof (200 SF, Intact)	West Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	12/1/2021	Time:	
Received:		Signature:		Date:	12/1/21	Time:	9:45
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

www.accenv.com
Northern California: 7977 Capwell Drive, Suite 100 • Oakland, California 94621 • (510) 638-8400 • Fax (510) 638-8404
Southern California: 1055 Wilshire Boulevard, Suite 1450 • Los Angeles, California 90017 • (213) 353-1240 • Fax (213) 353-1244

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119142
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone: (510) 638-8400
Fax:
Received: 12/1/2021 09:45 AM
Collected: 11/29/2021

Project: **PUSD ROOF SURVEYS VINTAGE ELEMENTARY SCHOOL 1125 CONCORD ST PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119142-0001*	11/29/2021	12/1/2021	0.0471 g	0.085 % wt
	Site: BEIGE PAINT OVER COPING CAP EAST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA AIHA-LAP, LLC-ELLAP Accredited #101748

Report Amended: 12/01/2021 18:00:32 Replaces Report Amended: 12/01/2021 17:57:35. Reason Code: Data Entry-Change to Appearance

OrderID: 092119142

092119142

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Vintage Elementary School: 1125 Concord Street, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Beige Paint over Coping Cap	Building C: Roof (200 SF, Intact)	East Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	12/1/2021	Time:	
Received:	WI	Signature:		Date:	12/1/21	Time:	9:45
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	092119141
CustomerID:	ACCE56
CustomerPO:	
ProjectID:	

Attn: **Mark Sanchez**
ACC Environmental Consultants, Inc.
7977 Capwell Drive
Suite 100
Oakland, CA 94621

Phone:	(510) 638-8400
Fax:	
Received:	12/1/2021 09:45 AM
Collected:	11/29/2021

Project: **PUSD ROOF SURVEYS VINTAGE ELEMENTARY SCHOOL 1125 CONCORD ST PLEASANTON, CA; 9690-012.00**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
PT-1	*092119141-0001*	11/29/2021	12/1/2021	0.0375 g	<0.053 % wt
	Site: BEIGE PAINT OVER COPING CAP EAST SIDE				

Julian Neagu, Lead Laboratory Manager
or other approved signatory

Initial report from 12/01/2021 17:54:07

OrderID: 092119141

092119141

BULK SAMPLE CHAIN-OF-CUSTODY

Report to:	Mark Sanchez (OAK)	Email:	msanchez@accenv.com	Phone:	Mark: (510) 773-7303
Project Name:	PUSD Roof Surveys				
Project Address:	Vintage Elementary School: 1125 Concord Street, Pleasanton, CA			Project Number:	9690-012.00
Collected by:	Fred Cereno: CAC #06-3939; LRC (I/A) #0514			Date Collected:	11/29/2021
Sample Analysis:	PLM ✓ Lead	Stop at 1st Positive Layer?	✓ Yes No	Turnaround Time:	24 Hours
Comments:					

ID	Material Description	Material Location Primary Location: Secondary, Secondary, Secondary - Component (Quantity)	Sample Location Secondary Location - Component	Sample Size
PT-1	Beige Paint over Coping Cap	Building MPR: Roof (200 SF, Intact)	East Side	Paint Chip

Released:	Fred Cereno	Signature:		Date:	12/1/2021	Time:	
Received:	WI	Signature:		Date:	12/1/21	Time:	9:45a
Lab Info:	EMSL Analytical, Inc.: 464 McCormick Street, San Leandro, California 94577 - (510) 895-3675						

Pleasanton Unified School District

Fairlands Middle School

School name	Roof Name	SquareFootage	Task Title	Description	Fasteners	Underlayment	Den Deck	Metal	Base sheet/rolls	Cap sheet/rolls	Taper
Fairlands Middle School	Main Roof - Library /Classrooms	37,000	Replace	Metal roofing	12,000	220		21,780			
Fairlands Middle School	Main Roof - Library /Classrooms	5400	Restore	Fluid applied		365 gallons					
Fairlands Middle School	Main Roof - Library /Classrooms			Metal roofing							
Totals (quantity)		**42,400.00**			**12,000.00**	**220.00**	**0.00**				**0.00**

