LOS RIOS COMMUNITY COLLEGE DISTRICT

1919 Spanos Court, Sacramento, CA 95825 Phone (916) 568-3071 FAX (916) 568-3145 Purchasing Department

Sacramento City College American River College Cosumnes River College Folsom Lake College

ADDENDUM NO. 3

ISSUE DATE: May 17, 2018

American River College Liberal Arts Building Modernization STEM

LRCCD BID NO. 18027

Issued By:

LOS RIOS COMMUNITY COLLEGE DISTRICT 1919 Spanos Court, Sacramento, CA 95825 Phone (916) 568-3071 Fax (916) 568-3145

This addendum forms a part to the Contract Documents. The addendum items supersede and supplement all portions of the bidding documents with which it conflicts. All workmanship, materials, appliances and equipment which may be included in the following addendum items shall be of the same relative quality as described for similar work set forth in the general or main specifications of which these addendum items shall be considered a part.

This Addendum has been acknowledged in the space provided on the Bid Form and is considered part of the bid documents.

This Addendum consists of 181 pages

RFI #2 We'd like to request the pre-bid RFI deadline date be extended a minimum of one week to Friday, May 18th and the bid date be extended one week to Thursday, May 31st. **Response #2 – "There will be no extension of the pre-bid RFI deadline or bid date. Sign in sheet is available via District website."** RFI #3: Some of the buildings on the (N) HW and CHW campus loops do not have a modulating building control valves (e.g. Raef Hall). Does this scope of this project include installation of building control valves?

RESPONSE #3: The scope of this project does not include installation of modulating building control valves in buildings other than the new Liberal Arts – STEM building.

RFI# 4: A few demolition and abatement subs have requested the as-builts for the buildings being demolished. I am requesting a copy of these documents via addenda if possible. **RESPONSE#4: "See sheets attached to Addendum #3"**

RFI #5: I have attached a RFI regarding Bid Section 07 4245. Product information is also attached

RESPONSE #5 "Los Rios Community College District does not pre-approve or pre-qualify. It is the responsibility of the contractor to make certain their product meets or exceeds all the requirements of the specifications."

RFI #6: Please refer to specification section 05 1200 page 2, section 1.8. The section requires AISC certification. This certification limits the bidding on the steel. Can this requirement be waived to expand the number of bidding fabricators and give the project the best possible competitive steel pricing?

RESPONSE #6: "Refer to updated specification section."

RFI #7: I am not sure the exact roofing system the architect is looking for. Page A541/3 calls out 3⁄4 glass matt board over fluted metal deck, peel and stick vapor barrier, R-30 ISO, tapered system, 1⁄2 glass matt board all fully adhered. WITH 80 MILL TPO. This seems like a bit of an over kill. Please advise. Could you kindly clarify intention.

RESPONSE #7: "The roofing assembly described in the RFI is an accurate description of the project's intent, please bid as designed."

RFI #8:

a) After reading General Conditions paragraph #53, please confirm if night work is elected, for example during the abatement or building demolition activities, that the successful contractor can do this without cost impact from the owner/inspector perspective.

RESPONSE: a. "Without knowing specific project conditions, the District cannot guarantee there will be no cost impact."

b) What is the arrangement for the temp fencing that is presently installed around the existing Liberal Arts complex? Does it come with the project or do GC's need to assume it's rent?

RESPONSE: b. "The winning contractor is responsible to provide temp fencing for the project. If the contractor is able to assume the rental for the existing fence then they may. Otherwise the District will have the existing fence removed and the contractor can have their own temp fencing installed."

c) Are As-Builts available of the site infrastructure to further review and prepare for the extensive new underground utilities about campus?

RESPONSE: c. "As-builts will be made available to the winning contractor."

d) The specifications require a SWPPP plan be procured on behalf of the district. For bidding purposes, what Risk Level site shall we assume this is?

RESPONSE: d. "Level calculations for SWPPP development and implementation shall be the responsibility of the bidders."

e) Please confirm the required FF & FL numbers. See specification 03 3000 para 3.11.D.2.a-d. It would appear sub paragraphs b. and c. are most applicable as these sub paragraphs cite values to achieve for "slabs on grade," and "suspended slabs." Please confirm.
RESPONSE: e. "The Section allows overall flatness of 25, 35, 30, 45. We will require 25 for carpeted areas and 35 for thin set flooring."

 f) Please advise if 25% fly ash is required in all ready mix concrete mix designs/applications. The presence of fly ash in excess of 15% greatly increases place and finish events.

RESPONSE: f. "25% fly ash is required and will remain in all ready mix concrete mix designs/applications."

g) Specification 03 3000 para 2.5.I calls out for color pigment and says to allow for color selection from manufacturer's full range. We only see a few rooms on the finish schedule calling to be exposed sealed concrete. Please confirm integral color concrete is not applicable to specification 03 3000.

RESPONSE: g. "Integral color is not applicable to specification 03 3000."

See specification 03 3000 para 2.8.A – Slip Resistive Emery Aggregate, B – Emery Dry h) Shake Floor Hardener, C – Metallic Dry Shake Floor Hardener, D – Unpigmented Mineral Dry Shake Floor Hardener, and E – Pigmented Mineral Dry Shake Floor Hardener. Please clarify which, if any, of these are applicable. Later in the specification, paragraph 3.11.G states concrete stair treads, platforms, and ramps are to receive slip resistive finish. Per the finish schedule on A902, the stairs get LVT, so this slip resistive finish would not be applicable. Paragraph 3.11.H offers no commentary on where to apply Dry-Shake Floor Hardener. Please clarify. **RESPONSE:** h. "Section 03 3000 para 2.8A – Slip Resistive Emery Aggregate, B – Emery Dry Shake Floor Hardener, C – Metallic Dry Shake Floor Hardener, D – **Unpigmented Mineral Dry Shake Floor Hardener, and E – Pigmented Mineral Dry Shake** Floor Hardener is stating which products are acceptable to use, should the contractor choose to use them. PARA 3.11.G - Sheet A902 states that LVT occurs under the stairs at Level 1 and continues into the stair floor landing at Level 2 and Level 3. Per A912 Finish Plan, a note at the stair states to refer to stair details on A/551 for tread and landing finishes. Detail 10/A551 calls for concrete filled pan at stairs. The stair treads and intermediate landing are to receive slip resistive concrete finish. PARA 3.11H - This section states to use as per manufacturers recommendations on how much and how to do it. Ultimately the contractor is required to produce a quality slab. We leave it to the contractor to do means and methods of construction and produce a quality product."

i) Specification 05 1200 under quality assurance states the fabricator must be AISC certified. Can this requirement be removed in the interest of attaining more and local competitive fabrication bids?

j) On door schedule A512, door opening 111 is listed to have an aluminum frame and aluminum leaf doors. The referenced head and jamb details reflect HM. Please clarify.

RESPONSE: j. "Details have been updated to reference aluminum frame, head detail 6/A525, jamb detail 10/A525 and sill detail 9/A534."

k) On door schedule A512, door opening 112B is listed to have both a hollow metal and a wood leaf. Is this correct?

RESPONSE: k. "Door 112B has been updated to both leaves as HM."

1) On door schedule A512, door opening 133 is not given a frame type, but it's finish is to be AL-1. The leafs are listed to be HM. We believe the intention is that this opening is 100% alum/glass. Please confirm.

RESPONSE: I. "Door 133 has been updated to reflect alum/glass."

m) Can a district calendar be provided to indicate school holiday's summer breaks, winter breaks, etc, which we may consider for the phasing of the site underground construction?
 RESPONSE: m. "Calendar is available on District Website."

n) Are there known time frames (testing???) where construction noise or work times need to be considered more specifically?

RESPONSE: n. "There are no additional known time frames other than those times currently noted in the project documents where noise or work times need to be considered more specifically."

RFI #9: How do we get the information for the Abatement portion of the project in order to bid? **RESPONSE #9: "See Addendum #3 for Hazardous Materials Work Plan, Specification Section 00 3126, and Asbestos and Lead Paint Survey Report dated February 19, 2018."**

RFI #10:

a) Reference E701 and E304. Please provide a conduit & wiring size for the stub from the electric room 110B to the roof for the future solar.

RESPONSE: a. "Provide 2" conduit with pull-string from the Main Electrical Room at the 1st floor to ceiling space immediately below the "solar ready" area defined in the Architectural plans. Roof penetration not required."

b) Please provide a demolition drawing(s) to complement the Hazmat report issued in addendum 1. Bidders are requesting a floor plan of each respective building (including room numbers to correlate with sampled material locations within the Hazmat Report) of the existing Liberal Arts complex ID'd in the Hazmat report for proper consideration and material/abatement quantification.

RESPONSE: b. "See sheets C201, C202, AD101 and AD102 for Demolition Drawings. See updated Hazardous Materials Work Plan, Specification Section 00 3216 and Asbestos and Lead Paint Survey Report dated February 19, 2018 as well as existing building as-built plans that are attached to Addendum #3 for reference only."

RFI #11: We are requesting to be named as an equal to bid the Indoor Custom Air Handling units on the ARC Liberal Arts STEM project.

RESPONSE: "Los Rios Community College District does not pre-approve or pre-qualify. It is the responsibility of the contractor to make certain their product meets or exceeds all the requirements of the specifications." Please see Addendum #3 notes deleting specification section23 7300, Part 2, para 2.1, Item A7."

RFI #12:

a) The new Hydronics infrastructure crosses dozens of existing utilities and passes closely by many existing buildings and structures. Please provide a shoring plan or identify the zone of influence the foundations of those structures will impose on the hydronic trench. **RESPONSE: a.** "Shoring plans are the responsibility of the Contractor."

b) Please blowup detail 3/A535 to better show the relationship between the embedded angles, foil faced self-adhered sheet waterproofing, and below grade modified bit sheet waterproofing. **RESPONSE: b. "Detail 3, as it stands, clearly shows the lapping of the foil-faced self-adhering sheet waterproofing over the below grade waterproofing. The steel angle is embedded in the concrete slab."**

c) The finish schedule on A902 calls out LVT at Stairs 1 & 2. Sheets A911, A912, and A913 all refer the plan reader to A/551 for stair details and tread and landing finish. Details on A551 like 2, 10, 14, and 13 do not indicate any division 9 finish flooring materials on the treads or landings. Please clarify if any LVT is intended like scheduled on the finish schedule A902. **RESPONSE: c. "A902 states that LVT occurs under the stairs at Level 1 and continues into the stair main landing at Level 2 and Level 3. The stair treads and intermediate landing are to receive slip resistive concrete finish. Updated drawings and details will be issues in Addendum 3 for clarification on stair finish."**

d) Detail 5/A552 shows embedded contrasting strip nosings on each stair tread. Is this accurate or can the contrasting strip be accomplished with the LVT finished flooring the finish schedule calls for on A902?

RESPONSE: d. "Embedded contrasting strip nosing to remain at each stair tread. Stair tread finish to concrete."

e) Please clarify the extent & location, if any, of 07 13 26 Self-Adhering Sheet Waterproofing. We can't find any indications on the plans. Arch & Structural do not reflect such a system at the elevator pit, which is where we'd typically anticipate it's applicability.

RESPONSE: e. "The intent is for the 07 1326 to be located at the perimeter of the building to serve as the overlapping membrane between the above-grade waterproofing (07 2613) and the below-grade vapor retarder (07 2616). Extent and location will be clarified in the final Addendum."

f) Ext Elevation A201 calls out 07 91 00 Relief Air Fixed Louvers. With all other callouts, it seems the callout is intended to match with a spec section. Is this callout meant to be 08 91 00? **RESPONSE: f.** "The callout should reference specification section 08 9100."

g) Reference C503. Where an existing utility is profiled to cross the new Hydronics excavation and called out with the words "Duct Bank", are these existing utilities encased in concrete?
RESPONSE: g. "Type of trenching for underground electrical conduits is unknown. Contractor shall visually verify in field existing underground utility conditions."

h) Reference det 4/C702. Is the indicated 12' width at the bottom of the trench absolute? It seems overkill for the new pipes with the stated 1' min clearance between them for what is going to be very risky, problematic, invasive, and expensive scope associated with this contract. **RESPONSE: h.** "12-foot trench width is not absolute. A clearance of 10-inches between the outer edge of outside pipe and trench wall is required."

i) Can contractors have the option to not buy and embed the indicated Styrofoam in the various cast in place platform and seatwall elements detailed on L6.06?

RESPONSE: i. "Yes, it is an acceptable option to use an alternate material instead of foam. The foam was detailed as a means of saving costs on materials. If the foam is not used please provide clarification on what material is proposed as a substitution as it may impact the rebar and footing layout."

j) Detail 1/L6.06 shows a C.I.P. seatwall bearing upon compacted aggregate base. Detail
2/L6.06 shows a similar concrete element, shown bearing on the same graphically portrayed material, but noted to be compacted subgrade. Is detail 2 meant to bear upon aggregate base too?
RESPONSE: j. "Yes, it is meant to bear upon aggregate base per the symbol. The label is incorrect."

ADDENDUM NO. 3

LRCCD Bid #18027 American River College Liberal Arts Modernization STEM Building DSA Application No.: 02-116042 Date: 15 May 2018 3 pages plus attachments

NOTICE TO ALL BIDDERS

The following described changes, corrections, clarifications, deletions, additions, and approvals for the Contract Bid and Contract Documents dated 19 March 2018, which comprise Addendum No. 3, are hereby made a part of the Contract Bid and Contract Documents and shall govern in the performance of the Work. Bidder shall acknowledge receipt of this Addendum on the Bid Form.

CLARIFICATION

- Item 1: Bidders are strongly encouraged to review the structural foundation details of the elevator pit (11/S503 & 17/S503) and the surrounding foundation to understand how to install waterproofing in this location. Item 2: Replace previous abatement report and plan with new abatement report and plan to include the addition of specification section 00 3126. Other than the addition of the spec section, no other revisions have been made to abatement report of plan have been made. Item 3: Ref Sheets E202, E203: Addendum #1 Scope only. At operable partitions between 215/216, and between 310/311/312, provide a network lighting control component capable of interfacing with operable partitions, and all programming required to combine lighting controls in each room when the partitions are opened, Wattstopper LMI0-102 or equal.
- Item 4:Existing structural drawings (S1, S2, and S3) of the Business Education LiberalArts building have been included for reference only.

SPECIFICATIONS

Section: <u>01 0110 – "TABLE OF CONTENTS"</u>

Addition of 11 2429 "FACILITY FALL PROTECTION"

Section: 05 1200 – "STRUCTURAL STEEL FRAMING"

Part 1, Paragraph 1.8, Items A & B has been removed.

Section: 07 4245 – "EXTRUDED GLASS FIBER CONCRETE PANELS"

Clarifications between the exterior and interior applications.

Section: <u>11 2429 – "FACILITY FALL PROTECTION"</u>

Addition of new specification section.

Section: <u>23 7300 – "INDOOR AIR HANDLING UNITS"</u>

Part 2, Paragraph 2.1, Item A.7 has been removed. Los Rios Community College District does not pre-approve or pre-qualify. It is the responsibility of the contractor to make certain their product meets or exceeds all the requirements of the specifications.

ARCHITECTURAL

<u>Drawings</u>

Item A-1:	(Refer to FLOOR PLAN 1/A101) Trash room has been replaced with the new location of the elevator control room. Update specification section on the exterior wall louvers, Keyed note 9 and 10.
Item A-2:	(Refer to FLOOR PLAN 1/A102) Update specification section on the exterior wall louvers, Keyed note 9 and 10.
Item A-3:	(Refer to FLOOR PLAN 1/A103) Elevator control closet removed. Update specification section on the exterior wall louvers, Keyed note 9 and 10.
Item A-4:	(Refer to INTERIOR PARTITION & DIMENSION PLAN – LEVEL 01 1/A111) Update to wall type and rating for the new location of the elevator control room.
Item A-5:	(Refer to ROOF PLAN 1/A151) Roof walkway pads dimensions and addition of roof-mounted safety anchors location and detail callout.
Item A-6:	(Refer to EXTERIOR ELEVATION 2/A201) Updated specification section on the exterior wall louvers.
Item A-7:	(Refer to EXTERIOR ELEVATION 1/A202)

Item A-8:	(Refer to ENLARGED INTERIOR ELEVATIONS AND PLANS 1- 3/A246) Clarification to the panel type to match the finish schedule. Paint color called out for decorative metals.
Item A-9:	(Refer to ENLARGED PLAN AND ELEVATIONS 3, 4, 5/A454) Added a note regarding waterproofing at elevator pit walls. Reference 4, 5/ A454. Elevator control room removed
Item A-10:	(Refer to DOOR SCHEDULE A512) Doors 111, 112B and 133 are updated per RFI #8. Door 118A updated for rated condition at elevator control room.
Item A-11:	(Refer to EXTERIOR SECTION DETAILS - EWA-113 & 14/A532) Updated specification section on the exterior wall louvers.
Item A-12:	(Refer to EXTERIOR SECTION DETAILS - EWA-2 1-2/A535 and 3/A535) Updated specification section on the exterior wall louvers at details 1 and 2.
Item A-13:	(Refer to ROOF DETAILS 16/A541) Added detail for the roof-mounted safety anchor.
Item A-14:	(Refer to STAIR DETAILS 2, 10, 13, 14, 15, and 18/A551, 1 and 5/A552) Clarification on stair finish at treads and intermediate landing.
Item A-15:	(Refer to INTERIOR PARTITION DETAILS 1, 2, 5, 6/A563) Update to the corner detail at interior extruded glass fiber cement concrete panels. Clarification to the panel type to match the finish schedule. Paint color called out for decorative metals.
Item A-16:	(Refer to FINISH SCHEDULE A902) Clarification on the finishes at the stairs
Item A-17:	(Refer to FINISH PLAN A911) Clarification on the finishes at the stairs.
Item A-18:	(Refer to FINISH PLAN A912) Clarification on the finishes at the stairs.
Item A-19:	(Refer to FINISH PLAN A913) Clarification on the finishes at the stairs.
MECHANICAL	

Drawings Item M-1: (Refer to MECHANICAL SCHEDULES M003) Revised "REF-1.1" to 1650 CFM and updated the RPM and sones values. Item M-2: (Refer to MECHANICAL FLOOR PLAN – LEVEL 1 M201) Revised duct routing and added (2) fire/smoke dampers at and around Elements

Revised duct routing and added (2) fire/smoke dampers at and around Elevator Control Room 118A.

END OF ADDENDUM NO. 3

Section 00 31 26 Hazardous Materials Work Plan For American River College Liberal Arts Demolition 4700 College Oak Drive, Sacramento, CA 95841

Prepared For:

Los Rios Community College District 3753 Bradview Drive Sacramento, CA 95827

Prepared By:

Environmental Construction Services, Inc. P.O. Box 5277 Bay Point, CA 94565

> Ryan Govan CAC #92-0375 CDPH #I-20975

> > February 19, 2018

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PART 1 - Requirements for Disturbance of Asbestos

1.01 Introduction

- A This section covers the removal of asbestos containing materials at the American River College Liberal Arts Demolition Project. The Abatement Contractor shall maintain a current and valid California Contractor's License with an asbestos certification and registered for asbestos-related work with Cal/OSHA. The work specified herein shall be the removal, encapsulation, repairs, cleanup and disposal of asbestos containing materials by competent persons who are trained, knowledgeable and qualified in the techniques of abatement, handling and disposal of asbestos containing materials and associated contaminated materials, and the subsequent cleaning of contaminated areas.
- B The Abatement Contractor shall furnish all labor, materials, services, equipment, worker training and medical examinations, permits, and agreements necessary for the completion of the described work. All work shall be performed in strict accordance with this section, the contract documents, the documents referenced herein, and with all applicable Federal, State, and local regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable. Compliance with all regulations and the use of the best available technology, procedures, and methods for preparation, handling, cleanup, disposal, and safety are the sole responsibility of the Abatement Contractor.

1.02 Description of Work:

- A The Abatement Contractor shall perform the removal of asbestos containing materials as described herein and identified in the Asbestos Survey Reports as follows:
- B Work Area preparation shall include protection of all surrounding equipment, both equipment which shall remain and/or which shall be removed and later reinstalled, and isolation from building occupants, visitors, and passers-by. Installation of critical barriers and containment walls and floors.
- C Bidders are encouraged to visit the Work site to obtain first-hand knowledge of all existing conditions. Bidders will be responsible for all unusual conditions or deviations from the Specifications that exist at the time of their site examination, and such conditions must be reflected in the Bid Proposal. Contractors will not be given extra payments above the accepted Bid prices for conditions that can be determined by examining the site and all Contract Documents prior to the submission of proposals.
- D All removal of asbestos containing materials shall be performed in accordance with this section and all applicable regulations.

Su	Summary of ACM				
Location	Description	Asbestos Present	Friable	Estimated	
			OSHA Wk Class	Quantity	
Roofs	Built up roofing, gray/silver	Built up – 12% Chrysotile.	No	49,600	
	paint and sealers	Sealers – 10% Chrysotile.	<u>Cat II</u>	sq.ft.	
	throughout roofs.	Paint - 4% Chrysotile.	<u>Class II</u>		

Summary of ACM				
Location	Description	Asbestos Present	<u>Friable</u> EPA Category OSHA Wk Class	<u>Estimated</u> <u>Quantity</u>
Pipe Trenches	Pipe insulation on hot water pipes in trenches below floors to abandoned radiators throughout buildings.	2% Amosite. 5% Chrysotile.	<u>Yes</u> <u>RACM</u> <u>Class I</u>	3,750 l.f.
Bldg. 1	Mastic under carpets throughout building 1.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	6,500 sq.ft.
Bldg. 1	Pipe insulation on hot water pipes above ceilings in building 1.	2% Amosite. 5% Chrysotile.	Yes RACM Class I	160 l.f.
Bldg. 1	Joint compound on drywall walls and ceilings throughout building 1.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	26,500 sq.ft.
Bldg. 1	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	294 sq.ft (Total Window Area)
Bldg. 2	Mastic under floor tile throughout building 2.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	6,000 sq.ft.
Bldg. 2	Joint compound on drywall walls and ceilings throughout building 2.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	12,000 sq.ft.
Bldg. 2	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	672 sq.ft (Total Window Area)
Bldg. 3	Mastic under carpets throughout building 3.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	4.260 sq.ft.
Bldg. 3	Joint compound on drywall walls and ceilings throughout building 3.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	6,400 sq.ft.
Bldg. 3	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	462 sq.ft (Total Window Area)
Bldg. 4	Mastic under carpets throughout building 4.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	4,250 sq.ft.
Bldg. 4	Joint compound on drywall walls and ceilings throughout building 4.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> Class II	6,600 sq.ft.

Su	Summary of ACM				
Location	Description	Asbestos Present	<u>Friable</u> EPA Category OSHA Wk Class	<u>Estimated</u> <u>Quantity</u>	
Bldg. 4	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	462 sq.ft (Total Window Area)	
Bldg. 5	Mastic under carpets in room 120A.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	120 sq.ft.	
Bldg. 5	Mastic under floor tile throughout building 5.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	970 sq.ft.	
Bldg. 5	Joint compound on drywall walls and ceilings throughout building 5.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	3,240 sq.ft.	
Bldg. 5	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	350 sq.ft (Total Window Area)	
Bldg. 6	Mastic under carpets throughout building 6.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	3,132 sq.ft.	
Bldg. 6	Mastic under floor tile in rooms 154 and 157.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	2,132 sq.ft.	
Bldg. 6	Joint compound on drywall walls and ceilings throughout building 6.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	11,000 sq.ft.	
Bldg. 6	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	168 sq.ft (Total Window Area)	

*Cat I and Cat II non friable materials that will be subject to mechanical forces during removal or demolition will be designated as RACM. N/A = Not Applicable

1.03 Regulatory Compliance

- A Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.
- B The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State and local regulations, The Contractor shall hold the Owner and Asbestos Consultant harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees or his subcontractors.

C Federal Requirements which govern hazardous waste and asbestos abatement work or hauling and disposal of hazardous waste and asbestos waste materials include but are not limited to the following:

U. S. Department of Labor, Occupational Safety and Health Administration (OSHA), including but not limited to:

Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rule Title 29, Part 1910, Section 1001 and Part 1926, Section 1101 of the Code of Federal Regulations

Respiratory Protection, Title 29, Part 1910, Section 134 of the Code of Federal Regulation

Construction Industry, Title 29, Part 1926, of the Code of Federal Regulations

Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 1200 of the Code of Federal Regulations

Hazard Communication, Title 29, Part 1910, Section 1200 of the Code of Federal Regulations

Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations

D U.S. Environmental Protection Agency (EPA) including but not limited to:

Regulation of Asbestos, Title 40, Part 61, Subpart A of the Code of Federal Regulations

National Emission Standards for Asbestos (NESHAPS) Title 40, Part 61, Subpart M (Revised Subpart B) of the Code of Federal Regulations

E California State Requirements which govern hazardous waste and asbestos abatement work or hauling and disposal of hazardous waste and asbestos waste materials include but not limited to the following:

Carcinogen Registration CAL OSHA 525 Golden Gate Avenue San Francisco, Calif. 94102

CCR Title 8, Section 1529 Cal/OSHA Asbestos Regulations for the Construction Industry

F Local Requirements: Abide by all local requirements which govern asbestos abatement projects, work or hauling and disposal of asbestos waste materials.

1.04 Notifications

A Send written notification as required by state and local regulations prior to beginning any work on asbestos containing materials including Cal/OSHA:

1.05 SUBMITTALS

- A PRE-WORK SUBMITTALS: The Abatement Contractor shall present to the Asbestos Consultant two (2) copies of the following information at the preconstruction conference before commencing work and shall maintain adequate copies to be included in the Project Data Binder at the job site:
 - 1. List of full-time personnel to be engaged in the contract and their training and job experience.
 - 2. An outline of the worker training course and medical surveillance program currently being implemented.
 - 3. Evidence that job supervisor(s), the competent person, has obtained specialized training and certification in an EPA approved "Supervisor Contractor" Asbestos Abatement course.
 - 4. A basic procedures manual endorsed or authorized by the company describing working procedures, equipment, type of decontamination facilities, respirator program and removal techniques, etc.
 - 5. Proof that the Abatement Contractor and his employees are certified and/or licensed in accordance with all state and local regulations.
 - 6. A preliminary construction schedule that shall include a narrative description of the Abatement Contractor's approach, chronological relationship, and manpower of all activities during the term of this contract.
 - 7. Submit a summary of the number and types of crews to be utilized and the number of shifts per day to be worked.
 - 8. Proposed waste transporter and disposal site.
 - 9. The Abatement Contractor shall present copies of notices sent to all regulatory agencies.
 - 10. All Copies of all required permits or authorizations shall be presented, including arrangements for storage, transportation and disposal of contaminated material.
 - 11. The Abatement Contractor shall submit a list of the persons who will be employed by him and his subcontractors during the removal work. Present evidence that workers have received proper training required by regulations and the medical examinations required by 29 CFR 1926.1101 and 8 CCR 1529.

- B SUBMITTALS DURING WORK and AFTER COMPLETION: The following submittals from this section shall be maintained in the Project Data Binder on the job site and a copy shall be provided by the Abatement Contractor to the Asbestos Consultant at the completion of the project:
 - Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance of standards and regulations bearing upon performance of the work.
 - 2. All accidents shall be documented by the supervisor at the job-site. Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions required for OSHA 200 log. A copy of this log shall be on-site at all times. For the purpose of definition, a significant accident is meant to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.
 - 3. Employee Training Certificates
 - 4. Employee evidence of medical exam and medical release to wear respirators.
 - 5. Employee respirator fit test records.
 - 6. Personal air monitoring results.
 - 7. Daily job log.
 - 8. Work area entry/exit log.
 - 9. Hazardous Waste disposal manifests and weight tickets.
 - 10. All submittals, reports, notifications, etc., as requested in this work plan.

1.06 Training Requirements

- A At a minimum, the employees removing asbestos must meet the training requirements as specified by CCR, Title 8, Section 1529.
- B Proof of training certification must be on-site for each worker.