Hearst Middle School

School Name	Roof Name	SquareFootage	Task Title	Description	Fasteners	Fluid applied	Den Deck	Metal	Base sheet /rolls	Cap sheet /rolls	Taper
Hearst Middle School	Building B	34,300	Restore	Fluid applied		2,058					0
	Building A	7,236	Restore	Fluid applied		482					
	Building C	12,867	Restore	Fluid applied		852					
	Building MP/Kitchen	7,236	Restore	Fluid applied		482					
Totals (quantity)		**61,639.00**			**12,000.00**	**3,874.00**	**0.00**				**0.00**

Lydiksen Middle school

School name	Roof Name	SquareFootage	Task Title	Description	Fasteners	Adhesive/gallons	Den Deck	Metal	Base sheet /rolls	Cap sheet /rolls	Taper
Lydiksen Middle school	MPR	6,600	Replace	MB/BUR	3300	265	210		80	80	
Totals (quantity)		**6,600.00**			**3,300.00**	**265.00**	**210.00**		**80.00**	**80.00**	**1,500.00**

Foothill High School

School Name	Roof Name	SquareFootage	Task Title	Description	Fasteners	Adhesive/gallons	Den Deck	Metal	Base sheet/rolls	Cap sheet /rolls	Taper
Foothill High School	Bldg E	15,600	Replace	MB/BUR	8580	694	536		176	176	
Foothill High School	Bldg F	15,900	Replace	MB/BUR	8745	700	542		178	178	
Foothill High School	Bldg G	9,600	Replace	MB/BUR	5280	300	328		38	38	
Totals (quantity)		**41,100.00**			**22,605.00**	**1,694.00**	**1,404.00**		**392.00**	**392.00**	**4,300.00**

Vintage Hills School

School name	Roof Name	SquareFootage	Task Title	Description	Fasteners	Adhesive/gallons	Den Deck	Metal	Base sheet /rolls	Cap sheet /rolls	Taper
Vintage Hills School	MPR	5,500	Replace	MB/BUR	2750	242	188		66	66	
Vintage Hills School	Classroom 004	13,500	Replace	MB/BUR	6750	594	460		148	148	
Vintage Hills School	Classroom 001	19,000	Replace	MB/BUR	9500	836	648		210	210	
Totals (quantity)		**38,000.00**			**19,000.00**	**1,672.00**	**1,296.00**		**424.00**	**424.00**	**4,400.00**

Amador Valley High School

School name	Roof name	Square footage	Task title	Description	Fasteners	Adhesive	Den Deck	Metal	Base sheet	Cap Sheet	Taper
AVHS	Girls Locker -room	5400	Replace	MB/BUR	2970	238	184		66	66	
AVHS	Girls Gym	8,500	Replace	MB/BUR	4675	374	290		100	100	
AVHS	Mat Room	3200	Replace	MB/BUR	1650	140	100		35	35	
Totals (quantity)		**17,100.00**			**9,295.00**	**752.00**	**574.00**		**201.00**	**201.00**	**0.00**

EXHIBIT D-1 (Addendum 02)

SPECIAL CONDITIONS

1. SPECIAL PROJECT REQUIREMENTS

1.1 The contractor shall be responsible for any and all abatement work required to complete the work.

1.2 Contractor shall furnish all necessary storage, sanitary and waste disposal facilities; no use of District facilities shall be permitted. Onsite storage of materials and placement of sanitary facilities shall be approved and coordinated with the Construction Manager and District.

1.3 Contractor shall be responsible for moving furniture in and out of the classrooms in the space(s) that are affected. Contractor shall be responsible for the cleaning of all the affected spaces and restoring the spaces to original condition.

1.4 Contractor shall coordinate work to allow for daily use, function, and access of the buildings and rooms on the school site if they are occupied by students and staff for summer school and/or scheduled activities. All temporary facilities, protection measures, and sequencing related to these areas shall be approved by the District prior to beginning of construction.

1.5 Contractor shall include commissioning in the construction schedule for coordination. Commissioning of the units will be performed by others.

1.6 Contract shall be responsible for transporting the materials from District storage facility to the project sites. Contractor shall be responsible for inspecting the material before removing from the District storage facilities and will bear the cost of any damages for the materials after they are removed from the District storage facility.