1.07 Respiratory Protection Requirements

A All respirators issued and used by employees will conform to the requirements established in 29 CFR 1910.134. As required by the OSHA respirator standard (29 CFR 1910.134), only approved respirators should be considered during the selection process and, the respirators must be approved for protection against the specific hazard.

1.08 Personal Protective Equipment

A Clean, disposable full body coverings must be provided for all persons who must enter the regulated area. Workers shall be fully protected with respirators and protective clothing immediately prior to the first disturbance of hazardous waste and asbestos-containing or contaminated materials and until final clean-up is completed and the area released. Sufficient sizes and adequate quantities for all workers and authorized visitors shall be provided.

1.09 Air Monitoring Procedures

- A The contractor is responsible to perform employee exposure monitoring per Cal OSHA Title 8, Chapter 4, Section 1529. If any results exceed the Permissible Exposure Level (PEL), all work is to stop until the problem is resolved.
- B The Owner's Representative may also perform area monitoring. If the results of this sampling exceed EPA clearance limits, work shall stop until the problem is resolved.

1.10 Regulated Areas/Posting of Signs

A Any area where ACM may be disturbed must be property posted with Cal-OSHA approved asbestos warning signs prior to starting work. The area must be surrounded by asbestos labeled barrier tape and asbestos warning signs must be posted so that they are visible when approaching the area from any direction.

1.11 Execution

- A Before performing any work that may disturb ACM, insure that all HVAC systems for the area have been isolated. Cover all HVAC openings with 6 mil visqueen. The Contractor is responsible to insure that no dust or debris escape the work area.
- B Prior to beginning work all visible loose dust that could contain asbestos is to be HEPA vacuumed.
- C Cover all surfaces in the area with a minimum one layer of 6 mil visqueen.
- D Asbestos containing debris generated during the work should be wet prior to and during removal unless such wet methods are not feasible. The material is to be kept wet until it is placed in sealed containers.
- E A competent person must be on the job site when any asbestos work is performed.

1.12 Final Clearance Procedures

- A A final visual inspection of the areas shall be performed by the Asbestos Consultant.
- B The Asbestos Consultant may collect final clearance air samples in the work area at the Consultants discretion.

1.13 Disposal of Waste Materials

A The Contractor shall provide container and arrange for disposal of asbestos containing materials to an approved disposal facility.

- B For all waste containing asbestos that requires an EPA manifest or non hazardous manifest, the Contractor must coordinate with the Owner for signature of the manifest. Manifest for any material containing asbestos shall only be signed by the Owners Representative. The Contractor must notify the Owner a minimum of 48 hours in advance of the need for a signature. Hazardous waste cannot be transported without an authorized signature. Delays resulting from the failure of the Contractor to obtain an authorized signature from the Owner will be the sole responsibility of the Contractor.
- C The Contractor must properly label all hazardous waste containers before they leave the job site according to the requirements of DTSC and DOT.

End of Part 1

PART 2 - Requirements for Disturbance of Lead

2.01 Introduction

A This section is designed to minimize and control potential lead hazards. These procedures and precautions apply to the disturbance of lead that may result from the removal of buildings components that contain lead either in or on their surfaces.

2.02 Site Specific Information

A Lead testing performed with an X-Ray Fluorescence Spectrum Analyzer (XRF) and laboratory results indicated lead based paint or lead containing paint used on the following interior and exterior building components: The lead survey report is located in appendix A.

Lead Based Paint >5000 mg/kg:

- Exterior metal columns.
- Heating ducts in mechanical rooms.
- Exterior wood doors.
- Metal panels next to doors.
- Metal white boards in classrooms.
- Cork board wall panels in classrooms.
- Drywall in buildings 5 and 6.
- Silver paint on metal roof components.

Lead Containing Paint:

- Wood doors.
- Metal door frames.
- Metal window components.
- Interior concrete walls

2.03 Regulatory Compliance

- A Various agencies regulate work that disturbs lead-containing materials. The following is a summary of the most important agencies and regulations that apply during the disturbance of lead during construction work. This list is not to be considered comprehensive. The Contractor is responsible for complying with all federal, state, and local regulations that may apply to the specific work they are conducting.
- B Environmental Protection Agency (EPA).
 - 1 Lead: Identification of Dangerous Levels of Lead; Final Rule (40 CFR Part 745 Subpart D).
 - 2 The EPA defines lead-based paint as paint and coatings that contain lead in concentrations equal to or more than one milligram per square centimeter (1.0 mg/cm²), 5,000 parts per million (5,000 ppm), or one half of one percent (0.5%) by weight. EPA regulations apply to all housing and child occupied facilities built before 1978. When the term "lead-based paint" is used in the context of this work plan, the term is used only to refer to paint that contains lead in concentrations equal to or greater than that defined by the EPA as lead-based paint. (This is to differentiate lead based paint from the term "lead-containing paint" as used for compliance with Cal/OSHA.)

- C California Department of Public Health (CDPH).
 - 1 Accreditation, Certification, and Work Practices For Lead-Based Paint And Lead Hazards (Title 17, CCR, Division 1, Chapter 8, Sections 35000-36100)
 - 2 This regulation primarily applies to residential and public buildings located in California. The definition of a public building is one that is "generally accessible to the public." Some aspects of this regulation, particularly those that pertain to the definition of "presumed lead-based paint" and the containment requirements for disturbing leadbased paint apply to all structures, in California.
 - 3 This CDPH regulation definition of lead-based paint is identical to the EPA/HUD definition of 1.0 mg/cm², 5000 ppm, and 0.5% by weight. In addition, this regulation requires all paint on structures in California to be treated as "presumed lead-based paint" unless the paint is on a home built after 1978 or a school built after 1992.
 - 4 The CDPH regulation differentiates between work that disturbs lead-based paint as part of renovation or maintenance work and work that disturbs lead-based paint as part of "permanent abatement" work as defined in Title 17. The work practices and procedures described in this work plan are designed to comply with occupant and worker protection regulations as mandated by Cal/OSHA regulations for work that disturbs lead as part of renovation, demolition, and maintenance work. This work plan is not designed to comply with the requirements for abatement as defined in the CDPH Title 17 regulation. Unless stated specifically otherwise in this work plan, the Owner does not anticipate any work being done as part of this project that meets the definition of permanent abatement as used in Title 17. However, unless specifically directed otherwise by this work plan or by the direction of the Owner's Representative, the Contractor and/or subcontractors shall submit Form 8551, "ABATEMENT OF LEAD HAZARDS," to the CDPH since that form provides appropriate notice for any work done on this project which reduces or permanently eliminates lead-based paint.
- D California Occupational Safety and Health Administration (Cal/OSHA) Lead Standard for the Construction Industry (8 CCR 1532.1)
 - 1 This standard regulates work done by employees who may disturb lead as part of demolition, construction, renovation or maintenance work. Painting activities that may disturb lead are covered by this standard. General construction work that disturbs lead is covered, as is the demolition of building components or entire structures.
 - 2 Cal/OSHA regulates lead whenever lead is determined to exist in a material. When the term "lead-containing paint" is used in the context of this work plan, the term is used to refer to paint that contains lead in an amount equal to or above the reporting limit for the laboratory analysis or that detected as lead-based paint by an X-ray Fluorescence Analyzer (XRF).
 - 3 In addition, Cal/OSHA uses the EPA/HUD/CDPH definition of lead-based paint (1.0 mg/cm², 5000 ppm, 0.5% by weight) for their pre-job notification requirements discussed in Part 1.04 Lead-Work Pre-Job Notification Requirements.
 - 4 The following information summarizes the significant requirements in the Cal/OSHA standard. This summary is not meant to substitute for the Contractor reading and being familiar with the Cal/OSHA requirements,

- a. The Cal/OSHA lead standard is very complex. Cal/OSHA lead standards apply when materials contain any quantifiable amounts of lead. This means materials are regulated even when they contain very small amounts of lead.
- b. The standard sets an "Action Level", for airborne lead at or above 30 ug/m3 over an eight-hour-time-weighted average. Typically, if employees are expected to be exposed to this airborne lead level, the employer must conduct air sampling, provide blood lead testing, and provide specialized training. The standard sets a "Permissible Exposure Limit" or "PEL" for airborne lead at or above 50 ug/m3 over an eight-hour-time-weighted average. The employer must continue the requirements needed at the Action Level but must now provide respirators, protective clothing, a shower decontamination system, and a written compliance program.
- c. In 8 CCR 1532.1 (p), employers are required to notify Cal/OSHA before employees conduct a trigger task that will disturb more than 100 square or linear feet of material (whichever is least) that contains lead in concentrations equal to or above 1.0 mg/cm², 5000 ppm, or 0.5% by weight. The notification also applies to welding or torch cutting that takes more than one hour in a shift. Trigger tasks are described in 8 CCR 1532.1 (d) (2). In brief, they include manual demolition, scraping, sanding, using HEPA-attached equipment, using heat guns to remove lead paint, welding, torch cutting, and using other more aggressive techniques. This is a summary list and does not list all tasks that are considered trigger tasks.
- d. The California standard defines lead-containing paint at the Consumer Product Safety Commission's (CPSC) level of 0.06% by weight or 600 ppm for non-trigger tasks. The lead standard would not apply if the paint contains less than 600 ppm and the employees do not conduct trigger tasks. However if the employees do conduct trigger tasks, the entire standard applies.
- e. Cal/OSHA requires CDPH lead training and certification for any supervisors or workers who are "shown to be exposed" to airborne lead levels above the PEL in residential or public buildings.
- f. Cal/OSHA requires the supervisor to establish a "regulated area" whenever employees may be exposed to airborne lead over the PEL or if they will perform trigger tasks as defined in 8 CCR 1532.1 (d)(2).

2.04 Lead-Work Pre-Job Notification Requirements

A The Contractor is responsible for complying with the Lead-Work Pre-Job Notification as specified in 8 CCR 1532.1 (p). If notification is required for this project, the Contractor must provide the notification to Cal/OSHA and provide a copy of this notification to the Owners Representative as part of the Contractor's pre-work submittal package.

2.05 Lead Training Requirements

A At a minimum, the Contractor and subcontractors must meet the lead training requirements as specified by 8 CCR 1532.1. This will include training all employees who drill, cut, scrape, abrade, remove, clean up debris, or in any other way are exposed to lead from painted surfaces or ceramic tile found on the buildings or structures covered by this project. The different types of training are summarized below for the typical types of work that are expected to disturb lead on this project.

- B Minimal Training Required For All Workers Exposed To Lead:
 - 1 The training must comply with the training requirements as listed 8 CCR 1532.1 (I) (1)(A). In summary, this training must comply with Hazard Communication Training for lead as discussed in 8 CCR 5194. This training is also known as "hazard communication," or "lead awareness" training and is usually done in less than hour depending on the work the employee will conduct.
- C Required Training For Those Exposed Over the Action Level Or Who Conduct Trigger Tasks:
 - 1 The training must comply with the training requirements as listed 8 CCR 1532.1 (1)(1)(B) and (1)(2)(A-H). In summary, the standard requires the worker to be trained in a series of subjects. The length of training depends on the experience and previous training of the worker, the type of work they will conduct, and whether or not they already have been trained and approved to wear respirators. Workers receiving this training and conducting this type of work will typically need to wear respirators and protective clothing while they conduct the work. The level of respiratory protection and protective work clothing may be modified based on initial air monitoring and tasks involved.
- D Required Training For Those Who Are Reasonably Expected To Be Exposed Over The PEL:
 - 1 Workers and supervisors must be CDPH Certified Lead-Related Construction Workers or Supervisors if they will conduct trigger tasks or other work reasonably expected to exceed the PEL. Proof of training will be a currently valid CDPH certification card. Workers receiving this training and conducting this type of work will typically need to wear respirators and protective clothing while they conduct the work.

2.06 Required Submittal Documents:

- A While additional documents may be required by the scope of work for this project, at a minimum, the Contractor will be required to provide the Owner and/or Project Supervisor/Monitor with the following documents regarding the Contractor's ability to safely disturb lead-containing materials.
- B Submittals Prior To The Start Of Work
 - 1 All Contractors and subcontractors who will have employees disturb lead on this project must, provide proof of lead training per Part 2.05.
 - 2 A written lead compliance plan in compliance with 8 CCR 1532.1 must be provided that includes the following:
 - a. A description of equipment and materials, controls, crew size, job responsibilities, and operations and maintenance procedures for each activity in which lead is disturbed and potentially emitted.
 - b. A description of specific control methods (wet methods, engineering controls, etc.) that will be used to ensure workers are not exposed above the PEL. This includes the use of protective work clothing, equipment, hygiene facilities and practices, and housekeeping practices.

- c. A description of the steps the Contractor or subcontractor will take to minimize the generation of hazardous waste produced on this project. This includes, but is not necessarily limited to how the contractor will separate waste streams. For example, how will the Contractor or subcontractor keep potentially hazardous waste such as paint chips and dust from being disposed of with other potentially non-hazardous construction materials and debris.
- 3 Copy of the Contractor or subcontractor's written respirator program in accordance with the requirements of 8 CCR 1544.
- 4 Proof that all employees expected to wear respirators on this project have medical approval to wear a respirator.
- 5 Copies of respiratory fit-tests for all workers expected to wear a respirator on this project. Fit testing must be done as required by and in accordance with 8 CCR 1544.
- 6 Copies of all current MSDS for chemicals used on this project.
- 7 Name of Waste Transporter who will transport hazardous waste on this project and documentation that the Transporter is allowed to transport lead hazardous waste.
- 8 Name of Waste Landfill to which lead hazardous waste will be sent and documentation that such landfill is allowed to accept such waste.
- 9 Should waste water filtration be required on this project, submit manufactures documentation pertaining to the capability of waste water filters to filter particles of, at a minimum, five micrometers in size.
- 10 Submit emergency plans. At a minimum submit the following:
 - a. Submit non-emergency telephone numbers, other then 911, for the appropriate Police, Sheriff, and Fire Departments.
 - b. Name, pager or cell phone numbers of the on-site supervisor and his immediate company supervisor.
 - c. Submit detailed written directions from the project site to the medical facility to be used in case of an emergency. Also include a map which sufficiently shows the route to be taken from the site to the designated medical facility.
 - d. Submit written emergency procedures pertinent to the work to be performed and which can be implemented by site personnel if the need arises.
- 11 Local sanitation district Wastewater Discharge Permit for Surface Washers (if required).
- 12 The above listed documents must be provided a minimum of five working days prior to the start of work that will disturb lead.

- 13 The Contractor is responsible for maintaining current documents and resubmitting copies to the Owner and/or Project Supervisor/Monitor for any worker whose documents expire during the project. Any worker observed on a job site who either is not approved to conduct work by the Owner and/or Project Supervisor/Monitor or has been approved but documentation pertaining to training, medical evaluation, or respiratory fit testing has expired, will be instructed to stop work until these documents are received by the Owner and/or Project Supervisor/Monitor and the worker is approved to perform work that disturbs lead. Submittals Provided During The Work Or Following Completion Of The Work If Applicable.
- C Depending on the document, these documents must be provided the Owner and/or Project Supervisor/Monitor on an ongoing basis during the work, or if appropriate following completion of the physical activities associated with the project. The documents must be received and approved by the Owner and/or Project Supervisor/Monitor before the work is considered complete.
 - 1 Daily sign-in sheet for each worker entering a lead regulated area,
 - 2 The Contractor must provide the results of exposure sampling done to comply with the requirements of 8 CCR 1532.1 (d) and the requirements of this work plan.
 - 3 The Contractor must provide blood sampling and analysis results of lead (BLL) and zinc protoporphyrin (ZPP) levels for all workers who are represented by air monitoring results that exceed the Action Level. Typically, the Project Supervisor/Monitor will require blood lead sampling for all workers on a work shift if one or more air sampling results for that shift is above the Action Level.
 - 4 The written results of the blood sampling analysis must be provided the Owner and/or Project Supervisor/Monitor within 21 days of the exposure over the Action Level or within 12 days of the completion of the project, whichever comes first.

2.07 Third-party Oversight

- A The Owner may utilize the services of an independent third-party Consultant to provide oversight of work that disturbs lead on this project. The Contractor shall treat this third-party Consultant as a designated Owner's Representative. The Owner's Representative is expected to perform some or all of the following activities on this project, but may also conduct other activities as needed:
 - 1 Visually monitor the work practices of the Contractor's employees to determine that the work is being done in compliance with this work plan. The Owner's Representative may conduct this activity on a continual basis or may make unannounced random visits to the project site to check on the Contractor's performance.
 - 2 Visually inspect for the presence of visible emissions suspected to contain lead.
 - 3 Conduct area air monitoring in accordance with accepted methods.
 - 4 Collect bulk samples of relevant materials to determine the presence or absence of lead.
 - 5 Visually inspect the work area for cleanliness after completion of the work.

2.08 Air Sampling By The Owner's Representative

A The Owner's Representative may choose to collect area samples downwind, outside of the regulated work area. These sample results will be compared to background air samples upwind or samples collected prior to the beginning of work. Sample results indicating airborne lead emissions at or above five micrograms per cubic meter (5 ug/m³) above background levels will be interpreted to mean that the Contractor and/or subcontractor's containment or engineering controls are inadequate. This may result in the temporary stoppage of work until the Owner's Representative is assured that airborne lead levels will significantly diminish by the change in work practices or engineering controls.

2.09 Notification of Employers of Employees in Adjacent Areas

A The Contractor and subcontractors who will disturb lead are responsible for ensuring that employers of employees in areas adjacent to the work being conducted have been notified that work disturbing lead will take place.

2.10 Suspension Of Work

A The Owner's Representative may suspend all work that disturbs lead if wind speeds are more than fifteen miles per hour, or if in the judgment of the Owner's Representative, other factors exist that determine the work must be stopped because of the potential for the creation of lead hazards.

2.11 Testing For Lead In Paints, Coatings, Ceramic Tile, And Other Materials

- A The Owner does not anticipate paying for additional testing. However, in some cases, it may be in the interest of the contractor and/or subcontractors to determine the exact concentration of lead in the paint or coating since that will affect Cal/OSHA and CDPH compliance issues.
- B Should the contractor and/or subcontractor wish the paint or ceramic tile to be tested, they will need to request this of the Owner's Representative. This testing must be done by a CDPH-certified lead inspector/risk assessor approved by the Owner's Representative and paid for by the contractor and/or subcontractor requesting the testing.

2.12 Wet Work Practices

A Unless determined infeasible by the Owner's Representative, all disturbance of leadcontaining materials must utilize wet methods for dust suppression.

2.13 Work Involving Whole Component Removal Or Demolition Of Entire Structures:

- A Lead-containing paint on construction debris is generally not considered a hazardous waste in California. However, until testing, the structures may result in all construction debris from that site being considered a hazardous waste.
- B Any paint debris generated during this work must be separated into appropriate waste streams and handled as a hazardous waste, or as deemed appropriate as discussed in Part 1.20 Lead Waste Management.
- C The manual demolition or removal of painted components involving over 100 square feet of material does not trigger the Cal/OSHA pre-work notification as stated in 8 CCR 1532.1 (p) if the material in not lead-based paint.

2.14 Prohibited Work Practices

- A The following work activities are prohibited on the project:
 - 1 Open-flame burning or torching.
 - 2 Machine sanding or grinding of lead materials or surfaces coated with lead unless the machine is equipped with a HEPA-filtered-vacuum recovery system.
 - 3 Un-contained hydro-blasting or high-pressure washing.
 - 4 The use of power washing to remove loose and peeling paint without containment.
 - 5 Abrasive blasting or sandblasting without a HEPA-filtered-vacuum recovery system or done outside of a negative pressure enclosure.
 - 6 Heat guns operating above 1,100 °F.
 - 7 Dry scraping of lead-based paint, except for limited areas where electrical hazards create a higher risk than lead or unless specifically approved by the Project Supervisor/Monitor.
 - 8 Use of methylene chloride-based paint strippers.

2.15 Work Site Preparation & Containment Requirements

A The Contractor and/or subcontractor is required to contain the disturbance of lead in a manner that prevents lead-contaminated dust, debris, water, or air from leaving the regulated work area in an uncontrolled fashion.

2.16 Personal Air Sampling

A The Contractor and subcontractors are responsible for conducting personal air monitoring during disturbance of lead in compliance with the requirements of 8 CCR 1532.1. At a minimum, Contractors and subcontractors shall conduct representative exposure monitoring on workers on a daily basis whenever those workers will conduct trigger task activities that will take longer than one hour to complete in an eight-hour shift. In addition, air sampling must be done for any work for which the Project Owner's Representative believes has a reasonable potential for generating airborne lead at or above the Action Level. The Owner's Representative will not allow work to proceed if the Contractor is not prepared to conduct the necessary monitoring.

2.17 Personal Protective Equipment

A The Contractor shall use respirators and personal protective equipment as required by 8 CCR 1532,1 and as appropriate based on personal air monitoring results. All respirators must be approved by NIOSH. Respirator fit test records and the respiratory protection program shall be retained on site as part of the project documentation if respiratory protection is used on this project. Disposable dust/mist respirators shall not be used.

2.18 Decontamination Procedures

- A Decontamination procedures shall be established by the Contractor and subcontractor depending upon the airborne concentrations of lead as well as the amount of dust and debris created by the work. At a minimum, the decontamination procedures shall be in compliance with 8 CCR 1532.1 (i) (1-5). As stated in 8 1532.1 (i) (1-5).
- B For work that does not exceed the PEL, the Contractor and/or subcontractor must assure that a hand-washing station is available and used by the supervisor and workers. For work that exceeds the PEL, the Contractor must ensure that workers shower, at a minimum at the end of the work shift as required by 8 CCR 1532.1.

2.19 Final Inspection Of The Work Area

A The Owner's Representative will visually inspect the work area to determine that there is no visible dust or debris still in the area that is reasonably expected to have been generated by the work.

2.20 Lead Waste Management

- A Proper testing and disposal of all waste material is the responsibility of the Contractor.
- B The Contractor must plan the work in order to minimize the generation of hazardous waste during the disturbance of lead-containing materials. The Contractor must create separate waste streams as necessary. This particularly includes the separation of any loose paint chips or flakes from other construction debris. All waste streams must be identified by the Contractor before the work begins and separated during the course of the project to minimize costs of disposal.
- C The Contractor is responsible for all costs associated with the testing, removal, packing, loading, shipping, and disposal of lead containing waste generated during this project.
- D The Contractor is required to comply with all regulations in Title 8 Section 1532.1 Lead in Construction and Cal/EPA Title 22 for waste classification and disposal.

2.21 Waste Manifests

A For all hazardous waste that requires an EPA manifest, the Contractor must coordinate with the Owner for signature of the manifest. **Hazardous Waste Manifest shall only be signed by the Owners Representative.** The Contractor must notify the Owner a minimum of 48 hours in advance of the need for a signature. Hazardous waste cannot be transported without an authorized signature. It is the responsibility of the Contractor to coordinate with the Owner the time waste transporters will need the signature. Delays resulting from the failure of the Contractor to obtain an authorized signature from the Owner will be the sole responsibility of the Contractor. The Contractor must properly label all hazardous waste containers before they leave the job site according to the requirements of DTSC and DOT.

End of Part 2

PART 3 - REMOVAL AND DISPOSAL OF LIGHTING BALLASTS AND FLUORESCENT LIGHTING TUBES/LAMPS

3.01 REMOVAL AND DISPOSAL OF LIGHTING BALLASTS

- A Contractor shall provide for the proper removal, handling, and disposal/recycling of all lighting ballasts requiring removal in this contract.
- B Ballasts not specifically marked as "NO PCB's" shall be assumed to contain Polychlorinated Biphenyls and disposed of as hazardous waste. All other ballast shall be recycled.
- C All leaking fluid from a PCB containing ballast shall be treated as PCB contaminated fluid.
- D PCB ballasts and all contaminated materials shall be packaged in steel drums by the Contractor for transportation to an incineration site approved by the Owner's Representative.
- E Provide manifest for disposal of PCB containing ballast per Section 2.21.
- F The Abatement Contractor shall be responsible for using only waste haulers who are currently licensed in the state of California. The Abatement Contractor shall provide to the Owner's Representative a copy of the waste haulers state certificate for hauling hazardous waste.
- G The Contractor shall provide the location and classification of the incineration site being used to dispose the PCB containing waste.

3.02 REMOVAL OF FLUORESCENT LIGHTING TUBES/LAMPS

A The Contractor shall provide for the proper removal, handling, packaging, transportation, and disposal/recycling of all fluorescent lighting tubes/lamps and associated contaminated materials requiring removal in this contract.

End of Part 3

Appendix A

Asbestos - Lead Paint Survey Reports

Asbestos and Lead Based Paint Survey Report

For

American River College Liberal Arts Demolition 4700 College Oak Drive, Sacramento, CA 95841

Prepared For:

Los Rios Community College District 3753 Bradview Drive Sacramento, CA 95827

Prepared By:

Environmental Construction Services, Inc. P.O. Box 5277 Bay Point, CA 94565

Ryan Govan DOSH CAC #92-0375 CDPH Inspector / Assessor # I -20975

March 7, 2017

Revised February 19, 2018

P.O. Box 5277 . Bay Point, California 94565 . Tel (925) 370-2222 . Fax (925) 370-2282

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March 7, 2017 Revised February 19, 2018

Asbestos and Lead Based Paint Survey Report For American River College Liberal Arts Demolition 4700 College Oak Drive, Sacramento, CA 95841

1. Introduction:

A site survey was conducted at American River College Liberal Arts Building. The purpose of the survey was to determine the presence of Asbestos Containing Materials (ACMs) and Lead Based Paint (LBPs). The survey was performed for compliance with the Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP), Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 902, California Department of Public Health (CDPH), and Cal/OSHA prior to demolition of the buildings.

Mr. Ryan Govan of Environmental Construction Services, Inc., a California Division of Occupational Health and Safety (DOSH) Certified Asbestos Consultant (CAC) and California Department of Public Health (CDPH) Lead Inspector conducted the survey.

2. Site Description:

The site consists of five buildings totaling 31,340 sq.ft. constructed in 1957. The buildings are formed concrete and brick and mortar construction. Interior walls are drywall. Ceilings are drywall and suspended ceiling tiles. Flooring is vinyl tiles and carpet on concrete slab over various mastics. Restroom floors are ceramic tiles. Windows are metal framed with glazing compounds.

The HVAC system consists of air handlers on the roof with hot water and chilled water supplied from a central plant. There is also an abandoned hot water system with insulated pipes remaining in trenches under the concrete floor. Roofs are single ply over built up roofing.

3. Summary of ACM:

ACM located in this survey are shown in the following table. The table indicates the asbestos content, friable (yes or no) EPA Category (RACM, Category 1 or Category 2 Non Friable), and OSHA work classifications (1-4 or unclassified).

Summary of ACM					
Location	Description	Asbestos Present	<u>Friable</u>	Estimated	
			EPA Category	<u>Quantity</u>	
			OSHA Wk Class		
Roofs	Built up roofing, gray/silver paint	Built up – 12% Chrysotile.	No	49,600 sq.ft.	
	and sealers throughout roofs.	Sealers – 10% Chrysotile.	<u>Cat II</u>		
		Paint - 4% Chrysotile.	Class II		

Summary	Summary of ACM					
Location	Description	Asbestos Present	<u>Friable</u> EPA Category OSHA Wk Class	<u>Estimated</u> Quantity		
Pipe Trenches	Pipe insulation on hot water pipes in trench below floor to abandoned radiators throughout buildings.	2% Amosite. 5% Chrysotile.	<u>Yes</u> <u>RACM</u> <u>Class I</u>	3,750 l.f.		
Bldg. 1	Mastic under carpets throughout building 1.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	6,500 sq.ft.		
Bldg. 1	Pipe insulation on hot water pipes above ceilings in building 1.	2% Amosite. 5% Chrysotile.	<u>Yes</u> <u>RACM</u> <u>Class I</u>	160 l.f.		
Bldg. 1	Joint compound on drywall walls and ceilings throughout building 1.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	26,500 sq.ft.		
Bldg. 1	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> Class II	294 sq.ft (Total Window Area)		
Bldg. 2	Mastic under floor tile throughout building 2.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	6,000 sq.ft.		
Bldg. 2	Joint compound on drywall walls and ceilings throughout building 2.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	12,000 sq.ft.		
Bldg. 2	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	672 sq.ft (Total Window Area)		
Bldg. 3	Mastic under carpets throughout building 3.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	4.260 sq.ft.		
Bldg. 3	Joint compound on drywall walls and ceilings throughout building 3.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	6,400 sq.ft.		
Bldg. 3	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	462 sq.ft (Total Window Area)		
Bldg. 4	Mastic under carpets throughout building 4.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	4,250 sq.ft.		
Bldg. 4	Joint compound on drywall walls and ceilings throughout building 4.	<0.25% Chrysotile. (Composite)	<u>N/A</u> <u>N/A</u> <u>Class II</u>	6,600 sq.ft.		
Bldg. 4	Window glazing compounds.	2% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	462 sq.ft (Total Window Area)		
Bldg. 5	Mastic under carpets in room 120A.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	120 sq.ft.		
Bldg. 5	Mastic under floor tile throughout building 5.	5% Chrysotile.	<u>No</u> <u>Cat II</u> <u>Class II</u>	970 sq.ft.		