2. COVID-19 Safety and Social Distancing Requirements

Developer shall, at its cost, timely comply with all applicable federal, State, and local requirements relating to COVID-19 including, without limitation, preparing, posting, and implementing a Social Distancing Protocol, as required. In addition, Developer's Safety Plan, required under the General Conditions, must include an Appendix labeled "COVID-19 SAFETY PLAN," which must detail Developer's safety and compliance plan for COVID-19, specifically adapted from the Project, including, without limitation, the following: signage, measures to protect employee health, measures to prevent crowds from gathering, measures to keep people at least six feet apart, measures to prevent unnecessary contact, and measures to increase sanitization.

3. Mitigation Measures

Developer shall comply with all applicable mitigation measures, as follows, adopted by any public agency with respect to this Project pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.).

Mitigation Monitoring and Reporting Program attached hereto as Appendix A and incorporated herein.

4. Permits, Certificates, Licenses, Fees, Approvals

4.1. Payment for Permits, Certificates, Licenses, Fees, Approvals.

As required in the General Construction Provisions, Developer shall secure and pay for all permits, licenses and certificates necessary for the prosecution of the Work with the exception of the following:

N/A

With respect to the above listed items, Developer shall be responsible for securing such items; however, District will be responsible for payment of these charges or fees, but only for the actual and direct costs (without markup or additional fees). Developer shall notify the District of the amount due with respect to these items and to whom the amount is payable. Developer shall provide the District with an invoice and receipt with respect to such charges or fees. In the alternative, District may pay such costs directly to DSA.

5. Disabled Veterans Business Enterprise

This Project uses or may plan to use funds allocated pursuant to the State of California School Facility Program for the construction and/or modernization of school buildings. Education Code Section 17076.11 requires the District to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%), per year, of the overall dollar amount expended each year by the District on projects that receive state funding. Accordingly, Developer must submit the Disabled Veteran Business Enterprise Participation Certification to the District after issuance of the Notice of Award After Guaranteed Maximum Price, identifying the steps Developer took to solicit DVBE participation in conjunction with this Contract.

6. Modernization Projects

6.1. Access.

Access to the school buildings and entry to buildings, classrooms, restrooms, mechanical rooms, electrical rooms, or other rooms, for construction purposes, must be coordinated with District and onsite District personnel before Work is to start. Unless agreed to otherwise in writing, only a school custodian will be allowed to unlock and lock doors in existing building(s). The custodian will be available only while school is in session. If a custodian is required to arrive before 7:00 a.m. or leave after 3:30 p.m. to accommodate Developer's Work, the overtime wages for the custodian will be paid by Developer, unless at the discretion of the District, other arrangements are made in advance.

6.2. Master Key.

Upon request, the District may, at its own discretion, provide a master key to the school site for the convenience of Developer. Developer agrees to pay all expenses to re-key the entire school site and all other affected District buildings if the master key is lost or stolen, or if any unauthorized party obtains a copy of the key or access to the school.

6.3. Maintaining Services.

Developer is advised that Work is to be performed in spaces regularly scheduled for instruction. Interruption and/or periods of shutdown of public access, electrical service, water service, lighting, or other utilities shall be only as arranged in advance with the District. Developer shall provide temporary services to all facilities interrupted by Developer's Work.

6.4. Maintaining Utilities.

Developer shall maintain in operation during duration of Contract, drainage lines, storm drains, sewers, water, gas, electrical, steam, and other utility service lines within working area.

6.5. Confidentiality.

Developer shall maintain the confidentiality of all information, documents, programs, procedures and all other items that Developer encounters while performing the Work. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes, without limitation, all student, parent, and employee disciplinary information and health information.

6.6. Work during Instructional Time.

Developer affirms that Work may be performed during ongoing instruction in existing facilities. If so, Developer agrees to cooperate to the best of its ability to minimize any disruption to school operations and any use of school facilities by the public up to, and including, rescheduling specific work activities, at no additional cost to District.

6.7. No Work during Student Testing.

Developer shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests.

7. Construction Manager

Jenny Choi is the Construction Manager described in Section 4 to Exhibit D to the Facilities Lease, the General Construction Provisions.

8. Designation of Certain Products as the Only Acceptable Materials, Products, or Things for the Project

8.1. ALERTON Energy Management System

Pursuant to Public Contract Code section 3400, subdivision (c), the District's Governing Board has designated ALTERTON Energy Management System as the only acceptable material, product, or thing for the Project. No substitution will be permitted.

8.2. NOTIFIER Firm Alarm System

Pursuant to Public Contract Code section 3400, subdivision (c), the District's Governing Board has designated NOTIFIER Fire Alarm System as the only acceptable material, product, or thing for the Project. No substitution will be permitted.