Summary of ACM					
Location	Description	Asbestos Present	<u>Friable</u>	Estimated	
			EPA Category	<u>Quantity</u>	
			OSHA Wk Class		
Bldg. 5	Joint compound on drywall walls	<0.25% Chrysotile.	<u>N/A</u>	3,240 sq.ft.	
	and ceilings throughout building 5.	(Composite)	<u>N/A</u>		
			<u>Class II</u>		
Bldg. 5	Window glazing compounds.	2% Chrysotile.	<u>No</u>	350 sq.ft	
			<u>Cat II</u>	(Total Window	
			<u>Class II</u>	Area)	
Bldg. 6	Mastic under carpets throughout	5% Chrysotile.	<u>No</u>	3,132 sq.ft.	
	building 6.		<u>Cat II</u>		
			<u>Class II</u>		
Bldg. 6	Mastic under floor tile in rooms 154	5% Chrysotile.	No	2,132 sq.ft.	
	and 157.		<u>Cat II</u>		
			<u>Class II</u>		
Bldg. 6	Joint compound on drywall walls	<0.25% Chrysotile.	<u>N/A</u>	11,000 sq.ft.	
	and ceilings throughout building 6.	(Composite)	<u>N/A</u>		
			<u>Class II</u>		
Bldg. 6	Window glazing compounds.	2% Chrysotile.	No	168 sq.ft	
			<u>Cat II</u>	(Total Window	
			Class II	Area)	

*Cat I and Cat II non friable materials that will be subject to mechanical forces during removal or demolition will be designated as RACM. N/A = Not Applicable

4. Summary of Lead-Based Paints:

Lead testing performed with an X-Ray Fluorescence Spectrum Analyzer (XRF) and laboratory results indicated lead based paint or lead containing paint used on the following interior and exterior building components. The results of the testing are presented in the XRF Field Data Report Table and Paint Chip Sample Results Table.

Lead Based Paint >5000 mg/kg:

- Exterior metal columns.
- Heating ducts in mechanical rooms.
- Exterior wood doors.
- Metal panels next to doors.
- Metal white boards in classrooms.
- Cork board wall panels in classrooms.
- Drywall in buildings 5 and 6.
- Silver paint on metal roof components.

Lead Containing Paint:

- Wood doors.
- Metal door frames.
- Metal window components.
- Interior concrete walls
5. Asbestos Sample Results

The following samples of materials suspected to contain asbestos were collected and delivered to EMSL Analytical in San Leandro, California for asbestos analysis. The samples were analyzed by Polarized Light Microscopy (PLM) method EPA 600/R-93/116 to determine their asbestos type and content. Quantification using PLM 400 Point Count Procedure was performed on samples reported to contain low levels of asbestos by standard PLM. EMSL is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP). The results of the analysis are as follows:

Asbestos	Asbestos PLM Point Count Sample Results					
Sample	Description	Results				
No.						
A-04	Room 166 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-14	Mech. room next to room 166 -Drywall and joint	<0.25% Chrysotile.				
	compound.					
A-21	Room 165 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-23	Room 164 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-27	Room 165 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-32	Room 169 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-35	Room 167 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-38	Room 129 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-43	Room 128 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-46	Room 126 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-49	Room 125 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-56	Room 122 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-57	Room 124 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-61	Room 133 P -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-62	Room 133 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-64	Room 133 V -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-69	Hallway at 133 Q -Drywall and joint compound above	<0.25% Chrysotile (composite).				
	ceiling.					
A-70	Room 133 D -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-61	Room 133 P -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-103	Room 152 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-105	Room 152C -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-123	Room 154 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-126	Room 157 -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-130	Room 120D -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-131	Room 120A -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-132	Room 120C -Drywall and joint compound.	<0.25% Chrysotile (composite).				
A-136	Mech. Room -Drywall and joint compound.	<0.25% Chrysotile (composite).				

Asbestos Standard PLM Sample Results						
Sample	Description/Location	Results				
No.						
A-01	Blue 12' floor tile, white mastic, room 166.	Tile – None Detected.				
		Mastic – None Detected.				
A-02	Black mastic residues under blue tile, room 166.	5% Chrysotile.				
A-03	Gray, brown on blue vinyl floor base, room 166.	Base – None Detected.				
		Mastic – None Detected.				
		Compound – None Detected.				

Asbestos S	tandard PLM Sample Results	
Sample No.	Description/Location	Results
A-04	Drywall and joint compound, room 166.	Skim Coat – None Detected.
		Compound – 2% Chrysotile.
		Drywall – None Detected.
A-05	2'x4' fissured ceiling tile, room 166.	None Detected.
A-06	12" perforated tile, brown mastic on soffit above ceiling,	Tile – None Detected.
	room 166.	Mastic – None Detected.
A-07	Drywall and joint compound, behind tiles on soffit, room	Compound – 2% Chrysotile.
	166.	Drywall – None Detected.
A-08	Window glazing compound at room 166.	<1% Chrysotile.
A-09	Window glazing compound at room 164.	<1% Chrysotile.
A-10	Window glazing compound at room 163.	<1% Chrysotile.
A-11	Window glazing compound at room 169.	<1% Chrysotile.
A-12	Window glazing compound at room 167.	<1% Chrysotile.
A-13	White sealer on duct above ceiling, room 166.	None Detected.
A-14	Drywall and joint compound in mechanical room next to	Compound – 2% Chrysotile.
	room 166.	Drywall – None Detected.
A-15	Concrete floor in mechanical room next to room 166.	None Detected.
A-16	Black mastic residues under 12" floor tile, room 165.	2% Chrysotile.
A-17	Blue 12" floor tile, yellow mastic, room 165.	Tile – None Detected.
		Mastic – None Detected.
A-18	Gray, brown mastic on blue vinyl floor base, room 165.	Base – None Detected.
		Mastic – None Detected.
A-19	12" perforated tile, brown mastic above ceiling, room	Tile – None Detected.
	165.	Mastic – None Detected.
A-20	2'x4' fissured ceiling tile, room 165.	None Detected.
A-21	Drywall and joint compound behind 12" tile above	Compound – 2% Chrysotile.
	ceiling, room 165.	Drywall – None Detected.
A-22	White joint tape on duct inside soffit.	None Detected.
A-23	Drywall and joint compound, room 164.	Compound – 2% Chrysotile.
		Drywall – None Detected.
A-24	Blue 12" floor tile, yellow mastic, gray filler, room 164.	Tile – None Detected.
		Mastic – None Detected.
		Filler – None Detected.
A-25	2'x4' fissured ceiling tile, room 170.	None Detected.
A-26	2'x4' fissured ceiling tile (replacement tile), room 170.	None Detected.
A-27	Drywall and joint compound, room 170.	Drywall – None Detected.
		Compound 1 – 2% Chrysotile.
		Compound 2 – 2% Chrysotile.
		Compound 3 – None Detected.
A-28	Blue 12" floor tile, orange mastic, gray filler, room 170.	Tile – None Detected.
		Mastic 1 – None Detected.
		Mastic 2 – 5% Chrysotile.
		Filler – None Detected.
		Compound – 2% Chrysotile.
A-29	White, orange mastic on blue vinyl floor base, room 170.	Base – None Detected.
		Mastic – None Detected.
		Compound – 2% Chrysotile.
A-30	Black, gray filler at edge of floor tile, room 170.	None Detected.
A-31	Black mastic residues under blue floor tile, room 169.	None Detected.

Asbestos Standard PLM Sample Results						
Sample No.	Description/Location	Results				
A-32	Drywall and joint compound, room 169.	Compound – 2% Chrysotile.				
		Drywall – None Detected.				
A-33	Tan, brown mastic on blue vinyl floor base, room 167.	Base – None Detected.				
		Mastic 1 – None Detected.				
		Mastic 2 – None Detected.				
A-34	Black, orange mastic under blue floor tile, room 167.	Mastic 1 – 5% Chrysotile.				
		Mastic 2 – None Detected.				
A-35	Drywall and joint compound, room 167.	Compound – 2% Chrysotile.				
		Drywall – None Detected.				
A-36	Green, black mastic under carpet, room 129.	None Detected.				
A-37	Brown, white mastic on brown vinyl floor base, room 129.	Mastic 1 – None Detected.				
		Mastic 2 – None Detected.				
A-38	Drywall and joint compound, Room 129.	Drywall – None Detected.				
		Compound 1 – None Detected.				
		Compound 2 – 2% Chrysotile.				
A-39	2'x4' fissured ceiling tile, room 129.	None Detected.				
A-40	12" perforated tile on wall, room 129.	None Detected.				
A-41	Green, black mastic under carpet, room 128.	None Detected.				
A-42	Brown, white mastic on brown vinyl floor base, room 128.	Base – None Detected.				
		Mastic – None Detected.				
A-43	Drywall and joint compound, room 128.	Compound – 2% Chrysotile.				
		Drywall – None Detected.				
A-44	Green, black mastic under carpet, room 126.	None Detected.				
A-45	Brown, white mastic on brown vinyl floor base, room 126.	Mastic 1 – None Detected.				
		Mastic 2 – None Detected.				
A-46	Drywall and joint compound, room 126.	Drywall – None Detected.				
		Compound 1 – 2% Chrysotile.				
		Compound 2 – 2% Chrysotile.				
A-47	Green, black mastic under carpet, room 125.	None Detected.				
A-48	Brown mastic on brown vinyl floor base, room 125.	Base – None Detected.				
		Mastic – None Detected.				
		Mastic 2 – None Detected.				
A-49	Drywall and joint compound, room 125.	Drywall – None Detected.				
		Compound 1 – 2% Chrysotile.				
		Compound 2 – 2% Chrysotile.				
A-50	2'x4' fissured ceiling tile, room 125.	None Detected.				
A-51	12" perforated tile on wall, room 125.	None Detected.				
A-52	2'x4' fissured ceiling tile, room 122.	None Detected.				
A-53	2'x4' fissured ceiling tile (replacement), room 122.	None Detected.				
A-54	Green, black mastic under carpet, room 122.	Mastic – None Detected.				
		Mastic 2 – 5% Chrysotile.				
A-55	Tan, brown mastic on black vinyl floor base, room 122.	Mastic – None Detected.				
		Mastic 2 – None Detected.				
A-56	Drywall and joint compound, room 122.	Drywall – None Detected.				
		Compound 1 – 2% Chrysotile.				
		Compound 2 – None Detected.				
		Compound 3 – 2% Chrysotile.				
A-57	Drywall and joint compound, room 124.	Drywall – None Detected.				
		Compound – 2% Chrysotile.				

Asbestos Standard PLM Sample Results					
Sample	Description/Location	Results			
No.					
A-58	White, brown mastic on brown vinyl floor base, room	Base – None Detected.			
	121.	Mastic – None Detected.			
		Mastic 2 – None Detected.			
A-59	Green, black mastic under carpet, room 121.	Mastic – None Detected.			
		Mastic 2 – 5% Chrysotile.			
A-60	Drywall and joint compound, room 121.	Drywall – None Detected.			
		Compound 1 – 2% Chrysotile.			
		Compound 2 – 2% Chrysotile.			
A-61	Drywall and joint compound, room 133P.	Drywall – None Detected.			
		Compound 1 – 2% Chrysotile.			
		Compound 2 – None Detected.			
A-62	Drywall and joint compound, server room.	Drywall – None Detected.			
		Compound – 2% Chrysotile.			
A-63	Drywall and joint compound, room 133D.	Drywall – None Detected.			
		Compound – None Detected.			
A-64	Drywall and joint compound, room 133V.	Drywall – None Detected.			
		Compound 1 – 2% Chrysotile.			
		Compound 2 – 2% Chrysotile.			
A-65	Drywall and joint compound, room 133Y.	Drywall – None Detected.			
		Compound – None Detected.			
A-66	Drywall and joint compound, room 135.	Drywall – None Detected.			
		Compound – None Detected.			
A-67	Drywall and joint compound, room 131.	Drywall – None Detected.			
		Compound – None Detected.			
A-68	Brown mastic from old tiles above suspended ceiling,	Tile – None Detected.			
	hallway at room 133.	Mastic – None Detected.			
A-69	Drywall and joint compound above ceiling, hallway at	Drywall – None Detected.			
	133Q.	Compound – 2% Chrysotile.			
A-70	Drywall and joint compound above ceiling, room 133D.	Drywall – None Detected.			
		Compound 1 – 2% Chrysotile.			
		Compound 2 – 2% Chrysotile.			
A-71	Brown mastic on old ceiling tile above ceiling, room 133D.	Tile – None Detected.			
		Mastic – None Detected.			
A-72	Pipe elbow insulation above ceiling, room 135.	2% Amosite.			
		5% Chrysotile.			
A-73	Joint tape on duct above ceiling, room 135.	None Detected			
A-74	Joint tape on duct above ceiling, room 135.	None Detected			
A-75	Pipe elbow insulation above ceiling, room 135.	Insulation - 2% Amosite.			
		Insulation - 4% Chrysotile.			
		Tape - None Detected.			
A-76	2'x4' fissured ceiling tile (common), room 135.	None Detected			
A-77	2'x4' fissured ceiling tile (replacement), room 135.	None Detected			
A-78	2'x4' fissured ceiling tile (common), room 135.	None Detected			
A-79	Brown mastic on 12" ceiling tile above suspended ceiling,	Tile – None Detected.			
	room 131.	Mastic – None Detected.			
A-80	2'x4' fissured ceiling tile (replacement), room 131.	None Detected			
A-81	2'x4' fissured ceiling tile (common), room 131.	None Detected			
A-82	2'x4' fissured ceiling tile (common), hallway at 133Q.	None Detected			
A-83	2'x4' fissured ceiling tile (replacement), hallway at 133Q	None Detected			
A-84	Green mastic under carpet, room 133P.	None Detected			

Asbestos S	tandard PLM Sample Results	
Sample No.	Description/Location	Results
A-85	Brown and white mastic on brown vinyl floor base, room	Mastic – None Detected. Mastic 2 – None Detected
A-86	Green mastic under carnet room 133T	None Detected
A-80	Brown mastic on brown vinyl floor base, room 132T	None Detected
A-07	Green block mestic under sernet reem 1220	Mostia None Detected
A-00	Green, black mastic under carpet, room 155G.	Mastic – None Detected. Mastic 2 – 4% Chrysotile.
A-89	Green mastic under carpet, room 133D.	None Detected
A-90	Green mastic, white compound under carpet, room 133U.	Mastic – None Detected.
Δ_91	Brown mastic on brown vinul floor base, room 1331	Mastic – None Detected
A-91		Mastic 2 – None Detected.
A-92	Green, black mastic under carpet, room 133X.	Mastic – None Detected.
A 02	Croon block mostic under cornet room 122	Mastic 2 – 5% Chrysotile.
A-93	Green, black mastic under carpet, room 132.	Mastic – 4% Chrysotile.
		Mastic 2 – None Detected.
A-94	Green, black mastic under carpet, room 135.	Mastic – None Detected.
		Mastic 2 – 2% Chrysotile.
A-95	Green, black mastic under carpet, room 135B.	Mastic – None Detected.
A 00		Mastic 2 – None Detected.
A-96	Grout and mortar on 4° ceramic wall tile, men's	Tile – None Detected.
	restroom.	Grout – None Detected.
		Mortar – None Detected.
		Mastic – None Detected.
A-97	Grout and mortar on 2" ceramic floor tile, men's	lile – None Detected.
	restroom.	Grout – None Detected.
		Mortar – None Detected.
		Tile 2– None Detected.
		Mastic – None Detected.
A-98	Drywall and joint compound, men's restroom.	Drywall – None Detected.
		Compound – None Detected.
		Compound 2 – None Detected.
A-99	Drywall and joint compound, women's restroom.	Drywall – None Detected.
		Compound – None Detected.
A-100	Grout and mortar on 2" ceramic floor tile, women's	Tile – None Detected.
	restroom.	Grout – None Detected.
		Mortar – None Detected.
		Mastic – None Detected.
A-101	Joint tape on duct in women's restroom.	None Detected.
A-102	Grout and mortar on 4" ceramic wall tiles, women's	Tile – None Detected.
	restroom.	Grout – None Detected.
		Mastic – None Detected.
		Compound 1 – None Detected.
		Compound 2 – None Detected.
A-103	Drywall and joint compound above ceiling, room 152.	Drywall – None Detected.
		Compound – 2% Chrysotile.
A-104	12" ceiling tile and brown mastic above suspended	Tile – None Detected.
	ceiling, room 152.	Mastic – None Detected.
A-105	Drywall and joint compound, room 156.	Drywall – None Detected.
		Compound 1 – 2% Chrysotile.
		Compound 2 – 2% Chrysotile.

Asbestos S	tandard PLM Sample Results			
Sample No.	Description/Location	Results		
A-106	Drywall and joint compound, room 152.	Drywall – None Detected.		
		Compound – None Detected.		
A-107	Drywall and joint compound, room 152.	Drywall – None Detected.		
		Compound – None Detected.		
A-108	Drywall and joint compound, room 152C.	Drywall – None Detected.		
		Compound 1 – 2% Chrysotile.		
		Compound 2 – 2% Chrysotile.		
A-109	2'x4' fissured ceiling tile (common), room 152.	None Detected.		
A-110	2'x4' fissured ceiling tile (replacement), room 152.	None Detected.		
A-111	2'x4' fissured ceiling tile (common), room 152.	None Detected.		
A-112	2'x4' fissured ceiling tile (replacement), room 152.	None Detected.		
A-113	White 12" floor tile, orange, black mastic, room 156.	Tile – None Detected.		
		Mastic – None Detected.		
		Mastic 2 – 2% Chrysotile.		
A-114	Orange, black mastic under carpet, room 152.	Mastic – None Detected.		
		Mastic 2 – 2% Chrysotile.		
A-115	White mastic on black vinyl floor base room 152C	None Detected		
A-116	Black vinyl floor base, white, brown mastic, room 152	Base – None Detected		
// 110		Mastic – None Detected.		
A-117	Orange, black mastic under carpet, room 152.	Mastic – None Detected.		
		Mastic 2 – 3% Chrysotile.		
A-118	Brown door core, room 156.	None Detected.		
A-119	12" fissured wall tile brown mastic room 152B	Tile – None Detected		
// 115		Mastic – None Detected		
A-120	2'x4' fissured ceiling tile (replacement) room 154	None Detected		
A-121	2'x4' fissured ceiling tile (common) room 154	None Detected		
A-122	Blue 12" floor tile black mastic room 154	Tile – None Detected		
<i>N</i> 122		Mastic – None Detected		
Δ-123	Drywall and joint compound room 154	Drywall – None Detected		
		Compound 1 – 2% Chrysotile.		
		Compound $2 - 2\%$ Chrysotile.		
A-124	White sealer on duct above ceiling room 154	None Detected		
A-125	Blue 12" floor tile, orange, black mastic, room 157.	Tile – None Detected.		
A 125		Mastic – 2% Chrysotile.		
		Mastic 2 – None Detected.		
		Mastic 3 – None Detected.		
A-126	Drywall and joint compound, room 157.	Drywall – None Detected.		
		Compound $1 - 2\%$ Chrysotile.		
		Compound $2 - 2\%$ Chrysotile.		
		Compound 3 – None Detected.		
A-127	White brown mastic on blue vinyl floor base room 157	Mastic – None Detected		
// 12/		Mastic 2 – None Detected		
A-128	White 12" floor tile, orange, black mastic, room 120C.	Tile – None Detected.		
		Mastic – None Detected.		
		Mastic 2 – 3% Chrysotile.		
A-129	White 12" floor tile, black mastic, room 120B	Tile – None Detected.		
		Mastic – None Detected		
A-130	Drywall and joint compound, room 120D	Drywall – None Detected		
		Compound $1 - 2\%$ Chrysotile.		
		Compound 2 – 2% Chrysotile.		

Asbestos S	itandard PLM Sample Results	
Sample	Description/Location	Results
No.		
A-131	Drywall and joint compound, room 120A.	Drywall – None Detected.
		Compound 1 – 2% Chrysotile.
		Compound 2 – 2% Chrysotile.
A-132	Drywall and joint compound, room 120C.	Drywall – None Detected.
		Compound 1 – 2% Chrysotile.
		Compound 2 – <1% Chrysotile.
		Compound 3 – 2% Chrysotile.
A-133	Drywall and joint compound, room 120C.	None Detected.
A-134	12" ceiling tile, brown mastic above suspended ceiling,	Tile – None Detected.
	room 120C.	Mastic – None Detected.
A-135	Tan, brown mastic on black vinyl floor base, room 120C.	Mastic – None Detected.
		Mastic 2 – None Detected.
A-136	Drywall and joint compound, mechanical room.	Drywall – None Detected.
		Compound 1 – 2% Chrysotile.
		Compound 2 – 2% Chrysotile.
A-137	Joint tape on duct, mechanical room.	None Detected.
A-138	Joint tape on duct, mechanical room.	None Detected.
A-139	White sealer on inside of duct, mechanical room.	3% Chrysotile.
A-140	Pipe insulation on hot water pipe under PVC jacket,	None Detected.
	mechanical room.	
A-141	Pipe insulation on hot water pipe under PVC jacket,	None Detected.
	mechanical room.	
A-142	Pipe insulation on hot water pipe under PVC jacket,	None Detected.
	mechanical room.	
A-143	Canvas over fiberglass insulation on hot water pipes,	None Detected.
	mechanical room.	
A-144	Canvas over fiberglass insulation on hot water pipes,	Insulation – None Detected.
A 445	mechanical room.	Wrap – None Detected.
A-145	canvas over fiberglass insulation on not water pipes,	Insulation – None Detected.
A 14C	mechanical room.	Wrap - None Detected.
A-140	trench machanical room	Mran None Detected.
A 147	Conversioner fiberglass insulation on bot water pipes in	Widp - None Detected.
A-147	tronch machanical room	Wran – None Detected.
A 140	Ruilt up roofing silver point building 2	Ruilt up 12% Chrysotile
A-140	Built up rooming, silver paint, building 2.	Built up = 12% Chrysotile.
		Insulation – None Detected
Δ_1/0	Ruilt up roofing silver point building 1	Built up – None Detected
7-143	built up roomig, silver paint, building 1.	Paint – None Detected
		Built up – None Detected
		Tar – None Detected
		Felt – None Detected.
		Felt Paper– None Detected.
		Insulation – None Detected.
A-150	Built up roofing, silver paint, building 6.	Built up – None Detected.
		Paint – None Detected.
		Built up 2 – None Detected.
		Built up 3 – None Detected.
		Felt – None Detected.
		Insulation – None Detected.

Asbestos Standard PLM Sample Results					
Sample No.	Description/Location	Results			
A-151	Built up roofing, silver paint, building 5.	Built up – None Detected.			
		Paint – 4% Chrysotile.			
		Built up 2 – None Detected.			
		Tar – None Detected.			
		Felt – None Detected.			
A-152	Built up roofing, silver paint, building 3.	Built up – None Detected.			
		Paint – None Detected.			
		Built up 2 – None Detected.			
		Tar – None Detected.			
		Felt – None Detected.			
		Insulation – None Detected.			
A-153	Silver paint/sealer on conduit on roof, building 3.	Paint – None Detected.			
		Sealer – 8% Chrysotile.			
A-154	White sealer on duct on roof, building 5.	None Detected.			
A-155	White sealer on duct on roof, building 5.	None Detected.			
A-156	Tan caulking on roof HVAC unit, building 2.	None Detected.			
A-157	Black wrap on pipes at HVAC unit, building 2.	None Detected.			
A-158	Yellow fiberglass pipe insulation, white sealer on roof,	Insulation – None Detected			
	building 2.	Sealer – None Detected.			
A-159	Gray sealer on metal cap on roof pipe support, building 2.	10% Chrysotile.			
A-160	Yellow fiberglass pipe insulation, white sealer on roof,	Insulation – None Detected			
	building 2.	Sealer – None Detected.			
A-161	White wool pipe insulation on roof, building 2.	None Detected.			
A-162	Silver paint/sealer on metal cap at roof exhaust fan,	Paint – None Detected.			
	building 1.	Sealer – 8% Chrysotile.			
A-163	Yellow fiberglass, white wool pipe insulation on roof,	Insulation – None Detected			
	building 1.	Insulation 2 – None Detected.			
A-164	Brown foam pipe insulation on roof, building 1.	None Detected.			
A-165	Silver paint/sealer on pipe support on roof, building 1.	Paint – None Detected.			
		Sealer – 8% Chrysotile.			
A-166	Brown foam pipe insulation on roof, building 3.	None Detected.			
A-167	Yellow pipe insulation, white canvas on roof, building 3.	Insulation – None Detected			
		Canvas – None Detected.			
A-168	Silver paint/sealer on metal cap on pipe support,	Paint – None Detected.			
	building 3.	Sealer – 4% Chrysotile.			
A-169	Silver paint/sealer on metal pipe cover on roof, building	Paint – None Detected.			
	6.	Sealer None Detected.			
A-170	Brown pressed wood between blue metal exterior panels	None Detected.			
	on soffit at room 166.				
A-171	Exterior stucco on walkway ceiling at room 166.	None Detected.			
A-172	Exterior stucco on walkway ceiling at room 125.	None Detected.			
A-173	Exterior stucco on walkway ceiling at room 120.	None Detected.			
A-174	Exterior stucco on walkway ceiling at room 154.	None Detected.			
A-175	Exterior stucco on walkway ceiling at mechanical room.	None Detected.			
A-176	Exterior stucco on walkway ceiling at room 133H.	Stucco – None Detected.			
		Skim Coat - None Detected.			
A-177	Exterior stucco on walkway ceiling at room 133R.	None Detected.			
A-178	Exterior stucco on wall at door to hallway at room 133Q.	None Detected.			

Asbestos Standard PLM Sample Results					
Sample	Description/Location	Results			
No.					
A-179	Exterior stucco window infill at room 135.	None Detected.			
A-180	Exterior stucco window infill at room 152.	None Detected.			
A-181	Exterior stucco window infill at room 152.	None Detected.			
A-182	Brick and mortar wall at room 166.	Brick – None Detected.			
		Mortar- None Detected.			
A-183	Brick and mortar wall at room 125.	Brick – None Detected.			
		Mortar- None Detected.			
A-184	Brick and mortar wall at room 120C.	Brick – None Detected.			
		Mortar- None Detected.			
A-185	Brick and mortar wall at room 157.	Brick – None Detected.			
		Mortar- None Detected.			
A-186	Brick and mortar wall at mechanical room.	Brick – None Detected.			
		Mortar- None Detected.			
A-187	Window glazing compound at room 157.	None Detected.			
A-188	Window glazing compound at room 134.	None Detected.			
A-189	Window glazing compound at room 120C.	None Detected.			
A-190	Window glazing compound at room 120A.	None Detected.			
A-191	Window glazing compound at room 121.	2% Chrysotile.			
A-192	Window glazing compound at room 129.	None Detected.			

6. Lead Paint Sample Results:

The lead paint survey was conducted using an Innov-X Model I-3000 X-Ray Fluorescence (XRF) Spectrum Analyzer (Serial No.5854). The survey included 437 XRF tests including calibrations performed at the site and 24 paint chip samples collected for laboratory analysis.

This lead paint survey was conducted for the purpose of identifying lead-based paint on major building components. Federal EPA/HUD guidelines and Title 17, California Code of Regulations define a Lead Paint Inspection as an inspection that tests all painted surfaces in every room or area of the site. This survey did not comply with comprehensive HUD Lead Paint Inspection methods or protocol. Where LBP's are found in the areas tested, this survey will identify the individual architectural components and their respective concentration of lead in such a manner that this report could be used as a basis for subsequent demolition activities.

XRF results are presented in the XRF Field Data Report table and sample locations are indicated on the floor plans. Similar components on the same side are numbered from left to right.

XRF Field Data Report										
LBP - EPA	LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .									
LCP - Tes	t Results belov	v 1 mg/cm	² but above 0	.1 r	mg/cm ² are o	considered	d to contai	in detec	table amou	nts of lead.
Neg – Le	vels below 0.1	mg/cm ² c	annot be verif	ied	as absent fo	or lead in p	paint with	out labo	ratory conf	irmation.
Sample	Location	Side	Component/	No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint
No.							mg/cm ²			Condition
No. 1	Standard						mg/cm ²		Pass	Condition
No. 1 2	Standard Calibration						mg/cm² > 1.09	0.05	Pass Accept	Condition
No. 1 2 3	Standard Calibration Calibration						mg/cm ² > 1.09 > 1.09	0.05	Pass Accept Accept	Condition

XRF Field Data Report										
LBP - EPA	HUD/ CCR Tit	le 17 leve	l for lead-base	ed pa	aint - ≥ 1.0 r	ng/cm².				
LCP - Tes	t Results belov	v 1 mg/cn	n ² but above 0	.1 n	ng/cm ² are o	considered	d to contai	n detec	table amou	nts of lead.
Neg – Levels below 0.1 mg/cm ² cannot be verified as absent for lead in paint without laboratory confirmation.										
Sample	Location	Side	Component/	No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint
No.							mg/cm ²			Condition
5	Calibration						0	0	Accept	
6	Calibration						0	0	Accept	
7	Calibration						0	0	Accept	
08	Room 121	North	Wall		Concrete	White	0.15	0.06	LCP	Intact
09	Room 121	West	Wall		Drywall	White	0	0	Neg	Intact
10	Room 121	East	Wall		Drywall	White	0.06	0.03	Neg	Intact
11	Room 121	South	Wall		Concrete	White	0.11	0.14	LCP	Intact
12	Room 121	South	Window		Metal	White	0.11	0.04	LCP	Intact
			Mullion						_	
13	Room 121	South	Window		Metal	White	0.17	0.05	LCP	Intact
			Sill							
14	Room 121	South	Window		Metal	White	0.12	0.04	LCP	Intact
			Frame							
15	Room 121	South	Door		Metal	White	0.15	0.07	LCP	Intact
			Frame							
16	Room 121	South	Door		Wood	Red	0.37	0.08	LCP	Intact
17	Room 121	South	Door		Wood	Red	0.35	0.09	LCP	Intact
18	Room 122	South	Door		Metal	White	0.16	0.05	LCP	Intact
			Frame							
19	Room 122	East	Wall		Drywall	White	0	0	Neg	Intact
20	Room 122	North	Wall		, Concrete	White	0	0.01	Neg	Intact
21	Room 122	South	Wall		Concrete	White	0.05	0.02	Neg	Intact
22	Room 123	South	Door		Metal	White	0.1	0.04	LCP	Intact
			Frame							
23	Room 123	South	Door		Wood	Red	0.27	0.08	LCP	Intact
24	Room 123	West	Wall		Drywall	White	0	0	Neg	Intact
25	Room 123	North	Wall		, Concrete	White	0.02	0.04	Neg	Intact
26	Room 123	West	Door		Wood	White	0.86	0.12	LCP	Intact
-			Frame						-	
27	Room 123	West	Door		Wood	White	0.3	0.07	LCP	Intact
28	Room 124	South	Door		Metal	White	0.13	0.03	LCP	Intact
-			Frame						-	
29	Room 124	South	Door		Wood	Red	0.28	0.06	LCP	Intact
30	Room 124	South	Window		Concrete	White	0.13	0.04	LCP	Intact
			Sill						_	
31	Room 124	South	Window		Metal	White	0.12	0.04	LCP	Intact
			Frame						-	
32	Room 124	South	Window		Metal	White	0.09	0.03	Neg	Intact
			Mullion						-0	
33	Room 124	North	Door		Wood	White	0.11	0.04	LCP	Intact
			Frame							
34	Room 124	North	Door		Wood	White	0.26	0.05	LCP	Intact
35	Room 124A	South	Wall	-1	Drywall	White	0	0.01	Neg	Intact
36	Room 124	East	Electrical		Metal	White	0.17	0.05	LCP	Intact
			Panel					-		

XRF Field	XRF Field Data Report										
LBP - EPA	LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .										
LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.											
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifie	d as absent f	or lead in p	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/N	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
37	Room 125	East	Door	Wood	White	0.21	0.05	LCP	Intact		
			Frame								
38	Room 125	East	Door	Wood	White	0.43	0.08	LCP	Intact		
39	Room 125	North	Wall	Concrete	White	0.05	0.03	Neg	Intact		
40	Room 125	South	Door	Metal	White	0.09	0.03	Neg	Intact		
			Frame					_			
41	Room 125	South	Door	Wood	Red	0.25	0.04	LCP	Intact		
42	Room 125	South	Wall	Concrete	White	0.06	0.03	Neg	Intact		
43	Room 125	West	Wall	Drywall	White	0.3	0.05	LCP	Intact		
44	Room 125	North	Wall	Concrete	White	0.08	0.03	Neg	Intact		
45	Exterior	South	Column	Metal	Gray	> 5.00	0.92	LBP	Intact		
46	Exterior	South	Wall	Concrete	White	0.01	0.05	Neg	Intact		
47	Exterior	South	Window	Metal	White	0.04	0.02	Neg	Intact		
			Frame								
48	Exterior	North	Cover	Metal	White	0.02	0.03	Neg	Intact		
			over								
			Pipes								
49	Exterior	North	Column	Metal	Grav	> 5.00	1	LBP	Intact		
50	Exterior	North	Wall	Concrete	White	0	0	Neg	Intact		
51	Exterior	North	Wall	Concrete	White	0	0	Neg	Intact		
52	Exterior	North	Column	Metal	Tan	> 5.00	1.41	LBP	Intact		
53	Exterior	South	Window	Metal	White	0.01	0.01	Neg	Intact		
55	Exterior	South	Frame	inclui		0.01	0.01	1108	maace		
54	Exterior	South	Door	Wood	Red	0.38	0.08	LCP	Intact		
55	Exterior	South	Panel	Metal	Grav	2.59	0.33	LBP	Intact		
			next to		,		0.00				
			Door								
56	Exterior	South	Door	Metal	Grav	0.05	0.03	Neg	Intact		
			Frame								
57	Exterior	South	Door	Wood	Red	0.44	0.07	LCP	Intact		
58	Exterior	South	Panel	Metal	Grav	2.4	0.35	LBP	Intact		
			next to								
			Door								
59	Exterior	South	Door	Wood	Red	0.3	0.05	LCP	Intact		
60	Exterior	North	Wall	Concrete	White	0	0.01	Neg	Intact		
61	Exterior	North	Panel	Metal	Gray	4.11	0.26	LBP	Intact		
			next to		,						
			Door								
62	Exterior	North	Door	Wood	Red	0.4	0.07	LCP	Intact		
63	Exterior	North	Column	Metal	Gray	> 5.00	0.78	LBP	Intact		
64	Exterior	North	Louver	Metal	, White	0.1	0.04	LCP	Intact		
65	Exterior	North	Panel	Metal	Grav	4.53	0.44	LBP	Intact		
-	-	-	next to		,						
			Door								
66	Exterior	North	Door	Metal	Gray	0.31	0.06	LCP	Intact		
67	Exterior	North	Wall	Concrete	White	0	0	Neg	Intact		

XRF Field	XRF Field Data Report										
LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .											
LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.											
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verified	d as absent f	or lead in	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
68	Exterior	North	Door	Wood	Red	0.39	0.08	LCP	Intact		
69	Exterior	North	Window	Metal	White	0.03	0.02	Neg	Intact		
			Mullion					_			
70	Exterior	South	Wall	Concrete	White	0.01	0.02	Neg	Intact		
71	Exterior	South	Column	Metal	Gray	> 5.00	0.51	LBP	Intact		
72	Exterior	South	Wall	Concrete	White	0	0	Neg	Intact		
73	Exterior	East	Vendor	Metal	Red	0.01	0.01	Neg	Intact		
			Door								
			Frame								
74	Exterior	East	Vendor	Metal	Red	0.1	0.07	LCP	Intact		
			Door								
			Cover								
75	Room 126	East	Wall	Drywall	White	0	0	Neg	Intact		
76	Room 126	South	Wall	Concrete	White	0.09	0.05	Neg	Intact		
77	Room 126	East	Wall	Drywall	White	0.05	0.03	Neg	Intact		
78	Room 126	East	Door	Wood	White	0.77	0.14	LCP	Intact		
			Frame								
79	Room 126	East	Door	Wood	White	0.26	0.06	LCP	Intact		
80	Room 126	North	Door	Metal	White	0.33	0.09	LCP	Intact		
			Frame								
81	Room 126	North	Door	Wood	Red	0.2	0.08	LCP	Intact		
82	Room 128	North	Door	Metal	White	0.28	0.08	LCP	Intact		
02	Boom 139	North	Frame	Wood	Pod	0.12	0.04		Intact		
03	Room 120	Fact		Drawall	Keu White	0.15	0.04		Intact		
04 85	Room 128	South	Wall	Concrete	White	0.21	0.04	Nog	Intact		
86	Room 128	West	Wall	Drywall	White	0 11	0.04	Neg	Intact		
87	Room 128	West	Door	Wood	White	0.11	0.04		Intact		
07	120	west	Trim	wood	white	0.72	0.14	Ler	mact		
88	Room 128	West	Door	Wood	White	0.21	0.06	LCP	Intact		
89	Room 128	South	Peg	Cork	Blue	0.94	0.07	LCP	Intact		
			Board								
90	Room 128	East	White	Metal	White	0.06	0.03	Neg	Intact		
			Board					_			
91	Room 128	North	Perforat	Wood	White	0.13	0.04	LCP	Intact		
			ed Panel								
			next to								
			Door								
92	Room 129	North	Wall	Concrete	White	0.04	0.03	Neg	Intact		
93	Room 129	North	Door	Metal	White	0.21	0.05	LCP	Intact		
			Frame								
94	Room 129	North	Perforat	Wood	White	0.22	0.05	LCP	Intact		
			ed Panel								
			next to								
			Door								
95	Room 129	West	Wall	Drywall	White	0.03	0.03	Neg	Intact		

XRF Field Data Report											
LBP - EPA	HUD/ CCR Tit	le 17 leve:	l for lead-based	d pa	aint - ≥ 1.0 r	ng/cm².					
LCP - Tes	LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.										
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifi	ied a	as absent fo	or lead in p	paint with	out labo	ratory conf	irmation.	
Sample	Location	Side	Component/N	No S	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint	
No.							mg/cm ²	-		Condition	
96	Room 129	South	Wall		Concrete	White	0.03	0.03	Neg	Intact	
97	Room 129	East	Wall		Drywall	White	0.02	0.02	Neg	Intact	
98	Room 129	North	Window		Metal	White	0.19	0.05	LCP	Intact	
			Frame								
99	Room 129	North	Window		Metal	White	0.27	0.08	LCP	Intact	
			Mullion								
100	Room 129	South	White		Metal	White	0	0	Neg	Intact	
			Board								
101	Room 163	East	Wall		Drywall	White	0.04	0.09	Neg	Intact	
102	Room 163	South	Wall		Drywall	White	0.08	0.04	Neg	Intact	
103	Room 163	West	Wall		Drywall	White	0.03	0.03	Neg	Intact	
104	Room 163	North	Wall		Concrete	White	0.01	0.02	Neg	Intact	
105	Room 163	North	Door		Wood	Red	0	0	Neg	Intact	
106	Room 163	North	Door		Metal	White	0.06	0.05	Neg	Intact	
			Frame								
107	Room 163	East	Cork		Cork	Brown	1.11	0.11	LBP	Intact	
			Board								
108	Room 163	East	White		Metal	White	4.54	0.37	LBP	Intact	
			Board								
109	Room 163	East	White		Metal	White	4.43	0.36	LBP	Intact	
			Board								
110	Room 163	East	White		Wood	Brown	0.01	0.01	Neg	Intact	
			Board								
			Cork								
111	Room 164	North	Wall		Concrete	White	0.06	0.04	Neg	Intact	
112	Room 164	East	Wall		Drywall	White	0.08	0.04	Neg	Intact	
113	Room 164	East	White		Metal	White	0	0	Neg	Intact	
			Board								
114	Room 164	South	White		Metal	White	0	0	Neg	Intact	
			Board								
115	Room 164	South	Wall		Drywall	White	0.01	0.01	Neg	Intact	
116	Room 164	West	Wall		Drywall	White	0.05	0.04	Neg	Intact	
117	Room 164	West	Cork		Cork	Brown	0.93	0.08	LCP	Intact	
			Board								
118	Room 164	North	Door		Metal	White	0.41	0.09	LCP	Intact	
			Frame								
119	Room 164	North	Door		Wood	Red	0.07	0.04	Neg	Intact	
120	Room 164	North	Perforate		Wood	White	0.03	0.03	Neg	Intact	
			d Panel								
			next to								
			Door								
121	Room 165	North	Wall		Concrete	White	0.02	0.04	Neg	Intact	
122	Room 165	East	Wall		Drywall	White	0.04	0.04	Neg	Intact	
123	Room 165	East	White		Metal	White	0	0	Neg	Intact	
			Board								

XRF Field Data Report											
LBP - EPA	LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .										
LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.											
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifi	ed as absent	for lead in j	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/N	No Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
124	Room 165	South	White	Metal	White	0	0	Neg	Intact		
			Board								
125	Room 165	South	Wall	Drywall	White	0.07	0.06	Neg	Intact		
126	Room 165	West	Wall	Drywall	White	0.06	0.04	Neg	Intact		
127	Room 165	West	Cork	Cork	Brown	0.02	0.02	Neg	Intact		
			Board								
128	Room 165	West	Cork	Cork	Brown	0.03	0.03	Neg	Intact		
			Board								
129	Room 165	South	12"	Wood	White	0	0	Neg	Intact		
			Perforate								
			d Wall								
			Tile								
130	Room 166	North	Wall	Concrete	White	0.03	0.05	Neg	Intact		
131	Room 166	East	Wall	Drywall	White	0.01	0.04	Neg	Intact		
132	Room 166	East	Green	Metal	Green	0.01	0.01	Neg	Intact		
			Board								
133	Room 166	South	Wall	Drywall	White	0	0.01	Neg	Intact		
134	Room 166	West	Wall	Drywall	White	0.02	0.02	Neg	Intact		
135	Room 166	West	Green	Metal	Green	0.12	0.04	LCP	Intact		
			Board								
136	Room 166	West	Cork	Cork	Brown	0.86	0.09	LCP	Intact		
			Board		-						
137	Room 166	West	Cork	Cork	Brown	0.95	0.07	LCP	Intact		
120	D 466	N	Board								
138	Room 166	North	Door	Wood	Red	0	0	Neg	Intact		
139	Mech.	West	Wall	Drywall	White	0.04	0.02	Neg	Intact		
1.10	Room	- ·				0.05	0.00				
140	iviech.	East	waii	Drywall	white	0.05	0.02	Neg	Intact		
1.4.1	Room	Courth		Drawall	\A/b:to	0.04	0.02	Neg	lutest		
141	Niech.	South	Wall	Drywall	white	0.04	0.03	neg	mact		
142	Mach	North	Deer	Matal	Brown	0.2	0.05		Intest		
142	Niech.	North	Door	wietai	Brown	0.2	0.05	LCP	intact		
1/12	Mech	North	Door	Motal	\//bito	0.25	0.06		Intact		
145	Room	NOTUI	Eramo	Weta	white	0.55	0.00	LCF	mact		
1//	Room 167	South	Wall	Concrete	White	0	0	Νρσ	Intact		
145	Room 167	West	Wall	Drywall	White	0	0	Neg	Intact		
146	Room 167	West	Green	Metal	Green	0.01	0.01	Neg	Intact		
140	10011107	West	Board	Wietai	Green	0.01	0.01	Neg	mace		
147	Room 167	North	Wall	Drywall	Green	0.02	0.02	Neg	Intact		
148	Room 167	East	Green	Metal	Green	0.09	0.03	Neg	Intact		
1.0			Board			0.05	5.00				
149	Room 167	East	Wall	Drywall	White	0.02	0.03	Neg	Intact		
150	Room 167	East	Cork	Cork	Brown	0.83	0.11	LCP	Intact		
			Board								
151	Room 167	South	Door	Wood	Red	0.05	0.03	Neg	Intact		

XRF Field	XRF Field Data Report										
LBP - EPA	LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .										
LCP - Tes	LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.										
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifie	d as absent f	or lead in p	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²	-		Condition		
152	Room 167	South	Door	Metal	White	0.33	0.1	LCP	Intact		
_			Frame				_	_			
153	Room 168	South	Door	Wood	Red	0.11	0.04	LCP	Intact		
154	Room 168	South	Door	Metal	White	0.2	0.08	LCP	Intact		
_			Frame			_		_			
155	Room 168	South	Wall	Concrete	White	0.01	0.02	Neg	Intact		
156	Room 168	West	Wall	Drywall	White	0.07	0.04	Neg	Intact		
157	Room 168	West	White	Metal	White	0	0	Neg	Intact		
			Board				, in the second se				
158	Room 168	North	Wall	Drywall	White	0.05	0.04	Neg	Intact		
159	Room 168	Fast	Wall	Drywall	White	0.05	0.04	Neg	Intact		
160	Room 168	Fast	Cork	Cork	Brown	0.00	0.03	Neg	Intact		
100	10011100	Last	Board	COLK	DIOWII	0.04	0.04	Neg	mact		
161	Boom 169	South	Mall	Drawall	\M/bito	0.05	0.05	Nog	Intact		
162	Room 160	South	Wall	Drywall	White	0.05	0.05	Neg	Intact		
162	Room 169	South	Wall	Concrete	white	0 00	0	Neg	Intact		
163	Room 169	west	wall	Drywall	white	0.02	0.02	Neg	Intact		
164	Room 169	west	white	Metal	white	4.3	0.35	LRb	Intact		
			Board								
165	Room 169	North	White	Metal	White	4.01	0.39	LBP	Intact		
			Board								
166	Room 169	North	Wall	Drywall	White	0.01	0.03	Neg	Intact		
167	Room 169	North	Wall	Drywall	White	0.03	0.02	Neg	Intact		
168	Room 169	East	Wall	Drywall	White	0.01	0.02	Neg	Intact		
169	Room 169	East	Cork	Cork	Brown	0.93	0.09	LBP	Intact		
			Board								
170	Room 169	East	Trim	Wood	White	0	0	Neg	Intact		
			under								
			Wall								
			Tiles								
171	Room 169	South	Door	Wood	Red	0.1	0.04	LCP	Intact		
172	Room 169	South	Door	Metal	White	0.3	0.11	LCP	Intact		
			Frame								
173	Exterior	South	Column	Metal	Gray	> 5.00	2.37	LBP	Intact		
174	Exterior	South	Wall	Concrete	White	0	0.01	Neg	Intact		
175	Exterior	South	Door	Wood	Red	1.14	0.12	LBP	Intact		
176	Exterior	South	Door	Metal	Gray	0.6	0.09	LCP	Intact		
			Frame								
177	Exterior	South	Panel	Metal	Gray	0.62	0.11	LCP	Intact		
			next to								
			Door								
178	Exterior	South	Door	Wood	Red	1.36	0.16	LBP	Intact		
179	Exterior	South	Panel	Metal	Gray	0.72	0.1	LCP	Intact		
-	-	-	next to	-							
			Door								
180	Exterior	North	Door	Metal	Grav	0.21	0.09	LCP	Intact		
181	Exterior	North	Column	Metal	Grav	> 5.00	1.19	LBP	Intact		
1			1 1	1		· · · · · · · · · · · · · · · · · · ·					

XRF Field	XRF Field Data Report										
LBP - EPA	HUD/ CCR Tit	le 17 leve	l for lead-based	paint - ≥ 1.0	mg/cm².						
LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.											
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifie	d as absent f	or lead in	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/N	o Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
182	Exterior	North	Panel	Metal	Gray	0.78	0.12	LCP	Intact		
			next to								
			Door								
183	Exterior	North	Door	Wood	Red	0	0	Neg	Intact		
184	Exterior	North	Door	Wood	Red	1.18	0.12	LBP	Intact		
185	Exterior	North	Door	Wood	Red	1.11	0.14	LBP	Intact		
186	Room 164	North	Door	Wood	Red	0.07	0.05	Neg	Intact		
187	Exterior	North	Column	Metal	Gray	> 5.00	1.33	LBP	Intact		
188	Exterior	North	Wall	Concrete	White	> 1.00	0.02	LBP	Intact		
189	Standard							Pass			
190	Standard							Pass			
191	Room 121	East	White	Metal	White	> 5.00	0.3	LBP	Intact		
			Board								
192	Room 121	North	Wall	Concrete	White	0.02	0.03	Neg	Intact		
193	Room 121	North	Wall	Concrete	White	0.07	0.05	Neg	Intact		
194	Room 121	East	White	Metal	White	> 5.00	0.4	LBP	Intact		
			Board								
195	Exterior	South	Column	Metal	Gray	> 5.00	0.54	LBP	Intact		
196	Exterior	South	Wall	Concrete	Tan	0.01	0.06	Neg	Intact		
197	Exterior	South	Wall	Concrete	Tan	0.01	0.02	Neg	Intact		
198	Exterior	East	Door	Wood		0.56	0.1	LBP	Intact		
199	Exterior	East	Window	Metal	Tan	0.02	0.02	Neg	Intact		
			Frame					_			
200	Exterior	East	Door	Metal	Tan	0.02	0.03	Neg	Intact		
			Frame								
201	Exterior	East	Wall	Concrete	Tan	0	0.02	Neg	Intact		
202	Exterior	North	Column	Metal	Gray	> 5.00	1.41	LBP	Intact		
203	Exterior	North	Wall	Concrete	Tan	0	0	Neg	Intact		
204	Exterior	North	Window	Metal	Gray	0.02	0.02	Neg	Intact		
			Mullion								
205	Exterior	North	Door	Wood	Red	0.4	0.09	Neg	Intact		
206	Exterior	North	Door	Metal	Gray	0.01	0.02	Neg	Intact		
			Frame								
207	Exterior	North	Column	Metal	Gray	> 5.00	0.6	LBP	Intact		
208	Exterior	North	Wall	Concrete	Tan	0	0	Neg	Intact		
209	Exterior	North	Door	Wood	Red	0.38	0.08	LCP	Intact		
210	Exterior	North	Panel	Metal	Gray	3.04	0.2	LBP	Intact		
			Next to								
			Door								
211	Exterior	North	Door	Metal	Gray	0.04	0.02	Neg	Intact		
			Frame								
212	Exterior	North	Louvers	Metal	Gray	0.09	0.05	Neg	Intact		
213	Exterior	South	Column	Metal	Gray	> 5.00	0.79	LBP	Intact		
214	Exterior	South	Door	Wood	Red	0.86	0.08	LCP	Intact		

XRF Field	XRF Field Data Report										
LBP - EPA	A HUD/ CCR Tit	le 17 leve	l for lead-based	paint - ≥ 1.0	mg/cm².						
LCP - Tes	LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.										
Neg – Le	vels below 0.1	mg/cm ² c	annot be verifie	d as absent f	or lead in	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
215	Exterior	South	Panel	Metal	Gray	> 5.00	0.35	LBP	Intact		
			Next to								
			Door								
216	Exterior	South	Door	Metal	Gray	0.02	0.03	Neg	Intact		
			Frame								
217	Exterior	South	Wall	Concrete	Tan	0	0	Neg	Intact		
218	Exterior	South	Door	Wood	Red	0.9	0.09	LCP	Intact		
219	Exterior	South	Door	Metal	Gray	0.02	0.02	Neg	Intact		
			Frame								
220	Exterior	South	Column	Metal	Gray	> 5.00	1.36	LBP	Intact		
221	Exterior	North	Column	Metal	Gray	> 5.00	0.89	LBP	Intact		
222	Exterior	North	Wall	Concrete	Tan	0	0.02	Neg	Intact		
223	Exterior	North	Door	Wood	Red	0.58	0.11	LCP	Intact		
224	Exterior	North	Door	Metal	Gray	0.06	0.03	Neg	Intact		
			Frame								
225	Exterior	North	Door	Wood	Red	0.46	0.12	LCP	Intact		
226	Exterior	North	Door	Metal	Gray	0.04	0.03	Neg	Intact		
			Frame		_						
227	Exterior	North	Wall	S	Tan _	0	0	Neg	Intact		
228	Exterior	North	Wall	Concrete	Tan	0.01	0.03	Neg	Intact		
229	Exterior	North	Wall	Concrete	Tan	0	0.02	Neg	Intact		
230	Exterior	North	Sill	wood	Gray	0	0	Neg	Intact		
231	Exterior	North	Wall	s	Tan	0	0	Neg	Intact		
232	Exterior	North	Wall	Concrete	Tan	0	0.02	Neg	Intact		
233	Exterior	West	Door	Wood	Red	0.41	0.14	LCP	Intact		
234	Exterior	West	Door	Wood	Red	0.58	0.13	LCP	Intact		
235	Exterior	South	Column	Metal	Grav	> 5.00	1.13	LBP	Intact		
236	Exterior	South	Wall	Concrete	Tan	0.06	0.01	Neg	Intact		
237	Exterior	South	Wall	Concrete	Tan	0.01	0.03	Neg	Intact		
238	Exterior	South	Wall	Concrete	Tan	0	0.02	Neg	Intact		
239	Exterior	South	Door	Wood	Red	0.41	0.08	LCP	Intact		
240	Exterior	South	Door	Metal	Grav	0.04	0.03	Neg	Intact		
			Frame		/			-0			
241	Exterior	South	Door	Wood	Red	0.67	0.15	LCP	Intact		
242	Exterior	South	Door	Metal	Gray	0.07	0.04	Neg	Intact		
			Frame		,			0			
243	Exterior	South	Wall	Concrete	Tan	0	0.01	Neg	Intact		
244	Standard						I	Pass			
245	Calibration					> 1.07	0.03	Accept			
246	Calibration					> 1.05	0.03	Accept			
247	Calibration					> 1.06	0.01	Accept			
248	Room 133X	South	Wall	Drywall	Beige	0	0	Neg	Intact		
249	Room 133X	West	Wall	Drywall	Beige	0	0	Neg	Intact		
250	Room 133X	North	Wall	Concrete	Beige	0.01	0.02	Neg	Intact		
251	Room 133X	East	Wall	Drywall	Beige	0	0	Neg	Intact		