9. Substitution for Specified Items

The following provisions are added to Section 1.7 to **Exhibit D** to the Facilities Lease, the General Construction Provisions:

1.7.1 Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Developer may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified.

1.7.1.1 If the material, process, or article offered by Developer is not, in the opinion of the District, substantially equal or better in every respect to that specified, then Developer shall furnish the material, process, or article specified in the Specifications without any additional compensation or change order.

1.7.1.2 This provision shall not be applicable with respect to any material, product, thing or service for which District made findings and gave notice in accordance with Public Contract Code section 3400(c); therefore, Developer shall not be entitled to request a substitution with respect to those materials, products or services.

1.7.2 A request for a substitution shall be submitted as follows:

1.7.2.1 Developer shall notify the District in writing of any request for a substitution at least ten (10) days prior to proposal opening as indicated in the Request for Qualifications and Proposals.

1.7.2.2 Requests for Substitutions after award of the Contract shall be submitted within thirty-five (35) days of the date of the Notice to Proceed with Construction.

1.7.3 Within 35 days after the date of the Notice to Proceed with Construction, Developer shall provide data substantiating a request for substitution of "an equal" item, including but not limited to the following:

1.7.3.1 All variations of the proposed substitute from the material specified including, but not limited to, principles of operation, materials, or construction finish, thickness or gauge of materials, dimensions, weight, and tolerances;

1.7.3.2 Available maintenance, repair or replacement services;

1.7.3.3 Increases or decreases in operating, maintenance, repair, replacement, and spare parts costs;

1.7.3.4 Whether or not acceptance of the substitute will require other changes in the Work (or in work performed by the District or others under Contract with the District); and

1.7.3.5 The time impact on any part of the Work resulting directly or indirectly from acceptance of the proposed substitute.

1.7.4 No substitutions shall be made until approved, in writing, by the District. The burden of proof as to equality of any material, process, or article shall rest with Developer. Developer warrants that if substitutes are approved:

1.7.4.1 The proposed substitute is equal or superior in all respects to that specified, and that such proposed substitute is suitable and fit for the intended purpose and will perform adequately the function and achieve the results called for by the general design and the Contract Documents;

1.7.4.2 Developer provides the same warranties and guarantees for the substitute that would be provided for that specified;

1.7.4.3 Developer shall be fully responsible for the installation of the substitute and any changes in the Work required, either directly or indirectly, because of the acceptance of such substitute, with no increase in Contract Price or Contract Time. Incidental changes or extra component parts required to accommodate the substitute will be made by Developer without a change in the Contract Price or Contract Time;

1.7.4.4 Developer shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute; and

1.7.4.5 Developer shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, Developer agrees to execute a deductive Change Order to reflect that credit.

1.7.5 In the event Developer furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Developer.

1.7.6 In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

1.7.7 Developer shall be responsible for any costs the District incurs for professional services, DSA fees, or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Developer and/or to accommodate Developer's means and methods. District may deduct those costs from any amounts owing to Developer for the review of the request for substitution, even if the request for substitution is not approved. District, at its sole discretion, shall deduct from the payments due to and/or invoice Developer for all the professional services and/or DSA fees or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Developer and/or to accommodate Developer's means and methods.

10. Weather Days

Replace Section 15.2.1.5 in the General Conditions with the following:

> **15.2.1.5** The number of days of Adverse Weather exceeds the following parameters:

January	**7**	July	**0**
February	**8**	August	**0**
March	**8**	September	**0**
April	**4**	October	**4**
May	**2**	November	**7**
June	**0**	December	**7**

11. Insurance Policy Limits

All of Contractor's insurance shall be with insurance companies with an A.M. Best rating of no less than A:IX. The limits of insurance shall not be less than:

Commercial General Liability	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	Intermediate Risk: $2,000,000 per occurrence; $4,000,000 aggregate
Automobile Liability – Any Auto	Combined Single Limit	Personal vehicles: $500,000 Commercial vehicles: $1,000,000
		Personal vehicles: $100,000 per person/ $300,000 per accident
Workers' Compensation		Statutory limits pursuant to State law
Employers' Liability		**$1,000,000.00**
Builder's Risk (Course of Construction)		Issued for the value and scope of Work indicated herein.
Pollution Liability		**$1,000,000 per claim $2,000,000 Aggregate**