XRF Field Data Report										
LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .										
LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.										
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verif	fied	as absent fo	or lead in p	paint with	out labo	ratory conf	irmation.
Sample	Location	Side	Component/	No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint
No.							mg/cm ²			Condition
252	Room 133X	East	Door		Wood	Beige	0	0	Neg	Intact
253	Room 133X	East	Door		Wood	Beige	0	0	Neg	Intact
			Frame							
254	Room 132	West	Wall		Drywall	Beige	0	0	Neg	Intact
255	Room 132	North	Wall		Concrete	Beige	0	0	Neg	Intact
256	Room 132	North	Door		Metal	Red	0.57	0.08	LCP	Intact
257	Room 132	North	Door		Metal	Beige	0.07	0.04	Neg	Intact
			Frame							
258	Room 132	East	Wall		Drywall	Beige	0	0	Neg	Intact
259	Room 132	South	Wall		Drywall	Beige	0	0	Neg	Intact
260	Room 132	South	Door		Wood	White	0	0	Neg	Intact
			Frame							
261	Room 132	South	Door		Wood	White	0	0	Neg	Intact
262	Room 132	East	Door		Wood	White	0	0	Neg	Intact
			Frame							
263	Room 131	South	Door		Wood	White	0	0	Neg	Intact
264	Room 131	South	Door		Wood	White	0	0	Neg	Intact
			Frame							
265	Room 131	West	Wall		Drywall	White	0	0	Neg	Intact
266	Room 131	North	Wall		Concrete	White	0	0	Neg	Intact
267	Room 131	North	Door		Metal	White	0.07	0.03	Neg	Intact
			Frame							
268	Room 131	North	Door		Metal	Red	0.28	0.07	LCP	Intact
269	Room 131	East	Wall		Drywall	White	0	0	Neg	Intact
270	Room 131A	North	Door		Wood	White	0	0	Neg	Intact
			Frame							
271	Room 131A	North	Door		Wood	White	0	0	Neg	Intact
272	Room 131A	South	Wall		Drywall	White	0	0	Neg	Intact
273	Room 135	South	Wall		Concrete	White	0	0	Neg	Intact
274	Room 135	West	Wall		Drywall	White	0	0	Neg	Intact
275	Room 135	North	Wall		Drywall	White	0	0	Neg	Intact
276	Room 135	South	Door		Wood	White	0	0	Neg	Intact
277	Room 135	South	Door		Drywall	White	0	0	Neg	Intact
			Frame							
278	Room 135A	South	Wall		Concrete	White	0	0	Neg	Intact
279	Room 135A	East	Wall		Drywall	White	0	0	Neg	Intact
280	Room	South	Door		Metal	Red	0.27	0.08	LCP	Intact
	135A									
281	Room 135A	South	Door		Metal	White	0.03	0.02	Neg	Intact
			Frame							
282	Room 135A	North	Window		Wood	White	0	0	Neg	Intact
			Frame							
283	Room 133Y	East	Wall		Drywall	Gray	0	0	Neg	Intact
284	Room 133Y	North	Wall		Concrete	Gray	0.02	0.09	Neg	Intact
285	Room 133Y	West	Wall		Drywall	Gray	0	0	Neg	Intact

XRF Field Data Report											
LBP - EPA	LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .										
LCP - Tes	t Results belov	v 1 mg/cn	n² but above 0.1	mg/cm ² are	considere	d to conta	in detec	table amou	nts of lead.		
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifie	d as absent f	or lead in	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/N	o Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
286	Room 133Y	South	Door	Wood	Gray	0	0	Neg	Intact		
			Frame								
287	Room 133Y	South	Door	Wood	Gray	0	0	Neg	Intact		
288	Hallway	South	Door	Wood	Beige	0	0	Neg	Intact		
			Frame								
289	Hallway	South	Door	Wood	Beige	0	0	Neg	Intact		
290	Hallway	North	Wall	Drywall	Beige	0	0	Neg	Intact		
291	Hallway	North	Door	Wood	Beige	0	0	Neg	Intact		
			Frame								
292	Hallway	North	Door	Wood	Beige	0	0	Neg	Intact		
293	Hallway	North	Door	Wood	Beige	0	0	Neg	Intact		
			Frame								
294	Hallway	North	Door	Wood	Stain	0	0.01	Neg	Intact		
295	Hallway	North	Door	Wood	Beige	0	0	Neg	Intact		
			Frame								
296	Hallway	North	Door	Wood	Stain	0	0.01	Neg	Intact		
297	Room 133S	North	Wall	Concrete	Gray	0.01	0.01	Neg	Intact		
298	Room 133S	East	Wall	Drywall	Gray	1	0.02	Neg	Intact		
299	Room 1335	West	Wall	Drywall	Gray	0	0	Neg	Intact		
300	ROOM	west	wali	Drywall	Beige	0	0	Neg	Intact		
201	1330 Room	North		Dravall	Poigo	0	0	Nog	Intact		
501	1220	NOTUI	vvali	Drywall	Deige	0	0	neg	maci		
302	Room	South	Door	Wood	White	0	0	Νρσ	Intact		
502	1330	South	Frame	weed	white	Ū	Ŭ	1108	mace		
303	Room	South	Door	Wood	Stain	0	0	Neg	Intact		
	1330					_	_	-0			
304	Room 133A	North	Wall	Drywall	Gray	0	0	Neg	Intact		
305	Room 133A	East	Wall	Drywall	Gray	0.02	0.07	Neg	Intact		
306	Room 133A	South	Wall	Drywall	Gray	0	0	Neg	Intact		
			Mullion								
307	Room 133R	North	Wall	Wood	Gray	0	0	Neg	Intact		
308	Room 133R	North	Window	Metal	Gray	0.04	0.04	Neg	Intact		
			Frame								
309	Room 133D	South	Wall	Concrete	Beige	0.09	0.19	Neg	Intact		
310	Room 133D	South	Wall	Concrete	Beige	0.03	0.08	Neg	Intact		
311	Room 133D	North	Wall	Drywall	Beige	0	0	Neg	Intact		
312	Room 133D	South	Window	Metal	Beige	0.02	0.03	Neg	Intact		
			Frame				_				
313	Room 133D	South	Window	Metal	Beige	0.09	0.05	Neg	Intact		
244		- .	Mullion			-					
314	Room	East	Wall	Drywall	Gray	0	0	Neg	Intact		
215	1330	Couth		Concrete	Craw	0.01	0.05	Nez	Intest		
515	1226	South	vvali	Concrete	Gray	0.01	0.05	iveg	mact		
216		North	Wall	Drywall	Beigo	0	0	Neg	Intact		
210	nanway	North	vvali	Diywali	Deige	U	0	INCE	matt		

XRF Field	XRF Field Data Report										
LBP - EPA	HUD/ CCR Tit	le 17 leve	l for lead-base	ed p	aint - ≥ 1.0 ı	ng/cm².					
LCP - Tes	LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.										
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verif	fied	as absent fo	or lead in	paint with	out labo	ratory conf	irmation.	
Sample	Location	Side	Component/	No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint	
No.							mg/cm ²			Condition	
317	Hallway	North	Wall		Drywall	Beige	0	0	Neg	Intact	
318	Men's	East	Wall		Drywall	White	0	0	Neg	Intact	
	Restroom										
319	Men's	North	Wall		Drywall	White	0	0	Neg	Intact	
	Restroom										
320	Men's	South	Wall		Drywall	White	0	0	Neg	Intact	
	Restroom										
321	Men's	West	4" Wall		Ceramic	Blue	0	0.02	Neg	Intact	
	Restroom		Tile								
322	Men's	West	4" Wall		Ceramic	White	0.01	0.02	Neg	Intact	
	Restroom		Tile								
323	Men's	Floor	2" Floor		Ceramic	White	0	0	Neg	Intact	
	Restroom		Tile								
324	Men's	Floor	2" Floor		Ceramic	Blue	0	0.01	Neg	Intact	
	Restroom		Tile								
325	Men's	Center	Toilet		Metal	Blue	0	0.01	Neg	Intact	
	Restroom		Partition								
326	Women's	East	Wall		Drywall	White	0	0	Neg	Intact	
	Restroom										
327	Women's	North	Wall		Drywall	White	0	0	Neg	Intact	
	Restroom										
328	Women's	East	4" Wall		Ceramic	Blue	0	0.01	Neg	Intact	
	Restroom		Tile								
329	Women's	East	4" Wall		Ceramic	White	0.01	0.02	Neg	Intact	
	Restroom		Tile								
330	Women's	Floor	2" Floor		Ceramic	White	0	0	Neg	Intact	
	Restroom		Tile								
331	Women's	Floor	2" Floor		Ceramic	Blue	0.01	0.02	Neg	Intact	
	Restroom		Tile								
332	Women's	Center	Toilet		Plaster	Blue	0	0.01	Neg	Intact	
	Restroom		Partition								
333	Women's	North	Door		Wood	Blue	0.49	0.09	LCP	Intact	
	Restroom										
334	Women's	North	Door		Metal	White	0.46	0.04	LCP	Intact	
	Restroom		Frame								
335	Standard								Pass		
336	Room 156	North	Door		Wood	White	0.09	0.03	Neg	Intact	
337	Room 156	North	Door		Metal	White	0.67	0.12	LCP	Intact	
			Frame				_				
338	Room 156	North	Wall		Concrete	White	0.07	0.03	Neg	Intact	
339	Room 156	East	Wall		Drywall	White	0	0	Neg	Intact	
340	Room 156	East	Door		Metal	White	0	0	Neg	Intact	
			Frame								
341	Room 156	East	Door		Wood	White	0	0	Neg	Intact	
342	Room 156	West	Cabinet		Wood	Stain	0	0	Neg	Intact	

XRF Field Data Report											
LBP - EPA	LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .										
LCP - Tes	LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.										
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifi	ed as absent fo	or lead in I	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/N	lo Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
343	Room 156	South	Door	Metal	White	0	0	Neg	Intact		
			Frame								
344	Room 156	South	Door	Wood	White	0	0	Neg	Intact		
345	Room 156B	East	Wall	Drywall	White	0	0	Neg	Intact		
346	Room 156B	West	Wall	Drywall	White	0	0	Neg	Intact		
347	Room 156B	South	Door	Metal	White	0	0	Neg	Intact		
			Frame								
348	Room 156B	South	Door	Wood	White	0	0	Neg	Intact		
349	Room 156A	North	Wall	Drywall	White	0	0	Neg	Intact		
350	Room	West	Wall	Drywall	White	0.44	0.08	LCP	Intact		
	156A										
351	Room 152A	South	Door	Wood	White	0	0	Neg	Intact		
			Frame								
352	Room 152A	South	Door	Wood	White	0	0	Neg	Intact		
353	Room 152A	East	Wall	Drywall	White	0	0	Neg	Intact		
354	Room 152	North	Wall	Concrete	White	0	0.02	Neg	Intact		
355	Room 152	North	Door	Metal	White	0.74	0.18	LCP	Intact		
			Frame								
356	Room 152	North	Door	Wood	White	0.1	0.04	LCP	Intact		
357	Room 152	East	Door	Wood	White	0	0	Neg	Intact		
			Frame								
358	Room 152	East	Door	Wood	White	0	0	Neg	Intact		
359	Room 152C	North	Wall	Concrete	White	0.1	0.04	LCP	Intact		
360	Room 152C	East	Wall	Drywall	White	0.08	0.03	Neg	Intact		
361	Room 152D	South	Wall	Concrete	White	0.06	0.03	Neg	Intact		
362	Room 152D	West	Door	Metal	White	0	0	Neg	Intact		
			Frame								
363	Room 152D	West	Door	Wood	White	0	0	Neg	Intact		
364	Room 152	South	Door	Drywall	White	0	0	Neg	Intact		
		A	Infill								
365	Room 152	South	Door	Metal	White	0.72	0.12	LCP	Intact		
200	D 452	Cauth	Frame		\A/ -!+-	0.44	0.00	1.00	lists at		
366	коот 152	South	Door	wood	white	0.14	0.06		Intact		
367	коот 152	South	vvali	Concrete	white	0.01	0.02	Neg			
368	Room 152	west	wall	Drywall	white	0	0.01	Neg	Intact		
369	156A	west	wall	Drywall	white	0.74	0.14	LCP	intact		
270	150A	North	Deer	Matal	\A/hito	0.14	0.00		Intest		
370	R00m 154	North	Door	ivietai	white	0.14	0.06	LCP	Intact		
271	Poom 154	North	Door	Wood	Rod	0.1	0.04		Intert		
3/1	Room 154	North	Wall	Concrete	Neu White	0.1	0.04		Intect		
372	Room 154	Fact	Wall	Drawall	White	0.1	0.05		Intact		
27/	Room 154	South	Wall	Drywall	White	0.1	0.03	Neg	Intact		
374 27E	Room 154	Most	Wall	Drywall	White	0.07	0.05		Intact		
276	Room 154	North	Window	Motol	White	0.12	0.00		Intact		
5/0	100111 104	North	Mullion	IVIELAI	white	0.14	0.05	LCF	IIIIdUL		

XRF Field Data Report											
LBP - EPA	LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .										
LCP - Tes	LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.										
Neg – Lev	vels below 0.1	mg/cm ² c	annot be verifie	d as absent fo	or lead in p	paint with	out labo	ratory conf	irmation.		
Sample	Location	Side	Component/No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint		
No.						mg/cm ²			Condition		
377	Room 154	North	Window Frame	Metal	White	0.14	0.05	LCP	Intact		
378	Room 154	East	White Board	Metal	White	0	0	Neg	Intact		
379	Room 157	South	Door Frame	Metal	White	0.17	0.06	LCP	Intact		
380	Room 157	South	Door	Wood	Red	0.28	0.06	LCP	Intact		
381	Room 157	West	Wall	Drywall	White	0	0	Neg	Intact		
382	Room 157	North	Wall	Drywall	White	0.09	0.05	Neg	Intact		
383	Room 157	East	Wall	Drywall	White	0.11	0.04	LCP	Intact		
384	Room 157	East	White	Metal	White	4.65	0.38	LBP	Intact		
			Board								
385	Room 157	South	Wall	Concrete	White	0.1	0.06	LCP	Intact		
386	Room 157	South	Window Mullion	Metal	White	0.15	0.07	LCP	Intact		
387	Room 157	South	Window Frame	Metal	White	0.1	0.03	LCP	Intact		
388	Room 120	West	Door Frame	Metal	White	0.04	0.03	Neg	Intact		
389	Room 120	West	Door	Wood	White	0.2	0.04	Neg	Intact		
390	Room 120	North	Window Mullion	Metal	White	0.19	0.08	LCP	Intact		
391	Room 120	North	Window Frame	Metal	White	0.15	0.07	LCP	Intact		
392	Room 120	North	Wall	Concrete	White	0.1	0.07	LCP	Intact		
393	Room 120	East	Wall	Drywall	White	0.2	0.07	LCP	Intact		
394	Room 120A	South	Door Frame	Metal	White	0.08	0.05	Neg	Intact		
395	Room	South	Door	Wood	White	0.26	0.1	LCP	Intact		
396	Room	North	Wall	Concrete	White	0.15	0.09	LCP	Intact		
397	Room	East	Wall	Drywall	White	0.1	0.04	LCP	Intact		
398	Room	South	Wall	Drywall	White	0.12	0.06	LCP	Intact		
399	Room 120B	East	Door Frame	Metal	White	0.23	0.06	LCP	Intact		
400	Room 120B	East	Door	Wood	White	0.27	0.07	LCP	Intact		
401	Room 120C	North	Door	Metal	White	0	0	Neg	Intact		
101			Frame								
402	Room 120C	North	Door	Wood	White	0	0	Neg	Intact		
403	Room 120C	North	Wall	Drywall	White	0.01	0.01	Neg	Intact		
404	Room 120C	East	Wall	Drywall	White	0.13	0.04	LCP	Intact		
405	коот 120С	South	wall	Concrete	white	0.05	0.09	Neg	Intact		

XRF Field Data Report									
LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm ² .									
LCP - Test Results below 1 mg/cm ² but above 0.1 mg/cm ² are considered to contain detectable amounts of lead.									
Neg – Levels below 0.1 mg/cm ² cannot be verified as absent for lead in paint without laboratory confirmation.									
Sample	Location	Side	Component/N	o Substrate	Color	PB	Pb +/-	Pos/Neg	Paint
No.						mg/cm ²			Condition
406	Room 120F	East	Door	Metal	White	0	0	Neg	Intact
			Frame						
407	Room 120F	East	Door	Wood	White	0	0	Neg	Intact
408	Room 120F	West	Wall	Drywall	White	> 1.00	0.02	LBP	Intact
409	Room 120F	West	Wall	Drywall	White	> 1.00	0.02	LBP	Intact
410	Room 120E	East	Door	Wood	White	0	0	Neg	Intact
			Frame						
411	Room 120E	East	Door	Wood	White	0	0.01	Neg	Intact
412	Room 120E	West	Wall	Drywall	White	> 1.00	0.06	LBP	Intact
413	Room	East	Door	Wood	White	0.11	0.03	LCP	Intact
	120D	. .	Frame						
414	Room	East	Door	Wood	White	0.24	0.06	LCP	Intact
445	120D				14/L 11				
415	Room 120D	West	Wall	Drywall	White	0	0	Neg	Intact
416	Room 120C	East	Wall	Drywall	White	0	0	Neg	Intact
417	Mech.	East	Door	ivietai	Gray	0.01	0.01	Neg	Intact
110	Noch	Fact	Door	Wood	Red	0	0	Nog	Intact
410	Room 1	EdSL	DOOI	wood	Reu	0	0	Neg	maci
/10	Mech	Contor	Duct	Metal	W/hito	>1.00	0.00	IRD	Intact
415	Room 1	Center	Duct	Weta	white	> 1.00	0.05	LDF	mact
420	Mech	South	Wall	Concrete	White	0.04	0.03	Neg	Intact
.20	Room 1	South		contracte		0.01	0.00	1100	intact
421	Mech.	East	Duct	Metal	White	0.03	0.02	Neg	Intact
	Room 1							U	
422	Mech.	Center	Duct	Metal	White	0.21	0.06	LCP	Intact
	Room 1								
423	Mech.	South	Door	Metal	Gray	0.11	0.04	LCP	Intact
	Room 2		Frame						
424	Standard							Pass	
425	Mech.	South	Door	Wood	Blue	0.25	0.04	LCP	Intact
	Room 2.								
426	Mech.	South	Rail	Metal	White	0.48	0.07	LCP	Intact
	Room								
427	Mech.	South	Wall	Concrete	White	0	0.01	Neg	Intact
	Room								
428	Mech.	East	Pole	Metal	White	0.04	0.02	Neg	Intact
	Room		_						
429	Mech.	Center	Duct	Metal	White	0.02	0.03	Neg	Intact
400	KOOM	14/		Der mit II	\A/I- !+		0.01	NI	ا مغورا
430	iviech.	west	wall	Drywall	white	0	0.01	Neg	Intact
424	KOOM	Conten	Durt	NA at - 1	\A/b:+-	0.05	0.05	NI	المعام م
431	iviecn.	Center	Duct	ivietal	white	0.05	0.05	ineg	Intact
100	Standard					1 01	0.01	Accort	
432	Calibrat		├ ─── ├ ─			> 1.01	0.01	Accept	
433	Calibration					> 1.03	0.01	Accept	

XRF Field Data Report

LBP - EPA HUD/ CCR Title 17 level for lead-based paint - \geq 1.0 mg/cm².

LCP - Test Results below 1 mg/cm² but above 0.1 mg/cm² are considered to contain detectable amounts of lead. Neg – Levels below 0.1 mg/cm² cannot be verified as absent for lead in paint without laboratory confirmation.

Sample	Location	Side	Component/	′No	Substrate	Color	PB	Pb +/-	Pos/Neg	Paint
No.							mg/cm ²			Condition
434	Calibration						> 1.07	0.05	Accept	
435	Calibration						0	0	Accept	
436	Calibration						0	0	Accept	
437	Calibration						0	0	Accept	

Paint Chip Sample Results								
LBP - EPA HUD/ CCR Title 17 level for lead-based ≥5000 mg/kg.								
LCP- Cal/O	LCP- Cal/OSHA Lead in Construction standards apply if any detectable level of lead is present.							
Neg – Meets Cal/OSHA requirements for a negative initial determination for lead.								
Sample	Description/Location	Lab Result	Pos/Neg	Paint				
No.		(mg/kg)		Condition				
L-01	White paint on drywall, room 131A.	<100	Neg	Intact				
L-02	White paint on wood door, room 131A.	<100	Neg	Intact				
L-03	White paint on wood door frame, room 131A.	<100	Neg	Intact				
L-04	Beige paint on concrete wall, room 133D.	470	LCP	Intact				
L-05	Beige paint on metal window frame, room 133D.	220	LCP	Intact				
L-06	Beige paint on drywall, room 133D.	<100	Neg	Intact				
L-07	Red paint on interior door, room 132.	290	LCP	Intact				
L-08	White paint on metal door frame, room 132.	260	LCP	Intact				
L-09	White paint over red on metal door frame, room 156.	9,100	LBP	Intact				
L-10	White paint over tan on wood door, room 156.	690	LCP	Intact				
L-11	White paint on drywall, room 156A.	5,900	LBP	Intact				
L-12	White paint on concrete wall, room 152C.	1,100	LCP	Intact				
L-13	White paint on metal window frame, room 154.	2,200	LCP	Intact				
L-14	White paint on drywall, room 157.	<100	Neg	Intact				
L-15	Red paint on wood door, room 157.	570	LCP	Intact				
L-16	White paint on drywall, room 120F.	480	LCP	Intact				
L-17	White paint over green on wood door, room 120D.	4,700	LCP	Intact				
L-18	Red paint on wood door, room 120.	880	LCP	Intact				
L-19	White paint on metal duct in mechanical room.	12,000	LBP	Intact				
L-20	Green paint on roof HVAC unit on building 2.	130	LCP	Intact				
L-21	Gray paint on roof HVAC unit on building 3.	<100	Neg	Intact				
L-22	Gray paint over red on roof HVAC unit on building 6.	<100	Neg	Intact				
L-23	Silver paint on metal pipe cover on roof, building 6.	<100	Neg	Intact				
L-24	Silver paint on metal vent cap on roof, building 3.	6,100	LBP	Intact				

7. Recommendations:

Asbestos:

The Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) and Sacramento Metropolitan Air Quality Management District (SMAQMD) categorize asbestos containing materials in to three groups.

Regulated Asbestos Containing Materials (RACM) is defined as materials containing greater than one percent (>1%) asbestos that are friable (ACM that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure) or will be subjected to fire, or will be subjected to mechanical forces during removal or demolition.

Category I Non Friable ACM is defined as Asbestos containing packing's, gaskets, resilient floor coverings, and asphalt roofing products.

Category II Non Friable ACM is defined as Asbestos containing material, excluding Category I nonfriable asbestos containing material that, when dry, and in its present form, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Registration with the Division of Occupational Safety and Health (DOSH) for asbestos-related work and asbestos certification on the Contractor's license is required for removal of greater than one hundred square foot (>100 sq.ft.) of ACM containing greater than one tenth of one percent (>0.1%). Removal of any amount of asbestos containing any level of asbestos is subject to Cal/OSHA standards.

Any removal or demolition activities that may impact asbestos containing materials should be performed in compliance with EPA and Cal/OSHA standards.

Lead Paint:

At present there is no state or federal regulation requiring mandatory lead removal or abatement prior to disturbance, demolition, or renovation of structures with identified lead materials. However, Cal/OSHA worker protection requirements and Cal/EPA waste disposal requirements do apply.

The HUD action level for lead-based paint is $\geq 1.0 \text{ mg/cm}^2$ by XRF or $\geq 5000 \text{ mg/kg}$ by laboratory analysis. While HUD has developed procedures for lead paint inspections, the definition for lead-based paint may be irrelevant if the purpose of the survey is for establishing worker safety and construction debris disposal requirements.

XRF results above 0.1 mg/cm² in this survey should be considered to contain detectable amounts of lead for compliance with Cal/OSHA standards. Because XRF has a limit of quantification, the results cannot be used to determine that no lead is present for Cal OSHA worker protection purposes. Levels below 0.1 mg/cm² by XRF cannot be verified as absent for lead paint without laboratory confirmation.

California OSHA, Title 8 establishes work practice standards by comparing the level of lead in the material being handled and airborne lead levels. Therefore, any detectable level of lead requires there to be a worker protection program, however, it is based on the worker activity.

California Code of Regulations (CCR), Title 22 establishes hazardous waste disposal requirements. Any loose or easily separable lead paint greater than 1000 mg/kg total lead must be handled as a hazardous waste. Additional waste characterization by STLC and TCLP methods is required for components containing lead based paint or for paint chips reported at <1000 mg/kg. An XRF measures in weight of lead per surface area of material, while hazardous waste values are in weight of lead per weight of material. Therefore, XRF results cannot be correlated to hazardous waste criteria.

ECS recommends the following throughout demolition activities:

- A. Comply with OSHA training, worker protection, and monitoring requirements when disturbing these surfaces. At a minimum, the Contractor and subcontractors must meet the lead training requirements as specified by 8 CCR 1532.1. This will include training all employees who drill, cut, scrape, abrade, remove, clean up debris, or in any other way are exposed to lead from painted surfaces covered by this project. Workers and supervisors must be CDPH Certified Lead-Related Construction Workers or Supervisors if they will conduct trigger tasks or other work reasonably expected to exceed the Cal/OHSA Permissible Exposure Limit (PEL).
- B. Comply with California Code of Regulations (CCR), Title 22 waste characterization and disposal requirements.

8. Disclosure:

If for any reason the planned demolition of the building does not occur, a copy of this report or a summary must be provided to new lessees (tenants) and purchasers of this property under Federal law (Title 24 Code of Federal Regulations part 35 and Title 40 Code of Federal Regulations part 745) before they become obligated under a lease or sales contract. Landlords (lessors) and sellers are also required to distribute an educational pamphlet and include warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards.

9. Inspection Limitations:

Construction materials that are considered non-suspect for asbestos under OSHA include solid metal, wood, glass and PVC plastic. In addition EPA lists concrete as a non-suspect material under the Asbestos Hazard Emergency Response Act (AHERA) for school inspections. Therefore, solid metal, wood, glass and concrete materials should typically not be considered suspect as asbestos-containing.

ECS does not warrant or guarantee that all materials which may contain asbestos concealed inside walls, ceilings, sub floors, etc. can be located.

No absolute conclusions on all building components can be drawn from lead testing performed in this survey. There are some specific types of components, locations, or paint history that can use the information from this report for field verification, such as paint color or construction period, regarding the presence or absence of lead based paints.

Topics not explicitly discussed within this document should not be assumed to have been investigated.

Personnel certifications, laboratory analysis reports, and drawings showing sample locations are attached. Copies of and equipment licenses are maintained in the office and are available for your review upon request.

Please call me with any questions you may have.

Sincerely,

Ryan Moran

Ryan Govan DOSH CAC #92-0375 CDPH #I -20975




















Sacramento, CA 95841

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	NORTH REF	scole: 1/16"=1'-0" Liberal Arts Lead Paint Survey dete: March 7, 2017 11 0f 13
$\frac{204}{x^{-402}} \xrightarrow{x^{-202}}{x^{-394}} \xrightarrow{x^{-394}}{x^{-394}} x$		American River College 4700 College Oak Drive Sacramento, CA 95841
$\begin{array}{c} x^{390} \\ x^{-391} \\ x^{-391} \\ x^{-199} \\ x^{-1$		
		武氏3 Environmental Construction Services, Inc. P.O. Box 5277 Bay Point, CA 94565 (925) 370-2222 Fax (925) 370-2282







777 12th Street, 3rd Floor Sacramento, CA 95814 Office (916) 874-4800 **ASBESTOS SURVEY**

(See Instructions)

1. Building	/Area Desc	criptio	n								
American Rive	er College Libe	eral Arts	Building								
Address 4700 College (Oak Drive				City Sacr	, ame	nto			#	f of Structures 5
2. Owner l	nformation										
Name Los Rios Com	munity College	e Distric	t								
Address 3753 Bradview	/ Drive				City/State Sacramento, 0	CA					Zip 95827
Contact Josef Meyer			P 91	hone 6-856-3	400				Fax (916) 856-	3456	
3. Consult	ant Informa	ation		Surve 8/19/16	y Date(s): , 11/25/16, 12/	27/1	6				
Company Na Environmental	me Construction	Service	s, Inc.								
Name Ryan Govan									DOSH ; CAC 92-	# 0375	
Address P.O. Box 5277				City/S Bay P	State oint, CA					Zip 94565	5
Phone 925-370-2222		Fax 925-370)-2282	-				Sign	ature R.	yan.	Moran
4. Client In	4. Client Information (If different than owner) General Contractor Insurance Company										
Name					I	,					
Address						Ci	ty/State			Zip)
Contact			Phone			Fa	ах				
5. Have all	of the sus	pect m	naterials t	hat wi	ll be disturt	bed	been sam	pled	?	⊠ Yes	s 🗆 No
If no, expla	in why:										
		A - I	1								
6. Summai	ry of lotal	Asdes	tos Conta	lining	Material (AG	см)	Findings				
Regulated (Includes mater fire damaged m	I Asbestos ials subject to k aterials)	Conta	ining Mat chanical remo	val and	C	ateç	gory II		C	atego	ry I
Square Ft.	Linear F	t.	Cubic F	⁻ t.	Square F	t.	Linear I	Ft.	Square	e Ft.	Linear Ft.
0	3910		0		79372		0		0		0
То	receive futur	e SMAC	QMD Rule u	pdates	and changes	affe	cting your i	ndusti	y (check o	one box):
Please send o	e-mail notices to	— .			I will sign up mys	elf at	www.airquality.	org/lists	erve/ to receiv	ve e-maile	ed notices.
× I am already subscribed. I want the District to mail notices to the address on this application: Owner × Consultant											

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead H	lazard Evaluation			
Section 2 — Type of Lead H	lazard Evaluation (Check or	ne box only)		
Lead Inspection	Risk assessment	arance Inspection Ot	her (specify)	
Section 3 – Structure Whe	re Lead Hazard Evaluation	Was Conducted		
Address [number, street, apartme	ent (if applicable)]	City	County	Zip Code
Construction date (year) of structure	Type of structure Multi-unit building Single family dwelling	School or daycare Other	Children living in structure?	
Section 4 — Owner of Strue	cture (if business/agency, lis	st contact person)		
Name		Te	lephone number	
Address [number, street, apartme	ent (if applicable)]	City	State	Zip Code
Section 5 – Results of Lea	d Hazard Evaluation (check	all that apply)		
No lead-based paint detected Intact lead-based paint detected Deteriorated lead-based paint detected No lead hazards detected Lead-contaminated dust found Lead-contaminated soil found Other				
Section 6 — Individual Con	ducting Lead Hazard Evaluation	ation		
Name Telephone number				
Address [number, street, apartme	ent (if applicable)]	City	State	Zip Code
CDPH certification number	Sign	lature Rycon M	vian	Date
Name and CDPH certification nu	mber of any other individuals con	nducting sampling or testing (if	applicable)	1

Section 7 – Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;

B. Each testing method, device, and sampling procedure used;

C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health Childhood Lead Poisoning Prevention Branch Reports 850 Marina Bay Parkway, Building P, Third Floor Richmond, CA 94804-6403 Fax: (510) 620-5656 Appendix A Laboratory Reports



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: 091616515 Customer ID: ECSI85 Customer PO: Project ID:

Attention:	Ryan Govan	Phone:	(925) 370-2222
	Environmental Construction Services, Inc.	Fax:	(925) 370-2282
	PO Box 5277	Received:	08/25/2016 12:00 PM
	Bay Point, CA 94565	Analysis Date:	09/27/2016
		Collected:	08/19/2016
Project:	American River College Liberal Arts Building 4700 College Oak Drive	Sacramento CA 95841	

Test Report: Asbestos Analysis of Bulk Materials by PLM via EPA 600/R-93/116 Method using Polaried Light Microscopy. Quantitation using 400 Point Count Procedure

			Non-Asbestos	<u>b</u>	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-04-Drywall/Compo und 091616515-0004A	Room 166 - Drywall & joint compound	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-14-Drywall/Compo und 091616515-0014	Room 166 - Drywall & joint compound in mech room	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-21-Drywall/Compo und 091616515-0021	Room 165 - Drywall & Joint compound Behind 12 Tile above ceiling	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-23-Drywall/Compo und 091616515-0023	Room 164 - Drywall and joint comp	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-27-Drywall/Compo und 091616515-0027	Room 170	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-32-Drywall/Compo und 091616515-0032A	Room 169	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-35-Drywall/Compo und 091616515-0035	Room 167	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-38-Drywall/Compo und 091616515-0038A	Room 129 - Drywall & joint compound	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-43-Drywall/Compo und 091616515-0043	Room 128 - Drywall & joint compound	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-46-Drywall/Compo und 091616515-0046	Room 126 - Drywall & joint compound	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 09/27/2016 22:58:40

ASB_PLMPC_0006_0001 Printed 9/27/2016 10:58:40PM



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: 091616515 Customer ID: ECSI85 Customer PO: Project ID:

Attention:	Ryan Govan	Phone:	(925) 370-2222
	Environmental Construction Services, Inc.	Fax:	(925) 370-2282
	PO Box 5277	Received:	08/25/2016 12:00 PM
	Bay Point, CA 94565	Analysis Date:	09/27/2016
		Collected:	08/19/2016
Project:	American River College Liberal Arts Building 4700 College Oak Drive Sa	cramento CA 95841	

Test Report: Asbestos Analysis of Bulk Materials by PLM via EPA 600/R-93/116 Method using Polaried Light Microscopy. Quantitation using 400 Point Count Procedure

			<u>Non-Asbestos</u>		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-49-Drywall/Compo und 091616515-0049	Room 125 - Drywall & joint compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-56-Drywall/Compo und 091616515-0056	Room 122 - Drywall and joint compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-57-Drywall/Compo und 091616515-0057	Room 124 - Drywall and joint compound	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-60-Drywall/Compo und 091616515-0060	Room 121 - Drywall & joint compound	White/Various Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile

Analyst(s)

Adam C. Fink (14)

ciplicher

Chris Dojlidko, Laboratory Manager or other approved signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 09/27/2016 22:58:40

ASB_PLMPC_0006_0001 Printed 9/27/2016 10:58:40PM



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Attention: Ryan Govan	Phone:	(925) 370-2222
Environmental Construction Services, Inc.	Fax:	(925) 370-2282
PO Box 5277	Received:	11/15/2016 9:30 AM
Bay Point, CA 94565	Analysis Date:	12/16/2016
	Collected:	11/14/2016
Project: American River College Liberal Arts Building 4700 College C	ak Drive, Sacramento CA 95841	

Test Report: Asbestos Analysis of Bulk Materials by PLM via EPA 600/R-93/116 Method using Polarized Light Microscopy. Quantitation using 400 Point Count Procedure

			Non-A	<u>sbestos</u>	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-61-Joint Compound 091622028-0001A	Room 133 p - Drywall and Joint compound	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-62-Joint Compound 091622028-0002A	Room 133 - Drywall and Joint compound	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-64-Joint Compound 091622028-0004A	Room 133 v Drywall and Joint compound	Gray/Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-69-Joint Compound 091622028-0009A	Hallway at 133 - Drywall and Joint compound above ceiling	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
A-70-Joint Compound 091622028-0010A	Room 133 d - Brown mastic on old ceiling	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile

Analyst(s)

Jared Martin (5)

Aciplicher

Chris Dojlidko, Laboratory Manager or other approved signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 12/16/2016 14:53:51



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A - I- - - 4 - --

Attention:	Ryan Govan	Phone:	(925) 370-2222	
	Environmental Construction Services, Inc.	Fax:	(925) 370-2282	
	PO Box 5277	Received:	11/30/2016 9:30 AM	
	Bay Point, CA 94565	Analysis Date:	12/21/2016	
		Collected:	11/25/2016	
Project:	roject: American River College - Liberal Arts Building - 4700 College Oak Drive, Sacramento, Ca 95841			

Test Report: Asbestos Analysis of Bulk Materials by PLM via EPA 600/R-93/116 Method using Polarized Light Microscopy. Quantitation using 400 Point Count Procedure

			Non-Asbe	stos	Aspestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-103-Joint Compound 091622877-0001A	Drywall and joint compound above ceiling, Room 152	Tan Fibrous Homogeneous	2% Glass	98% Non-fibrous (Other)	<0.25% Chrysotile
A-105-Joint Compound 091622877-0003A	Drywall & joint compound, Room 156	Gray/White Non-Fibrous Homogeneous	3% Glass	97% Non-fibrous (Other)	<0.25% Chrysotile
A-123-Joint Compound 091622877-0021A	Drywall and joint compound, Room 154	Gray/White Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	<0.25% Chrysotile
A-126-Joint Compound 091622877-0024A	Drywall and joint compound, Room 157	Gray/White Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	<0.25%Chrysotile
A-130-Joint Compound 091622877-0028A	Drywall and joint compound, Room 120D	Gray/White Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	<0.25% Chrysotile
A-131-Joint Compound 091622877-0029A	Drywall and joint compound, Room 120A	Gray/White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	<0.25%Chrysotile
A-132-Joint Compound 091622877-0030A	Drywall and joint compound, Room 120C	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	<0.25% Chrysotile
A-136-Joint Compound 091622877-0034A	Drywall and joint compound, Mech Room	Gray/White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	<0.25% Chrysotile

Analyst(s)

Raphael Feliciano (8)

ciplicher

Chris Dojlidko, Laboratory Manager or other approved signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 12/21/2016 12:37:32

ASB_PLMPC_0006_0001 Printed 12/21/2016 12:37:42PM

EMSL	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: Customer ID: Customer PO: Project ID:	091616515 ECSI85
Attention:	Ryan Govan	Phone:	(925) 370-2222
	Environmental Construction Services, Inc.	Fax:	(925) 370-2282
	PO Box 5277	Received Date:	08/25/2016 12:00 PM
	Bay Point, CA 94565	Analysis Date:	08/31/2016 - 09/01/2016
		Collected Date:	08/19/2016
Project:	American River College Liberal Arts Building 4700 College Oak Dr	ive Sacramento CA 95841	

		Non-Asbestos			Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-01-Floor Tile	Room 166 - Blue 12 Floor tile , White	Blue Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A-01-Mastic	Room 166 - Blue 12	Yellow/Clear		80% Matrix 20% Non-fibrous (Other)	None Detected
091616515-0001A	mastic	Homogeneous			
A-02	Room 166 - Black mastic residues under	Black Non-Fibrous		70% Matrix 25% Non-fibrous (Other)	5% Chrysotile
097878575-0002	Diue liie	Runo		20% Co Corbonato	None Detected
091616515-0003	Brown on blue Vinyl Floor base	Non-Fibrous Homogeneous		40% Matrix 30% Non-fibrous (Other)	None Delected
A-03-Mastic	Room 166 - Gray, Brown on blue Vinyl Floor base	White/Yellow Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
A-03-Compound	Room 166 - Gray, Brown on blue Vinyl Floor base	Gray Non-Fibrous Homogeneous	8% Synthetic	60% Ca Carbonate 32% Non-fibrous (Other)	None Detected
A-04-Skim Coat	Room 166 - Drywall & joint compound	Tan Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A-04-Compound	Room 166 - Drywall & joint compound	Tan Non-Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
A-04-Drywall	Room 166 - Drywall & joint compound	White Fibrous Homogeneous	2% Cellulose 2% Glass	70% Gypsum 26% Non-fibrous (Other)	None Detected
A-05	Room 166 - 2x4 Fissured ceiling tile	Brown Fibrous Homogeneous	40% Cellulose 30% Min. Wool	30% Non-fibrous (Other)	None Detected
A-06-Ceiling Tile	Room 166 - 12 Perforated tile, Brown mastic on soffit above	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
	ceiling	g			
A-06-Mastic	Room 166 - 12 Perforated tile, Brown mastic on soffit above ceiling	Brown Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
A-07-Compound	Room 166 - Drywall & joint compound behind tile on soffiles	Tan Non-Fibrous Homogeneous		70% Ca Carbonate 28% Non-fibrous (Other)	2% Chrysotile
A-07-Drywall	Room 166 - Drowell &	White	2% Glass	70% Gynsum	None Detected
091616515-0007A	joint compound behind tile on soffiles	Fibrous Homogeneous	270 01033	28% Non-fibrous (Other)	None Deletieu
A-08	Room 166 - Window glazing compound	Gray Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	<1% Chrysotile
		nomoyeneous			



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		Non-Asbestos			Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-09	Room 164 - Window glazing compound	Gray Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	<1% Chrysotile
091616515-0009		Homogeneous			
A-10	Room 163 - Window glazing compound	Gray Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	<1% Chrysotile
091616515-0010		Homogeneous			
A-11	Room 169 - Window glazing compound	Gray Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	<1% Chrysotile
091616515-0011		Homogeneous			
A-12	Room 167 - Window glazing compound	Gray Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	<1% Chrysotile
091616515-0012		Homogeneous			
A-13	Room 166 - White seater on duct above	White Fibrous	5% Synthetic	80% Matrix 15% Non-fibrous (Other)	None Detected
091616515-0013	ceiling	Homogeneous			
A-14-Compound	Room 166 - Drywall & joint compound in mech room	Tan Non-Fibrous Homogeneous		70% Ca Carbonate 28% Non-fibrous (Other)	2% Chrysotile
	Poom 166 Dravall &	W/bite	2% Glass		None Detected
091616515-0014A	joint compound in mech room	Fibrous Homogeneous	270 Glass	28% Non-fibrous (Other)	None Delected
٨_15	Room 166 - concrete	Brown		10% Quartz	None Detected
Q91616515-0015	floor in mech room	Non-Fibrous Homogeneous		60% Ca Carbonate 10% Gypsum	None Deletieu
				20% Non-fibrous (Other)	
A-16	Room 165 - Black mastic residues under	Black/Yellow Non-Fibrous	8% Cellulose	60% Matrix 30% Non-fibrous (Other)	2% Chrysotile
091616515-0016	12 floor tile	Homogeneous			
A-17-Floor Tile	Room 165 - Blue 12 Floor tile, yellow	Blue Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
091010515-0017		Tiomogeneous		700/ 14 / 1	
A-17-Mastic	Room 165 - Blue 12 Floor tile, yellow mastic	Yellow Non-Fibrous Homogeneous		70% Matrix 30% Non-fibrous (Other)	None Detected
	Poom 165 Grav	Blue		40% Ca Carbonate	None Detected
091616515-0018	Brown mastic on blue vinyl	Non-Fibrous Homogeneous		30% Matrix 30% Non-fibrous (Other)	None Delected
A-18-Mastic	Room 165 - Grav	White		70% Matrix	None Detected
091616515-0018A	Brown mastic on blue vinyl	Non-Fibrous Homogeneous		30% Non-fibrous (Other)	
A-18-Compound	Room 165 - Gray,	White		70% Ca Carbonate	2% Chrysotile
091616515-0018B	Brown mastic on blue vinyl	Non-Fibrous Homogeneous		28% Non-fibrous (Other)	·
A-19-Ceiling Tile	Room 165 - 12 Perforated tile, Brown	Brown Fibrous	90% Cellulose	10% Non-fibrous (Other)	None Detected
091616515-0019	mastic above	Homogeneous			
A-19-Mastic	Room 165 - 12 Perforated tile, Brown	Brown Non-Fibrous		80% Matrix 20% Non-fibrous (Other)	None Detected
091616515-0019A	mastic above	Homogeneous			
A-20	Room 165 - 2x4 Fissurd ceilling tile	Gray Fibrous	40% Cellulose 30% Min. Wool	30% Non-fibrous (Other)	None Detected
U91616515-0020		Homogeneous			
A-21-Compound	Room 165 - Drywall &	Tan Non-Fibrous		70% Ca Carbonate	2% Chrysotile
091616515-0021	Behind 12 Tile above ceiling	Homogeneous			



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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	% Туре
A-21-Drywall	Room 165 - Drywall &	White	5% Glass	70% Gypsum	None Detected
091616515-0021A	Joint compound Behind 12 Tile above ceiling	Homogeneous		25% Non-fibrous (Other)	
A-22	White Joint tape on duct inside soffit	White Fibrous	40% Cellulose	20% Ca Carbonate 10% Matrix	None Detected
091616515-0022		Homogeneous		30% Non-fibrous (Other)	
A-23-Compound	Room 164 - Drywall and joint comp	Tan Non-Fibrous		70% Ca Carbonate 28% Non-fibrous (Other)	2% Chrysotile
091616515-0023		Homogeneous			
A-23-Drywall	Room 164 - Drywall and joint comp	White Non-Fibrous	2% Glass	70% Gypsum 28% Non-fibrous (Other)	None Detected
091616515-0023A		Homogeneous			
A-24-Floor Tile	Room 164 - Blue 12 floor tile , Yellow	Blue Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
091616515-0024		Homogeneous		000/ 14 / 1	
A-24-Mastic	Room 164 - Blue 12 floor tile , Yellow mastic	Yellow Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
	Poom 164 Blue 12	Grav	15% Cellulose	2% Quartz	None Detected
091616515-0024B	floor tile , Yellow mastic	Non-Fibrous Homogeneous	5% Glass	45% Ca Carbonate 15% Matrix 18% Non-fibrous (Other)	None Delected
A-25	Room 170 - 2x4	Gray	45% Cellulose	10% Perlite	None Detected
091616515-0025	Fissured ceiling	Fibrous Homogeneous	25% Min. Wool	20% Non-fibrous (Other)	
A-26	Room 170 - 2x4	Grav	45% Cellulose	10% Perlite	None Detected
091616515-0026	Fissured ceiling	Non-Fibrous Homogeneous	25% Min. Wool	20% Non-fibrous (Other)	
A-27-Drywall	Room 170	White Non-Fibrous	4% Cellulose	80% Gypsum 16% Non-fibrous (Other)	None Detected
091616515-0027		Homogeneous			
A-27-Compound 1	Room 170	Tan Non-Fibrous		70% Ca Carbonate 28% Non-fibrous (Other)	2% Chrysotile
091616515-0027A	(naner)	Homogeneous			
		T		75% 0- 0	00/ . Ohan a stille
A-27-Compound 2	Room 170	Ian Non-Fibrous Homogeneous		75% Ca Carbonate 23% Non-fibrous (Other)	2% Chrysotile
Joint compound under tape ((mesh)	Homogeneous			
A-27-Compound 3	Room 170	White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
091616515-0027C		Homogeneous			
Compound under paint					
A-28-Floor Tile	Room 170	Blue Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
091616515-0028		Homogeneous			
A-28-Mastic 1	Room 170	Clear/Orange Non-Fibrous		80% Matrix 20% Non-fibrous (Other)	None Detected
091616515-0028A		Homogeneous			
A-28-Mastic 2	Room 170	Black Non-Fibrous Homogeneous		2% Quartz 10% Ca Carbonate 70% Matrix	5% Chrysotile
				13% Non-fibrous (Other)	
Result includes a small amou	unt of inseparable attached mat	erial			
A-28-Filler	Room 170	Gray Non-Fibrous	45% Cellulose	55% Non-fibrous (Other)	None Detected
091616515-0028C		Homogeneous			

Initial report from: 09/01/2016 11:34:52



		Non-Asbestos			<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-28-Compound	Room 170	White Non-Fibrous		80% Ca Carbonate 2% Mica	2% Chrysotile
091616515-0028D		Homogeneous		16% Non-fibrous (Other)	
A-29-Vinyl Floor Base	Room 170	Blue Non-Fibrous		80% Matrix 20% Non-fibrous (Other)	None Detected
091616515-0029		Homogeneous			
A-29-Mastic	Room 170	Yellow Non-Fibrous		25% Ca Carbonate 60% Matrix	None Detected
091616515-0029A		Homogeneous		15% Non-fibrous (Other)	
A-29-Compound	Room 170	White Non-Fibrous		80% Ca Carbonate 2% Mica 16% Non fibrous (Othor)	2% Chrysotile
091616515-0029B		Homogeneous		10% Non-librous (Other)	
A-30	Room 170 - Black, gray,	Gray/Black Non-Fibrous	6% Cellulose	10% Ca Carbonate 6% Gypsum 70% Matrix	None Detected
091616515-0030		Homogeneous		8% Non-fibrous (Other)	
A-31	Room 170	Brown/Black	5% Cellulose	5% Quartz 15% Ca Carbonate	None Detected
091616515-0031		Homogeneous		60% Matrix 15% Non-fibrous (Other)	
Result includes a small amou	int of inseparable attached m	aterial		· · ·	
A-32-Drywall	Room 169	White Non-Fibrous	4% Cellulose	80% Gypsum 16% Non-fibrous (Other)	None Detected
091616515-0032		Homogeneous			
A-32-Compound	Room 169	White Non-Fibrous		75% Ca Carbonate 2% Mica	2% Chrysotile
091616515-0032A		Homogeneous		21% Non-fibrous (Other)	
A-33-Vinyl Floor Tile	Room 167	Blue Non-Fibrous		80% Matrix 20% Non-fibrous (Other)	None Detected
091616515-0033		Homogeneous			
A-33-Mastic 1	Room 167	Tan Non-Fibrous Homogeneous		25% Ca Carbonate 60% Matrix 15% Non-fibrous (Other)	None Detected
	Doom 167	Brown	20/ Fibraua (Other)	80% Motrix	Nana Datastad
091616515-0033B		Non-Fibrous Homogeneous	2% Fibrous (Other)	18% Non-fibrous (Other)	None Delected
A-34-Mastic 1	Room 167	Black		10% Ca Carbonate	5% Chrysotile
091616515-0034		Non-Fibrous Homogeneous		70% Matrix 15% Non-fibrous (Other)	
A-34-Mastic 2	Room 167	Orange Non-Fibrous		10% Ca Carbonate 80% Matrix	None Detected
091616515-0034A		Homogeneous		10% Non-fibrous (Other)	
A-35-Compound	Room 167	White Non-Fibrous		70% Ca Carbonate 28% Non-fibrous (Other)	2% Chrysotile
091616515-0035		Homogeneous			
A-35-Drywall	Room 167	White Non-Fibrous	4% Cellulose	80% Gypsum 16% Non-fibrous (Other)	None Detected
091616515-0035A		Homogeneous			
A-36	Room 129	Black Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
091010515-0036		Homogeneous		2224 2 2 2 2	
A-37-Mastic	Room 129 - Brown, white mastic	White Non-Fibrous Homogeneous		60% Ca Carbonate 40% Non-fibrous (Other)	None Detected
A 07 Martha 0	Doom 100 Dawn	Broust		60% Mathin	None Detected
A-37-Mastic 2	white mastic	Brown Non-Fibrous Homogeneous		40% Non-fibrous (Other)	None Detected



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		Non-Asbestos			Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-38-Compound 1	Room 129 - Drywall & joint compound	White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
091616515-0038		Homogeneous			
A-38-Compound 2	Room 129 - Drywall & joint compound	Tan Non-Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
	Doom 120 Dravell 8	White		80% Current	Nono Detected
091616515-0038B	joint compound	Non-Fibrous Homogeneous	5% Cellulose	15% Non-fibrous (Other)	None Detected
Δ_30	Room 129 - 2x4	White	100% Cellulose		None Detected
001616515 0020	Fissured ceiling tile	Non-Fibrous			
A 40	Door 100 10	Desure			Nana Datastad
A-40	Perfortuated tile on	Brown Fibrous	100% Cellulose		None Detected
091616515-0040	waii	Homogeneous			
A-41	Room 128 - Green black mastic under carpet	Brown Non-Fibrous Homogeneous		60% Matrix 40% Non-fibrous (Other)	None Detected
	Poom 128 Brown	Brown/White		60% Ca Carbonate	None Detected
A-42-Mastic	white mastic	Non-Fibrous		40% Non-fibrous (Other)	None Delected
Mastics were inseperable fi	rom each other	Homogeneous			
A-42-Cove Base	Room 128 - Brown,	Gray		60% Matrix	None Detected
091616515-0042A	white mastic	Homogeneous		40% NOT-TIDIOUS (Other)	
Mastics were inseperable fi	rom each other	g			
A-43-Compound	Room 128 - Drywall &	Tan		80% Ca Carbonate	2% Chrysotile
091616515-0043	joint compound	Non-Fibrous Homogeneous		18% Non-fibrous (Other)	
A-43-Drywall	Room 128 - Drywall & joint compound	White Non-Fibrous	4% Cellulose	80% Gypsum 16% Non-fibrous (Other)	None Detected
A 44	Poom 126 Green	Brown/Green		60% Matrix	None Detected
091616515-0044	black mastic under carpet	Non-Fibrous Homogeneous		40% Non-fibrous (Other)	None Delected
A-45-Mastic	Room 126 - Brown.	White		60% Ca Carbonate	None Detected
	white mastic	Non-Fibrous		40% Non-fibrous (Other)	
091616515-0045		Homogeneous			
A-45-Mastic 2	Room 126 - Brown, white mastic	Brown Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
091616515-0045A		Homogeneous			
A-46-Compound 1	Room 126 - Drywall & joint compound	Tan Non-Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091616515-0046		Homogeneous			
A-46-Compound 2	Room 126 - Drywall & joint compound	Ian Non-Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091010515-0040A	D	Homogeneous	5 0/ O - II. I	000/ 0	News Detected
A-46-Drywall	joint compound	Non-Fibrous	5% Cellulose	80% Gypsum 15% Non-fibrous (Other)	None Detected
A 47	Doom 105 Orean	Ricek/Oracia		25% Quert-	Nono Dotastad
A-4/	black mastic under	Non-Fibrous		35% Quartz 60% Matrix 5% Non-fibrous (Other)	None Detected
A 40 Ele D		Brown			None Detected
A-48-FIOOF Base	Room 125 - Brown mastic on brown vinyl floor base	Brown Non-Fibrous Homogeneous		20% Non-fibrous (Other)	None Detected



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			Asbestos		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-48-Mastic	Room 125 - Brown mastic on brown vinyl	Brown Non-Fibrous	2% Fibrous (Other)	80% Matrix 18% Non-fibrous (Other)	None Detected
091616515-0048A	floor base	Homogeneous			
A-48-Mastic 2	Room 125 - Brown mastic on brown vinyl floor base	White Non-Fibrous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
091616515-0046B		Homogeneous		700/ 02 02 11 22 24	00/ 01
A-49-Compound	joint compound	vvnite Non-Fibrous Homogeneous		28% Non-fibrous (Other)	2% Chrysotile
A 40 O a range a ura d 0	Deere 405 Dravell 9	Milita		700/ Ca Carbanata	20/ Charactile
A-49-Compound 2	joint compound	vvnite Non-Fibrous Homogeneous		28% Non-fibrous (Other)	2% Chrysotlie
A 40 Drawall	Deere 405 Dravell 9	Milita		000/ 0	Nega Data ata d
A-49-Drywall	joint compound	vvnite Fibrous Homogeneous	2% Cellulose	80% Gypsum 18% Non-fibrous (Other)	None Detected
031010313-0043D	D	Tomogeneous	700/ 0 - 11 - 1		New Peterted
A-5U	Fissured ceiling tile	Tan Fibrous Homogeneous	70% Cellulose	30% Non-librous (Other)	None Detected
A E1	Boom 125 12	Ton			None Detected
A-D I 091616515-0051	perfutated tile on ewall	Fibrous Homogeneous			None Delected
۵-52	Room 122 - 2x4	Tan	30% Cellulose	30% Non-fibrous (Other)	None Detected
091616515-0052	Fissured ceiling tile	Fibrous Homogeneous	40% Min. Wool		
A 53	Room 122 - 2x4	Grav	30% Cellulose	30% Non-fibrous (Other)	None Detected
091616515-0053	Fissured ceiling tile	Fibrous Homogeneous	40% Min. Wool		
A 54 Mastic	Room 122 - Green	Green		75% Matrix	None Detected
091616515-0054	black mastic under carpet	Non-Fibrous Homogeneous		25% Non-fibrous (Other)	None Deteoled
A-54-Mastic 2	Room 122 - Green	Black		80% Matrix	5% Chrysotile
091616515-0054A	black mastic under carpet	Non-Fibrous Homogeneous		15% Non-fibrous (Other)	
A-55-Mastic	Room 122 - Tan	Tan		50% Ca Carbonate	None Detected
091616515-0055	Brown mastic on black vinyl	Non-Fibrous Homogeneous		50% Non-fibrous (Other)	
A-55-Mastic 2	Room 122 - Tan	Brown	2% Fibrous (Other)	80% Matrix	None Detected
091616515-0055A	Brown mastic on black vinyl	Non-Fibrous Homogeneous		18% Non-fibrous (Other)	
A-56-Compound	Room 122 - Drywall	White		70% Ca Carbonate	2% Chrysotile
091616515-0056	and joint compound	Non-Fibrous Homogeneous		28% Non-fibrous (Other)	
A-56-Compound 2	Room 122 - Drywall	White		80% Ca Carbonate	None Detected
091616515-0056A	and joint compound	Non-Fibrous Homogeneous		20% Non-fibrous (Other)	
A-56-Compound 3	Room 122 - Drywall and joint compound	Tan Non-Fibrous		70% Ca Carbonate 28% Non-fibrous (Other)	2% Chrysotile
091616515-0056B		Homogeneous			
A-56-Drywall	Room 122 - Drywall and joint compound	White Fibrous	2% Cellulose	80% Gypsum 18% Non-fibrous (Other)	None Detected
091616515-0056C		Homogeneous			
A-57-Compound	Room 124 - Drywall and joint compound	Tan Non-Fibrous		75% Ca Carbonate 23% Non-fibrous (Other)	2% Chrysotile
091616515-0057		Homogeneous			
A-57-Drywall	Room 124 - Drywall and joint compound	White Fibrous	2% Cellulose	80% Gypsum 18% Non-fibrous (Other)	None Detected
091616515-0057A		Homogeneous			



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Project ID:

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

			Non-Asbesto	<u>s</u>	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-58-Floor Base	Room 121 - White brown mastic on brown vinyl floor base	Brown Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
A-58-Mastic 091616515-0058A	Room 121 - White brown mastic on brown vinyl floor base	White Non-Fibrous Homogeneous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
A-58-Mastic 2	Room 121 - White brown mastic on brown vinyl floor base	Brown Non-Fibrous Homogeneous	2% Fibrous (Other)	80% Matrix 18% Non-fibrous (Other)	None Detected
A-59-Mastic	Room 121 - Green, Black mastic under carpet	Green Non-Fibrous Homogeneous		75% Matrix 25% Non-fibrous (Other)	None Detected
A-59-Mastic 2 091616515-0059A Result includes a small amo	Room 121 - Green, Black mastic under carpet punt of inseparable attached mat	Black Non-Fibrous Homogeneous erial		70% Matrix 25% Non-fibrous (Other)	5% Chrysotile
A-60-Compound	Room 121 - Drywall & joint compound	Various Non-Fibrous Homogeneous		75% Ca Carbonate 23% Non-fibrous (Other)	2% Chrysotile
A-60-Compound 2	Room 121 - Drywall & joint compound	Tan Non-Fibrous Homogeneous		75% Ca Carbonate 23% Non-fibrous (Other)	2% Chrysotile
A-60-Drywall	Room 121 - Drywall & joint compound	White Fibrous Homogeneous	2% Cellulose	80% Gypsum 18% Non-fibrous (Other)	None Detected

Analyst(s)

Christie Villanueva (28) Cecilia Yu (31) Jared Martin (22) Shane Heisser (32)

Lipliche

Chris Dojlidko, Laboratory Manager or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 09/01/2016 11:34:52

EMSL	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: Customer ID: Customer PO: Project ID:	091622028 ECSI85
Attention:	Ryan Govan	Phone:	(925) 370-2222
	Environmental Construction Services, Inc.	Fax:	(925) 370-2282
	PO Box 5277	Received Date:	11/15/2016 9:30 AM
	Bay Point, CA 94565	Analysis Date:	11/28/2016
		Collected Date:	11/14/2016
Project:	American River College Liberal Arts Building 4700 College Oak Drive, Sac	ramento CA 95841	

			Non-Asbe	Asbestos	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-61-Drywall	Room 133 p - Drywall	White	3% Cellulose	70% Gypsum	None Detected
091622028-0001	and Joint compound	Fibrous Homogeneous		27% Non-fibrous (Other)	
A-61-Joint Compound	Room 133 p - Drywall	Tan Fibrous		80% Ca Carbonate	2% Chrysotile
091622028-0001A	and some compound	Homogeneous			
A-61-Joint Compound 2	Room 133 p - Drywall and Joint compound	White Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A-62-Drvwall	Room 133 - Drywall	White	4% Cellulose	70% Gypsum	None Detected
091622028-0002	and Joint compound	Fibrous		26% Non-fibrous (Other)	
A-62- Joint Compound	Room 133 - Drywall	Tan		80% Ca Carbonate	2% Chrysotile
091622028-0002A	and Joint compound	Fibrous Homogeneous		18% Non-fibrous (Other)	270 0111 900110
A-63-Drywall	Room 133 d Drywall	White	3% Cellulose	70% Gypsum	None Detected
091622028-0003	and Joint compound	Fibrous Homogeneous		27% Non-fibrous (Other)	
A-63-Joint Compound	Room 133 d Drywall	White Non-Fibrous		80% Ca Carbonate	None Detected
091622028-0003A	and boint compound	Homogeneous			
A-64-Drywall	Room 133 v Drywall	White	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
091622028-0004	and boint compound	Homogeneous			
A-64-Joint Compound	Room 133 v Drywall and Joint compound	Gray/White Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622028-0004A		Homogeneous		· · ·	
A-64-Joint Compound 2	Room 133 v Drywall and Joint compound	Tan Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622028-0004B		Homogeneous			
A-65-Drywall	Room 133 y Drywall and Joint compound	Brown/White Fibrous	8% Cellulose <1% Glass	80% Gypsum 12% Non-fibrous (Other)	None Detected
091622028-0005		Homogeneous			
A-65-Joint Compound	Room 133 y Drywall and Joint compound	White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A-66-Drywall	Room 135 - Drywall	White	3% Cellulose	70% Gypsum	None Detected
091622028-0006	and Joint compound	Fibrous Homogeneous		27% Non-fibrous (Other)	
A-66-Joint Compound	Room 135 - Drywall and Joint compound	Tan/White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
091622028-0006A		Homogeneous			
A-67-Drywall	Room 131 - Drywall and Joint compound	White Fibrous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
091622028-0007		Homogeneous			
A-67-Joint Compound	Room 131 - Drywall and Joint compound	Tan/White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
091622028-0007A		Homogeneous			



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

Sample A-68-Mastic	Description Room 133 - Drywall	Appearance	% Fibrous	% Non-Fibrous	% Type
A-68-Mastic	Room 133 - Drywall				
	and Joint compound	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622028-0008	above ceiling	Homogeneous			
A-68-Ceiling Tile	Room 133 - Drywall and Joint compound above ceiling	Orange Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
097622028-0008A		Homogeneous	10/ Callulana	700/ Онгонит	Nega Datastad
A-69-Drywall	Drywall and Joint	Fibrous	4% Cellulose	26% Non-fibrous (Other)	None Detected
	ceiling	Tiomogeneous			
A-69-Joint Compound	Hallway at 133 - Drywall and Joint	Tan Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622028-0009A	compound above ceiling	Homogeneous			
A-70-Drywall	Room 133 d - Brown	Brown/White	8% Cellulose	80% Gypsum	None Detected
091622028-0010	mastic on old celling	Homogeneous	<1% Glass	12% Non-librous (Other)	
A-70-Joint Compound	Room 133 d - Brown mastic on old ceiling	Tan/White Non-Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622028-0010A	5	Homogeneous			
A-70-Joint Compound 2	Room 133 d - Brown mastic on old ceiling	Tan Non-Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622028-0010B		Homogeneous			
A-71-Mastic	Room 133 d - Pipe elbow insulation	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622028-0011	above ceiling	Homogeneous			
A-71-Ceiling Tile	Room 133 d - Pipe elbow insulation	Orange Fibrous	80% Cellulose	20% Non-fibrous (Other)	None Detected
091622028-0011A	above ceiling	Homogeneous			
A-72-Pipe Insulation	Room 135 - Joint tape on duct above	White Fibrous	12% Glass	50% Ca Carbonate 31% Non-fibrous (Other)	2% Amosite 5% Chrysotile
A 72 Tana	Boom 125 Joint	White	75% Colluloso	20% Matrix	None Detected
091622028-0012A	tape on duct above	Fibrous Homogeneous	75% Cellulose	5% Non-fibrous (Other)	None Delected
A-73	Room 135 - Joint	Tan	75% Cellulose	10% Ca Carbonate	None Detected
091622028-0013	ceiling	Homogeneous		13% Non-librous (Other)	
A-74	Room 135 - Pipe	Tan Fibrous	80% Cellulose	10% Ca Carbonate 10% Non-fibrous (Other)	None Detected
091622028-0014	above ceiling	Homogeneous			
A-75-Pipe Insulation	Room 135 - 2x4 Fissured ceiling tile (Tan Fibrous	12% Glass	50% Ca Carbonate 32% Non-fibrous (Other)	2% Amosite 4% Chrysotile
091622028-0015	Common)	Homogeneous			
A-75-Tape	Room 135 - 2x4 Fissured ceiling tile (White Fibrous	75% Cellulose	25% Non-fibrous (Other)	None Detected
091622028-0015A	Common)	Homogeneous			
A-76	Room 135 - 2x4 Fissured ceiling tile (Ian Fibrous	65% Cellulose 20% Min. Wool	10% Perlite 5% Non-fibrous (Other)	None Detected
A_77	Room 135 2v4	Gray/White		15% Non-fibrous (Other)	None Detected
A-77	Fissured ceiling tile (Fibrous Homogeneous	15% Min. Wool	15% Non-librous (Other)	None Detected
A-78	Room 131 - Brown	Tan	70% Cellulose	5% Non-fibrous (Other)	None Detected
091622028-0018	mastic on 12 ceiling tile above the suspended ceilign room 131	Fibrous Homogeneous	25% Min. Wool		None Delected

Initial report from: 11/28/2016 13:42:03



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		Non-Asbestos		stos	Asbestos	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
A-79-Mastic	Room 131 - Brown mastic on 12 ceiling tile above the suspended ceilion	Brown Non-Fibrous Homogeneous		70% Matrix 30% Non-fibrous (Other)	None Detected	
	room 131					
A-79-Ceiling Tile	Room 131 - Brown mastic on 12 ceiling	White Fibrous	95% Min. Wool	5% Non-fibrous (Other)	None Detected	
091622028-0019A	tile above the suspended ceilign room 131	Homogeneous				
A-80	Room 131 - 2x4 Fissured ceiling tile (White Fibrous	75% Cellulose 15% Min, Wool	10% Non-fibrous (Other)	None Detected	
091622028-0020	replacement) room 131	Homogeneous				
A-81	Room 131 - 2x4 Fissured ceiling tile (Gray/White Fibrous	75% Cellulose 15% Min. Wool	10% Non-fibrous (Other)	None Detected	
091622028-0021	Common)	Homogeneous				
A-82	Hallway at 1339 - 2x4 Fissured ceiling tile (Tan Fibrous	65% Cellulose 30% Min. Wool	5% Perlite	None Detected	
091622028-0022	Common)	Homogeneous	000/ 0 - 11, 1		New Detected	
A-83	Hallway at 1339	Gray/white Fibrous Homogeneous	20% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected	
A-84	Room 133 n	Brown/Tan/Green	5% Cellulose	60% Matrix	None Detected	
7104		Fibrous		35% Non-fibrous (Other)		
091622028-0024		Homogeneous				
		Breuve		700/ Matrix	Name Detected	
091622028-0025	K0011 135 p	Non-Fibrous Homogeneous		30% Non-fibrous (Other)	None Delected	
A-85-Mastic 2	Room 133 p	Tan/White		70% Matrix	None Detected	
091622028-0025A		Non-Fibrous Homogeneous		30% Non-fibrous (Other)		
A-86	Room 133 t	Green Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected	
091622028-0026		Homogeneous				
A-87	Room 133 t	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected	
091622028-0027		Homogeneous				
A-88-Mastic	Room 133 t	Green Non-Fibrous Homogeneous		60% Matrix 40% Non-fibrous (Other)	None Detected	
A-88-Mastic 2	Room 133 t	Black		70% Matrix	4% Chrysotile	
091622028-0028A		Fibrous Homogeneous		26% Non-fibrous (Other)		
A-89	Room 133 d	Green		60% Matrix	None Detected	
091622028-0029		Non-Fibrous Homogeneous		40% Non-fibrous (Other)		
A-90-Mastic	Room 133 v	Green Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected	
091622028-0030		Homogeneous				
A-90-Compound	Room 133 v	White Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected	
091622028-0030A		Homogeneous		700/ 14 1		
A-91-Mastic	Room 133 v	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected	
001022020-0031		nomoyeneous				



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Project ID:

			Non-A	Asbestos	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-91-Mastic 2	Room 133 v	Tan/White Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622028-0031A		Homogeneous			
A-92-Mastic	Room 133x - Green, black mastic under	Green Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622028-0032	carpet	Homogeneous			
A-92-Mastic 2	Room 133x - Green, black mastic under	Black Fibrous		60% Matrix 37% Non-fibrous (Other)	3% Chrysotile
091622028-0032A	carpet	Homogeneous			
Result includes a small amo	unt of inseparable attached ma	terial			
A-93-Mastic	Room 132 - Green,	Black		80% Matrix	4% Chrysotile
	black mastic under	Non-Fibrous		16% Non-fibrous (Other)	
091622028-0033	carpet	Homogeneous			
A-93-Mastic 2	Room 132 - Green,	Tan/Green		80% Matrix	None Detected
	black mastic under	Non-Fibrous		20% Non-fibrous (Other)	
091622028-0033A	carpet	Homogeneous			
A-94-Mastic	Room 135 - Green,	Green		60% Matrix	None Detected
001622028 0024	black mastic under	Non-Fibrous		40% Non-fibrous (Other)	
091622028-0034				000/ 14 / 1	201 01 11
A-94-Mastic 2	Room 135 - Green, black mastic under	Tan/Black		60% Matrix 38% Non fibrous (Other)	2% Chrysotile
091622028-0034A	carpet	Homogeneous			
Result includes a small amo	ount of inseparable attached ma	terial			
A-95-Mastic	Room 135 b - Green	Brown		70% Matrix	None Detected
	Brown mastic under	Non-Fibrous		30% Non-fibrous (Other)	
091622028-0035	carpet	Homogeneous			
A-95-Mastic 2	Room 135 b - Green ,	Green		70% Matrix	None Detected
	Brown mastic under	Non-Fibrous		30% Non-fibrous (Other)	
091622028-0035A	carpet	Homogeneous			
A-96-Ceramic Tile	Mens Restroom -	Blue		10% Quartz	None Detected
004000000 0000	Grout and mortar on	Non-Fibrous		90% Non-fibrous (Other)	
091622028-0036		Homogeneous			
A-96-Grout	Mens Restroom - Grout and mortar on	White Non Eibrous		15% Quartz 40% Ca Carbonate	None Detected
091622028-0036A	4" ceramic wall tile	Homogeneous		45% Non-fibrous (Other)	
	Mens Restroom	White		25% Quartz	None Detected
A-90-IVIOI lai	Grout and mortar on	Non-Fibrous		50% Ca Carbonate	None Delected
091622028-0036B	4" ceramic wall tile	Homogeneous		25% Non-fibrous (Other)	
A-96-Mastic	Mens Restroom -	White		60% Matrix	None Detected
	Grout and mortar on	Non-Fibrous		40% Non-fibrous (Other)	
091622028-0036C	4" ceramic wall tile	Homogeneous			
A-97-Ceramic Tile	Mens Restroom -	White		60% Quartz	None Detected
	Grout & Mortar on 2	Non-Fibrous		40% Non-fibrous (Other)	
091622028-0037	ceramic wall tiles	Homogeneous			
A-97-Mortar	Mens Restroom -	Gray/White		30% Quartz	None Detected
001622028-00374	Grout & Mortar on 2	Non-Fibrous		70% Non-fibrous (Other)	
A 07 Que 1	Maria Destroare	Crew/Blue		400/ Quests	Name Datastad
A-97-Grout	Grout & Mortar on 2	Non-Fibrous		40% Qualiz 60% Non-fibrous (Other)	None Delected
091622028-0037B	ceramic wall tiles	Homogeneous			
A-97-Ceramic Tile 2	Mens Restroom -	Blue		60% Quartz	None Detected
	Grout & Mortar on 2	Non-Fibrous		40% Non-fibrous (Other)	
091622028-0037C	ceramic wall tiles	Homogeneous			
A-97-Mastic	Mens Restroom -	White		20% Ca Carbonate	None Detected
	Grout & Mortar on 2	Non-Fibrous		70% Matrix	
091622028-0037D	ceramic wall tiles	Homogeneous		10% Non-fibrous (Other)	



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		Asbestos			
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-98-Drywall	Mens Restroom - Drywall & joint	White Fibrous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
091622028-0038	compound compound	Homogeneous			
A-98-Joint Compound	Mens Restroom - Drywall & joint	White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
091622028-0038A	compound compound	Homogeneous			
A-98-Joint Compound 2	Mens Restroom - Drywall & joint	White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
091622028-0038B	compound compound	Homogeneous			
A-99-Drywall	Womens Restroom - Drywall & joint	White Fibrous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
091622028-0039	compound compound	Homogeneous			
A-99-Joint Compound	Womens Restroom - Drywall & joint compound compound	White Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A-100-Ceramic Tile	Womens Restroom - Grout and Mortar on 2	Blue Non-Fibrous		20% Quartz 80% Non-fibrous (Other)	None Detected
091622028-0040	Ceramic floor this	Homogeneous			
A-100-Grout	Womens Restroom - Grout and Mortar on 2	Gray/Blue Non-Fibrous		35% Quartz 65% Non-fibrous (Other)	None Detected
091622028-0040A	Ceramic floor this	Homogeneous			
A-100-Mortar	Womens Restroom - Grout and Mortar on 2	Gray/White Non-Fibrous		35% Quartz 30% Ca Carbonate	None Detected
091622028-0040B	Ceramic floor this	Homogeneous		35% Non-fibrous (Other)	
A-100-Mastic	Womens Restroom - Grout and Mortar on 2	Tan Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
091622028-0040C	Ceramic floor this	Homogeneous			
A-101	Womens Restroom - Joint tape on duct	Tan/White Fibrous	85% Cellulose	15% Non-fibrous (Other)	None Detected
091622028-0041		Homogeneous			
A-102-Ceramic Tile	Womens Restroom - Grout & Mortar on 4'	White/Blue Non-Fibrous		50% Quartz 50% Non-fibrous (Other)	None Detected
091622028-0042	ceramic wall tiles	Homogeneous			
A-102-Grout	Womens Restroom - Grout & Mortar on 4'	White Non-Fibrous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
091622028-0042A	ceramic wall tiles	Homogeneous			
A-102-Mastic	Womens Restroom - Grout & Mortar on 4'	White Non-Fibrous		30% Ca Carbonate 60% Matrix 10% Non fibrous (Other)	None Detected
091622028-00428		Homogeneous			
A-102-Joint Compound	Womens Restroom - Grout & Mortar on 4' ceramic wall tiles	White Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A_102_loint Compound	Womens Restroom	W/hite		80% Ca Carbonata	None Detected
2	Grout & Mortar on 4' ceramic wall tiles	Non-Fibrous Homogeneous		20% Non-fibrous (Other)	NUITE DELECIEU
091622028-0042D		0			



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Analyst(s)

Beheshta Ahadi (65) Matthew Batongbacal (19)

Finlicher

Chris Dojlidko, Laboratory Manager or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 11/28/2016 13:42:03

EMSL	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: Customer ID: Customer PO: Project ID:	091622877 ECSI85
Attention:	Ryan Govan	Phone:	(925) 370-2222
	Environmental Construction Services, Inc.	Fax:	(925) 370-2282
	PO Box 5277	Received Date:	11/30/2016 9:30 AM
	Bay Point, CA 94565	Analysis Date:	12/01/2016 - 12/02/2016
		Collected Date:	11/25/2016
Project:	American River College - Liberal Arts Building - 4700 College Oak	Drive, Sacramento, Ca 958	341

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

			Asbestos		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-103-Drywall	Drywall and joint compound above	White Fibrous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
A-103-Joint Compound	Drywall and joint compound above	Tan Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622877-0001A	ceiling, Room 152	Homogeneous			
A-104-Ceiling Tile	12" ceiling tile and brown mastic above suspended ceiling, Room 152	Orange Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
A-104-Mastic	12" ceiling tile and brown mastic above suspended ceiling, Room 152	Brown Non-Fibrous Homogeneous		70% Matrix 30% Non-fibrous (Other)	None Detected
A-105-Drywall	Drywall & joint compound, Room 156	White Fibrous Homogeneous	2% Cellulose <1% Glass	70% Gypsum 28% Non-fibrous (Other)	None Detected
A-105-Joint Compound 091622877-0003A	Drywall & joint compound, Room 156	Gray/White Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
A-105-Joint Compound 2	Drywall & joint compound, Room 156	Yellow Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622877-0003B					
A-106-Drywall	Drywall & joint compound, Room 152	White Fibrous Homogeneous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
A-106-Joint Compound	Drywall & joint compound, Room 152	White/Yellow Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A-107-Drywall	Drywall & joint compound, Room 152	White Fibrous Homogeneous	4% Cellulose <1% Glass	70% Gypsum 26% Non-fibrous (Other)	None Detected
A-107-Joint Compound	Drywall & joint compound, Room 152	White/Yellow Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
A-108-Drywall	Drywall & joint compound, Room 152C	White Non-Fibrous Homogeneous	2% Cellulose	80% Gypsum 18% Non-fibrous (Other)	None Detected
A-108-Joint Compound	Drywall & joint compound, Room 152C	Tan Non-Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
A-108-Joint Compound 2	Drywall & joint compound, Room 152C	Tan Non-Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
A-109 091622877-0007	2'x4' fissured ceiling tile (common), Room 152	Gray Fibrous Homogeneous	65% Cellulose 15% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected

Initial report from: 12/02/2016 15:12:09



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

			Asbestos		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-110	2'x4' fissured ceiling tile (replacement),	Gray/White Fibrous	70% Cellulose 20% Min. Wool	10% Perlite	None Detected
091622877-0008	Room 152	Homogeneous			
A-111	2'x4' fissured ceiling tile (common), Room	Gray Fibrous	65% Cellulose 20% Min. Wool	10% Perlite 5% Non-fibrous (Other)	None Detected
091622877-0009	152	Homogeneous			
A-112	2'x4' fissured ceiling tile (replacement), Room 152	Gray Fibrous Homogeneous	60% Cellulose 20% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
		Maite		10% Co Cortegoto	Name Datastad
A-113-Floor Tile	orange, black mastic, Room 156	Non-Fibrous		60% Non-fibrous (Other)	None Detected
A 112 Mostia	White 12" floor tile	Orango		60% Motrix	None Detected
A-113-Mastic	orange, black mastic, Room 156	Non-Fibrous		40% Non-fibrous (Other)	None Detected
A_113_Mastic 2	White 12" floor tile	Black		60% Matrix	2% Chrysotile
091622877-0011B	orange, black mastic, Room 156	Fibrous Homogeneous		38% Non-fibrous (Other)	
A-114-Mastic	Orange, black mastic	Yellow		60% Matrix	None Detected
091622877-0012	under carpet, Room 152	Non-Fibrous Homogeneous		40% Non-fibrous (Other)	
A-114-Mastic 2	Orange, black mastic	Black		70% Matrix	3% Chrysotile
091622877-0012A	under carpet, Room 152	Fibrous Homogeneous		27% Non-fibrous (Other)	
A-115	White mastic on black	White		60% Matrix	None Detected
091622877-0013	vinyl floor base, Room 152C	Non-Fibrous Homogeneous		40% Non-fibrous (Other)	
A-116-Vinvl Floor Base	Black vinvl floor base.	Black		30% Ca Carbonate	None Detected
	white, brown mastic,	Non-Fibrous		60% Matrix	
091622877-0014	Room 152	Homogeneous		10% Non-fibrous (Other)	
A-116-Mastic	Black vinyl floor base, white, brown mastic,	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622877-0014A	Room 152	Homogeneous			
A-117-Mastic	Orange, black mastic under carpet, Room	Yellow Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
	152	Romogeneous		700/ Мана	
A-117-Mastic 2	Urange, black mastic under carpet, Room 152	Black Fibrous Homogeneous		27% Non-fibrous (Other)	3% Chrysotile
A-118	Brown door core,	Brown	65% Cellulose	35% Non-fibrous (Other)	None Detected
091622877-0016		Homogeneous			
A-119-Wall Tile	12" fissured wall tile, brown mastic, Room	Gray/White Fibrous	65% Cellulose 15% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
091622877-0017	152B	Homogeneous		· · ·	
A-119-Mastic	12" fissured wall tile, brown mastic, Room	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622877-0017A	152B	Homogeneous			
A-120	2'x4' fissured ceiling tile (replacement),	Tan/White Fibrous	70% Cellulose 20% Min. Wool	10% Perlite	None Detected
091022011-0018			05% 0 " '		New Defect
A-121	2'x4' fissured ceiling tile (common), Room 154	Gray/White Fibrous Homogeneous	65% Cellulose 15% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
A 100 Eleor Tile		Plue		50% Co Corbonata	Nono Dotostad
	black mastic, Room	Non-Fibrous		50% Non-fibrous (Other)	
091622877-0020	154	Homogeneous		()	

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

			<u>Asbestos</u>		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-122-Mastic	Blue 12" floor tile, black mastic, Room	Gray/Tan Fibrous	15% Cellulose	60% Matrix 25% Non-fibrous (Other)	None Detected
091622877-0020A Result includes a small amou	154 nt of inseparable attached mat	Homogeneous erial			
A-123-Drywall	Drywall and joint	White	2% Cellulose	70% Gypsum	None Detected
091622877-0021	compound, Room 154	Fibrous Homogeneous	<1% Glass	28% Non-fibrous (Other)	
A-123-Joint Compound	Drywall and joint	Gray/White		80% Ca Carbonate	2% Chrysotile
091622877-0021A	compound, Room 154	Fibrous Homogeneous		18% Non-fibrous (Other)	-
A-123-Joint Compound 2	Drywall and joint compound, Room 154	Yellow Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622877-0021B		Homogeneous			
A-124	White sealer on duct above ceiling, Room	White Non-Fibrous		25% Ca Carbonate 60% Matrix	None Detected
091622877-0022	154	Homogeneous		15% Non-fibrous (Other)	
A-125-Floor Tile	Blue 12" floor tile, orange, black mastic,	Blue Non-Fibrous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
A-125-Mastic	Blue 12" floor tile,	Brown/Black		60% Matrix	2% Chrysotile
091622877-0023A	Room 157	Homogeneous			
A-125-Mastic 2	Blue 12" floor tile, orange, black mastic,	Yellow Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
091622877-0023B	Room 157	Homogeneous			
A-125-Mastic 3	Blue 12" floor tile, orange, black mastic, Room 157	Gray Fibrous Homogeneous	12% Cellulose	60% Matrix 28% Non-fibrous (Other)	None Detected
A-126-Drywall	Drywall and joint	White	2% Cellulose	70% Gypsum	None Detected
091622877-0024	compound, Room 157	Homogeneous		28% Non-fibrous (Other)	
A-126-Joint Compound	Drywall and joint compound. Room 157	Gray/White Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622877-0024A	,,	Homogeneous			
A-126-Joint Compound 2	Drywall and joint compound, Room 157	Yellow Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622877-0024B		nonogeneous			
A-126-Joint Compound 3	Drywall and joint compound, Room 157	White Non-Fibrous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
091622877-0024C		Homogeneous			
A-127-Mastic	White, brown mastic on blue vinyl floor	White/Yellow Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622877-0025	base, Room 157	Homogeneous			
A-127-Mastic 2	White, brown mastic on blue vinyl floor	Brown Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
4 100 Floor Tile	White 12" floor tile	Molifogeneous		EQ9/ Co Corbonata	None Detected
A-128-FIOOF THE	orange, black mastic, Room 120C	Non-Fibrous Homogeneous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
A-128-Mastic	White 12" floor tile,	Yellow		60% Matrix	None Detected
091622877-0026A	orange, black mastic, Room 120C	Non-Fibrous Homogeneous		40% Non-fibrous (Other)	
A-128-Mastic 2	White 12" floor tile, orange, black mastic,	Black Fibrous		60% Matrix 37% Non-fibrous (Other)	3% Chrysotile
091622877-0026B	Room 120C	Homogeneous			
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Project ID:

		Non-Asbestos			Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
A-129-Floor Tile	White 12" floor tile, black mastic, Room	White/Beige Non-Fibrous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
091622877-0027	120B	Homogeneous			
A-129-Mastic	White 12" floor tile, black mastic, Room				Not Submitted
091622877-0027A	120B				
A-130-Drywall	Drywall and joint compound, Room	White Fibrous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
091622877-0028	120D	Homogeneous			
A-130-Joint Compound	Drywall and joint compound, Room	Gray/White Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622877-0028A	120D	Homogeneous			
A-130-Joint Compound 2	Drywall and joint compound, Room 120D	Yellow Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
091622877-0028B		J.			
A-131-Drywall	Drywall and joint compound, Room	White Fibrous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
091622877-0029	120A	Homogeneous			
A-131-Joint Compound	Drywall and joint compound, Room	Gray/White Fibrous Homogeneous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
A 121 Joint Compound		Vollow		80% Co Corbonato	2% Chrysotile
2	compound, Room	Fibrous		18% Non-fibrous (Other)	2% Chrysotile
	120A	Homogeneous			
091622877-0029B					
A-132-Drywall	Drywall and joint compound, Room	White Non-Fibrous	2% Cellulose	80% Gypsum 18% Non-fibrous (Other)	None Detected
	T20C	Tor		20% Co Corbonata	
A-132-Joint Compound	compound, Room 120C	Non-Fibrous Homogeneous		18% Non-fibrous (Other)	2% Chrysotile
A-132-Joint Compound	Drywall and joint	Tan		80% Ca Carbonate	<1% Chrysotile
2	compound, Room	Non-Fibrous		20% Non-fibrous (Other)	
	120C	Homogeneous			
091622877-0030B					
A-132-Joint Compound 3	Drywall and joint compound, Room 120C	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
091622877-0030C	1200	Homogoneouo			
A-133	2'x4' fissured ceiling tile, Room 120C	Tan/White Fibrous	75% Cellulose 5% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
091622877-0031		Homogeneous			
A-134-Ceiling Tile	12" ceiling tile, brown mastic above	Orange Fibrous	85% Cellulose	15% Non-fibrous (Other)	None Detected
091622877-0032	suspended ceiling, Room 120C	Homogeneous			
A-134-Mastic	12" ceiling tile, brown mastic above	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622877-0032A	suspended ceiling, Room 120C	Homogeneous			
A-135-Mastic	Tan, brown mastic on black vinyl floor base,	Brown Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091622877-0033	Room 120C	Homogeneous			
A-135-Mastic 2	Tan, brown mastic on black vinyl floor base,	Tan Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
091622877-0033A	R00m 120C	Homogeneous			



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Sample Description Appearance % Fibrous % Non-Fibrous % Non-Fibrous % Non-Fibrous Ar38-Drywall Drywall and joint Write 3% Colutose 27% Non-Fibrous 27% Non-Fibrous 27% Colutose 27% Non-Fibrous 27% Colutose 27% Non-Fibrous 27% Colutose 27% Non-fibrous (Other) None Detected 47.137 Joint tape on duct Ter 65% Colutose 30% Metrix None Detected 27% Non-fibrous (Other) None Detected 47.138 Mort Room Fibros 65% Colutose 30% Metrix None Detected 37% Colutose			Non-Asbestos			<u>Asbestos</u>
A-136-Drywall and SAT-36-Drywall and SAT-36-Drywall and SAT-36-Drywall and SAT-36-Drywall and joint omyound, Mech Roam While Homogeneous 3% Celuiose 27% Non-Hinous (Other) Nume Detected A-136-Joint Compound SAT-36-Drywall and joint omyound, Mech Roam Grywall and joint Compound, Mech Roam Grywall and joint Compound, Mech Roam Grywall and joint Compound, Mech Roam Grywall and joint Compound, Mech Roam Status Roam 80% Ca Carbonate 10% Non-Hinous (Other) 2% Chrysofile A-136-Joint Compound Satus Roam Joint Tage on duct Roam Tan Roam 60% Celuiose 80% Calcus Mech Room 30% Metrix Fibrous None Detected A-137 Jaint Tage on duct Mech Room Tan Fibrous 60% Celuiose 80% Metrix Homogeneous 30% Metrix 7% Non-Hinous (Other) None Detected A-139 Jaint Tage on duct Mech Room Tan Fibrous 65% Celuiose 7% Non-Hinous (Other) None Detected A-139 White seator on india of duct, Mech Room Fibrous 7% Celuiose 10% Kinse 7% Calcubonate 10% Kinse 7% Calcubonate 10% Kinse None Detected A-140 Pipe insulation on hot Water under PVC Fibrous 10% Celuiose 10% Kinse 7% Non-Hinous (Other) None Detected A-142 Segmendation None Water under PVC Fibrous 7% Celuiose 10% Kinse 7% Non-Hinous (Other) None Detected A-142 Segmendation None Water under PVC Islaskin Mech Room Fibrous 6% Kinn, Wool	Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
answer/add Foldingenious Foldingenious B0% Cal Carbonate 2% Chrysolite Ar136-Joint Compound 2 Drywall and Joint Eibrous Termous 0% Cal Carbonate 2% Chrysolite Ar136-Joint Compound 2 Drywall and Joint Eibrous Yellow 0% Cal Carbonate 2% Chrysolite Ar136-Joint Compound 2 Drywall and Joint Eibrous Yellow 0% Cal Carbonate 2% Chrysolite Ar136-Joint Compound 2 Drywall and Joint Homogenous 10% Non-Horous (Other) None Detected Ar137 Joint lage on duct, Ar138 Termos 60% Cellulose 30% Matix None Detected Ar138 Joint lage on duct, Ar138 Termos 65% Cellulose 30% Matix None Detected Ar138 Joint lage on duct, Ar138 Termos 7% Cellulose 7% Cellulose 7% Cellulose 3% Matix Ar140 Pipe Insulation on tot Water under PVC Write 7% Cellulose 7% Cellulose 1% Non-Horous (Other) None Detected Ar141 Pipe Insulation on tot Water under PVC Write 7% Cellulose 7% Cellulose 1% Non-Horous (Other) None Detected </td <td>A-136-Drywall</td> <td>Drywall and joint compound, Mech</td> <td>White Fibrous</td> <td>3% Cellulose</td> <td>70% Gypsum 27% Non-fibrous (Other)</td> <td>None Detected</td>	A-136-Drywall	Drywall and joint compound, Mech	White Fibrous	3% Cellulose	70% Gypsum 27% Non-fibrous (Other)	None Detected
A-138-Joint Compound Dywall and joint pracestrations And Compound Cherry Provide an accestration of the provide provide and provide an accestration of the provide and the provide provide and provide and provide and provide provide and provide and provide provide and provide and provide provide and provide and provide and provide and provide provide and provide and provide	091622877-0034	Room	Homogeneous			
A 136 Joint Compound 2 A 137 Joint Compound 2 A 136 Joint Compound 4 Fibrous 6 Fibrous 7 Fibrous	A-136-Joint Compound	Drywall and joint compound, Mech	Gray/White Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
Ar 196 Joint Compound 2 Drywall and jent 2 Roma Ar 197 Joint Compound 2 Joint Lape on duct, Ar 197 Joint Lape on duct, Ar 197 Joint Lape on duct, Ar 197 Joint Lape on duct, Ar 198 Joint Lape on duct, Ar 199 Insulation on hot Water under PVC Florous 12% Glass 12% Glass 13% Non-florous (Other) Ar 142 Water under PVC Florous 10% Glass 13% Non-florous (Other) Ar 143 Caurvas over JoiceL Mech Room Homogeneous Ar 143 Caurvas over Joint Lape None Detected Water under PVC Florous 10% Glass 13% Non-florous (Other) Ar 143 Caurvas over Joint Lape None Detected Water under PVC Florous Ar 144 Pipe Insulation on hot Water Under PVC Florous Ar 144 Pipe Insulation on hot Water Under PVC Florous Ar 145 Caurvas over Joint Lape None Detected Homogeneous Ar 144 - Insulation Ar 144	091622877-0034A	Room	Homogeneous			
Ar.137 Joint tape on duct, Meth Room Tan Forous Homogeneous 60% Cellulose 30% Matrix 10% Mon-florous (Other) None Detected 4.738 Joint tape on duct, Meth Room Tan Forous 65% Cellulose 30% Matrix 5% Mon-florous (Other) None Detected 4.738 Joint tape on duct, Forous Tan Forous 65% Cellulose 30% Matrix 5% Mon-florous (Other) None Detected 4.739 White sealer on inaide water under PVC Forous 27% Mon-florous (Other) None Detected 4.740 Pipe insulation on hot water under PVC Forous 12% Cellulose 70% Ca Carbonate 10% Cellulose None Detected 4.741 Pipe insulation on hot water under PVC Forous 10% Cellulose 70% Ca Carbonate 10% Cellulose None Detected 4.742 Pipe insulation on hot water under PVC Forous 10% Cellulose 70% Ca Carbonate 10% Cellulose None Detected 6000000000000000000000000000000000000	A-136-Joint Compound 2	Drywall and joint compound, Mech	Yellow Fibrous		80% Ca Carbonate 18% Non-fibrous (Other)	2% Chrysotile
A-137 Joint tape on duct, A-137 Joint tape on duct, A-138 Joint tape on duct, A-138 Joint tape on duct, Mech Room R-Fibrous A-139 White sealer on inside Grav A-139 Office sealer on inside Grav A-139 Office sealer on inside Grav A-139 Office sealer on inside Grav A-139 Office sealer on inside Grav A-140 Pipe insulation on hot A-141 Pipe insulation on hot A-141 Pipe insulation on hot A-142 Pipe insulation on hot A-142 Pipe insulation on hot A-142 Pipe insulation on hot A-143 Grava over Graves over A-144 Insulation on hot A-143 Grava over A-144 Carrwas over A-144 Carrwas over A-144 Carrwas over A-144 Carrwas over A-144 Pipe insulation on hot A-145 Graves over A-146 Pipe insulation on hot A-142 Pipe insulation on hot A-143 Gravas over A-144 Pipe insulation on hot A-144 Pipe insulation on hot A-143 Gravas over A-144 Carrwas over A-144 Pipe insulation on hot A-145 Graves over A-144 Pipe insulation on hot A-145 Graves over A-146 Carrbonate A-146 Carrbonate A-147 Pipe insulation on hot A-148 Carrbonate A-148 Carrbonate A-149 Pipe insulation on hot A-149 Pipe insulation on hot A-144 Carrbonate A-144 Carrbonate A-144 Carrbonate A-145 Carrbonate A-145 Carrbonate A-146 Carrbonate A-146 Carrbonate A-147 Pipe insulation on hot A-148 Carrbonate A-148 Carrbonate A-144 Pipe insulation on hot A-144 Carrbonate A-144 Pipe insulation on hot A-144 Carrbonate A-144 Carrbonate A-144 Carrbonate A-144 Pipe insulation A-144 Pipe insulation A-145 Pipe insulation A-145 Pipe i	001622877-0034B	Room	Homogeneous			
Ari 13' John Lage Of ULU, Planta Dis Sentudes John Lage Of ULU, Planta Dis Sentudes John Lage Of ULU, Planta Note Debudge 9452877-0023 Mech Room Fibrous 10% Kent-Rorous (Other) None Detected Ari 33 Joint tape on ULU, Fibrous Fibrous 5% Kon-Abrous (Other) None Detected Ari 34 Mech Room Fibrous 5% Kon-Abrous (Other) None Detected Ari 35 White sealer on Inside Graze Gray 70% Ca Carbonate 10% Caludose 70% Ca Carbonate 10% Kon-Abrous (Other) None Detected Ari 40 Pipe insulation on hot water under FVC Fibrous 12% Glass 10% Kolutose 10% Glass 70% Ca Carbonate 10% Kon-Abrous (Other) None Detected Ari 41 Pipe insulation on hot water under FVC Fibrous 10% Caludose 10% Glass 70% Ca Carbonate 10% Glass None Detected Ari 42 Pipe insulation on hot water under FVC Fibrous 10% Glass 10% Kon-Abrous (Other) None Detected Ari 43 Garwas over not Naver, Mech Room Homogeneous 5% Nin. Wool 5% Non-Abrous (Other) None Detected Ari 44-Hraging Garwas over Room Fibrous 6% Nin. Wool 5% Non-Abrous (Other) <t< td=""><td>A 107</td><td>loint tono on duct</td><td>Ton</td><td>60% Colluloso</td><td>20% Matrix</td><td>None Detected</td></t<>	A 107	loint tono on duct	Ton	60% Colluloso	20% Matrix	None Detected
A-138 Joint tape on duct, Mech Room Tan Fibrous B5% Cellulose S% Non-fibrous (Other) None Detected A-138 Mech Room Fibrous 70% Cabronate 27% Non-fibrous (Other) 3% Chrysotlie A-139 White sealer on inside of ucut, Mech Room Gray Homogeneous 70% Cabronate 27% Non-fibrous (Other) 3% Chrysotlie A-140 Pipe insulation on hot water under PVC isclear under Under isclear U	A-137	Mech Room	Fibrous		10% Non-fibrous (Other)	None Delected
A-139 Joint Lippe th Out, Joint Call and Solve Calludes Joint Cal	A 400	laint tana an duat	Ton	65% Collulado	20% Motrix	Nana Datastad
Artase Ministructure 70% Cal Carbonate 3% Chrysolile artase Gray 27% Non-florous (Other) 3% Chrysolile artase Pipe insulation on hot, with White 7% Cellulose 70% Ca Carbonate 3% Chrysolile artase Pipe insulation on hot, with White 7% Cellulose 70% Ca Carbonate None Detected artase water under PVC Fibrous 10% Galass 10% Non-fibrous (Other) None Detected artase rougeneous 10% Galass 10% Non-fibrous (Other) None Detected artase ruder PVC Fibrous 10% Galass 13% Non-fibrous (Other) None Detected artase ruder PVC Fibrous 10% Galass 13% Non-fibrous (Other) None Detected artase ruder under PVC Fibrous 95% Min. Wool 5% Non-fibrous (Other) None Detected artase ruder water, Mech Fibrous 95% Min. Wool 5% Non-fibrous (Other) None Detected artase ruder water, Mech Fibrous 95% Min. Wool 5% Non-fibrous (Other) None De	A-138	Mech Room	Fibrous	65% Cellulose	5% Non-fibrous (Other)	None Delected
A-109 virite search on Inside of duct, Mech Room Gray 70% Cellulose 27% Non-florous (Other) 0 in 622877-0037 A-140 Pipe Insulation on Not water under PVC Fibrous 12% Cellulose 70% Ca Carbonate None Detected A-141 Pipe Insulation on Not water under PVC Fibrous 10% Cellulose 70% Ca Carbonate None Detected A-141 Pipe Insulation on Not water under PVC Fibrous 10% Cellulose 70% Ca Carbonate None Detected A-142 Pipe Insulation on Not water under PVC Fibrous 10% Cellulose 70% Ca Carbonate None Detected 0#1622877-0039 jacket, Mech Room Homogeneous 10% Glass 13% Non-fibrous (Other) None Detected 0#1622877-004 jacket, Mech Room Orange 95% Min. Wool 5% Non-fibrous (Other) None Detected 0#162877-004 gacket, Mech Room Fibrous Fibrous 5% Non-fibrous (Other) None Detected 0#162877-004 gacket, Mech Room Fibrous 95% Min. Wool 5% Non-fibrous (Other) None Detected 0#162877-004 None Vater, Mech Room Fibrous 95% Min. Wool 5% Non-fibrous (Other) None Detected 0#162877-0042 On hot Water, Mech Room Fibrous 90% Min. Wool 10% Non-fibrous (Other) <t< td=""><td>A 420</td><td></td><td>Creat</td><td></td><td>70% On Carbonata</td><td>20/ Obrigatile</td></t<>	A 420		Creat		70% On Carbonata	20/ Obrigatile
ArtAdo Pipe insulation on hot water, Mech Room None Detected A-140 Pipe insulation on hot water under PVC Fibrous 12% Glass 11% Non-fibrous (Other) None Detected A-141 Pipe insulation on hot water under PVC Fibrous 10% Cellulose 70% Ca Carbonate None Detected A-142 Pipe insulation on hot water under PVC White 7% Cellulose 70% Ca Carbonate None Detected A-142 Pipe insulation on hot water under PVC Fibrous 10% Glass 13% Non-fibrous (Other) None Detected Ør#22877-0040 jacket, Mech Room Homogeneous 10% Glass 13% Non-fibrous (Other) None Detected Ør#22877-0040 on hot water, Mech Room Homogeneous 10% Glass 13% Non-fibrous (Other) None Detected Ør#22877-0042 on hot water, Mech Room Fibrous 95% Min. Wool 5% Non-fibrous (Other) None Detected Ør#22877-0042 on hot water, Mech Room Fibrous 65% Cellulose 30% Matrix None Detected Ør#22877-0042 on hot water, Mech Room Fibrous 65% Cellulose 30% Matrix N	A-139	of duct, Mech Room	Gray Fibrous Homogeneous		27% Non-fibrous (Other)	3% Chrysotile
A-140 Pipe insulation on Not Write 7% Cellulose 7% Ca Carbonate None Detected Pibrous (Other) acket, Mech Room None Detected PVC Fibrous 12% Glass 10% Non-fibrous (Other) Anne Detected 978277-2043 Pibrous PVC Fibrous 10% Glass 10% Non-fibrous (Other) PVC Fibrous 12% Glass 10% Non-fibrous (Other) PVC Fibrous 10% Glass 10% Non-fibrous (Other) None Detected 978277-2040 PVC Fibrous PVC Fibrous 10% Glass 10% Non-fibrous (Other) None Detected 978277-2040 PVC Fibrous Pibrous		Die e in eel affen een heef	Multi	70/ 0 - 11 - 1	70% 0- 0	News Detected
ArtAI Picket, Rech None Detected ArtAI Pipe insulation on hot water under PVC Fibrous 10% Cellulose 70% Ca Carbonate None Detected ArtAI Pipe insulation on hot water under PVC Fibrous 10% Glass 10% Non-fibrous (Other) None Detected ArtAI Pipe insulation on hot water under PVC White 7% Cellulose 70% Ca Carbonate None Detected ArtAI Garvas over Jacket, Mech Room Homogeneous 10% Glass 13% Non-fibrous (Other) None Detected ArtAI Garvas over Orange 95% Min. Wool 5% Non-fibrous (Other) None Detected 69/622877-0047 On hot water, Mech Room Homogeneous 95% Min. Wool 5% Non-fibrous (Other) None Detected Art44-Wrap Carvas over Tan 65% Cellulose 30% Matrix 5% Non-fibrous (Other) None Detected Art44-Wrap Carvas over Tan 65% Cellulose 30% Matrix 5% Non-fibrous (Other) None Detected Art44-Wrap Carvas over Tan 65% Cellulose 30% Matrix 10% Non-fibrous (Other) None Detected	A-14U	Pipe insulation on not water under PVC	Fibrous	12% Glass	11% Non-fibrous (Other)	None Detected
A-141 Pipe insulation on not water under PVC White Fibrous 10% Glass 10% Glass 10% KA Carbonate 10% KANn-fibrous (Other) None Detected A-142 Pipe insulation on hot water under PVC Fibrous 10% Glass 10% Glass 10% KANn-fibrous (Other) None Detected 09/62277-0404 jacket, Mech Room Homogeneous 10% Glass 13% Non-fibrous (Other) None Detected A-143 Carvas over fiberglass insulation erezerr-044 Oranyas over fiberglass insulation fiberglass insulation fiberous Yellow fiberglass insulation fiber	091022077-0030		Tiomogeneous	(0)(0		
03722370339 jacket, Mech Room Holingerieus A-142 Pipe insulation on bl White 7% Cellulose 70% Ca Carbonate None Detected 09162277.0040 jacket, Mech Room Homogeneous 10% Glass 13% Non-fibrous (Other) None Detected A-143 Carvas over Orange 95% Min. Wool 5% Non-fibrous (Other) None Detected A-143 Carvas over Orange 95% Min. Wool 5% Non-fibrous (Other) None Detected 091622877.0042 on hot water, Mech Homogeneous 95% Min. Wool 5% Non-fibrous (Other) None Detected 091622877.0042 on hot water, Mech Homogeneous 95% Min. Wool 5% Non-fibrous (Other) None Detected 091622877.0042 on hot water, Mech Homogeneous 80% Matrix None Detected 091622877.0042 on hot water, Mech Homogeneous 5% Non-fibrous (Other) None Detected 091622877.0042 on hot water, Mech Homogeneous 5% Non-fibrous (Other) None Detected 091622877.0042 on hot water, Mech Homogeneous 60% Cellulose 30% Matrix None Detected 091622877.	A-141	Pipe insulation on hot water under PVC	White Fibrous	10% Cellulose 10% Glass	10% Ca Carbonate	None Detected
A-142 Pipe insulation on hot wite 7% Cellulose 70% Ca Carbonate None Detected water under PVC Fibrous 10% Glass 13% Non-fibrous (Other) A-143 Teberglass insulation Fibrous Fibrous on hot water, Mech Homogeneous Room A-144-Insulation Carvas over Yellow Pibrous Room A-144-Insulation Fibrous on hot water, Mech Homogeneous Room A-144-Wrap Carvas over Yellow Pibrous Room A-144-Wrap Carvas over Yellow Fibrous Room A-144-Insulation fiberglass insulation Fibrous Room A-144-Insulation Carvas over Yellow Pibrous A-144-Wrap Carvas over Yellow Pibrous Room A-144-Insulation Fibrous on hot water, Mech Homogeneous Room A-144-Wrap Carvas over Yellow Pibrous A-144-Wrap Carvas over Yellow Pibrous A-145-Insulation Fibrous A-146-Insulation fiberglass insulation Fibrous A-146-Insulation fiberglass insulation Fibrous A-145-Insulation fiberglass insulation Fibrous A-146-Insulation fiberglass insulation Fibrous A-146-Insulation fiberglass insulation Fibrous A-146-Insulation A-146-Insulation A-146-Insulation fiberglass insulation Fibrous A-146-Insulat	091622677-0039		Homogeneous			
A-143 Canvas over Orange 95% Min. Wool 5% Non-fibrous (Other) None Detected fiberglass insulation Fibrous Room A-144-Insulation Canvas over Yellow 95% Min. Wool 5% Non-fibrous (Other) None Detected Fiberglass insulation Fibrous Homogeneous Room A-144-Wrap Canvas over Tan 65% Cellulose 30% Matrix 5% Non-fibrous (Other) None Detected fiberglass insulation Fibrous Room A-145-Insulation Canvas over Yellow 90% Min. Wool 10% Non-fibrous (Other) None Detected 5% Non-fibrous (Other) None Detect	A-142	Pipe insulation on hot water under PVC	White Fibrous	7% Cellulose 10% Glass	70% Ca Carbonate 13% Non-fibrous (Other)	None Detected
A-143 Carvas over fiberglass insulation Room Orange Ibrous 95% Min. Wool 5% Non-fibrous (Other) None Detected 4.142-Insulation Carvas over fiberglass insulation fiberglass insubation fiberglass insubation fiberglass insubation fiberglass ins	091622877-0040		Homogeneous			
A-144-InsulationCanvas over fiberglass insulation RoomYellow Fibrous Homogeneous95% Min. Wool5% Non-fibrous (Other)None Detected001622877-0042on hot water, Mech fiberglass insulation on hot water, Mech RoomTan Homogeneous65% Cellulose S% Non-fibrous (Other)30% Matrix S% Non-fibrous (Other)None Detected001622877-0042ACanvas over fiberglass insulation RoomTan Homogeneous65% Cellulose S% Non-fibrous (Other)30% Matrix S% Non-fibrous (Other)None Detected001622877-0042Aon hot water, Mech fiberglass insulation fiberglass insulation RoomYellow Fibrous90% Min. Wool10% Non-fibrous (Other)None Detected001622877-0043Canvas over fiberglass insulation RoomYellow Fibrous90% Min. Wool10% Non-fibrous (Other)None Detected001622877-0043On hot water, Mech HomogeneousHomogeneous30% Matrix 10% Non-fibrous (Other)None Detected001622877-0043Canvas over fiberglass insulation RoomTan Fibrous60% Cellulose 95% Min. Wool30% Matrix 10% Non-fibrous (Other)None Detected01622877-0044Canvas over fiberglass insulation fibrousYellow Fibrous2% Cellulose 95% Min. Wool3% Non-fibrous (Other)None Detected01622877-0044Canvas over fiberglass insulation fibrousFibrous Fibrous2% Cellulose 95% Min. Wool3% Non-fibrous (Other)None Detected01622877-0044On hot water pipes in fibrous trench, Mech RoomTan Fibrous75%	A-143 091622877-0041	Canvas over fiberglass insulation on hot water, Mech	Orange Fibrous Homogeneous	95% Min. Wool	5% Non-fibrous (Other)	None Detected
Ar144-Insulation Gaines over fiberglass insulation Room Fibrous Fibrous Fibrous Homogeneous 53.6 km/r Horking (Childrift) None Detected A-144-Wrap Carvas over fiberglass insulation Room Tan 65% Cellulose 30% Matrix None Detected A-144-Wrap Carvas over fiberglass insulation Room Fibrous 65% Cellulose 30% Matrix None Detected A-145-Insulation Carvas over fiberglass insulation fiberglass insulation fiberglass insulation fiberglass insulation article 2877-0043 Yellow 90% Min. Wool 10% Non-fibrous (Other) None Detected A-145-Urap Carvas over fiberglass insulation fiberglass insulation fiberglas	A 144 Inculation		Vellow	95% Min Wool	5% Non-fibrous (Other)	None Detected
RoomA-144-WrapCanvas over fiberglass insulation on hot water, Mech RoomTan fibrous65% Cellulose show30% Matrix 5% Non-fibrous (Other)None Detected 5% Non-fibrous (Other)001622877-0042ACanvas over fiberglass insulation on hot water, Mech RoomYellow Homogeneous90% Min. Wool10% Non-fibrous (Other)None DetectedA-145-InsulationCanvas over fiberglass insulation on hot water, Mech RoomYellow Homogeneous90% Min. Wool10% Non-fibrous (Other)None DetectedA-145-WrapCanvas over fiberglass insulation riberglass insulation on hot water, Mech RoomTan Homogeneous60% Cellulose Pribrous30% Matrix 10% Non-fibrous (Other)None DetectedA-145-WrapCanvas over fiberglass insulation on hot water, Mech RoomYellow Homogeneous2% Cellulose Pribrous30% Matrix 10% Non-fibrous (Other)None DetectedA-146-InsulationCanvas over fiberglass insulation rench, Mech RoomYellow Homogeneous2% Cellulose Pribrous3% Non-fibrous (Other)None Detected001622877-0044Canvas over fiberglass insulation rench, Mech RoomTan Homogeneous75% Cellulose3% Non-fibrous (Other)None Detected001622877-0044Canvas over fiberglass insulation rench, Mech RoomTan Homogeneous75% Cellulose25% Non-fibrous (Other)None Detected001622877-0044on hot water pipes in trench, Mech RoomTan Homogeneous75% Cellulose25% Non-fibrous (Other)None Detected <td>091622877-0042</td> <td>fiberglass insulation on hot water, Mech</td> <td>Fibrous Homogeneous</td> <td>93 % Will. WOOI</td> <td></td> <td>None Delected</td>	091622877-0042	fiberglass insulation on hot water, Mech	Fibrous Homogeneous	93 % Will. WOOI		None Delected
A-144-Wrap Carvas over fiberglass insulation on hot water, Mech Room Tan 65% Cellulose fiberglass 30% Matrix 5% Non-fibrous (Other) None Detected A-145-Insulation Carvas over fiberglass insulation on hot water, Mech Room Yellow 90% Min. Wool 10% Non-fibrous (Other) None Detected A-145-Insulation Carvas over fiberglass insulation Room Yellow 90% Min. Wool 10% Non-fibrous (Other) None Detected A-145-Wrap Carvas over fiberglass insulation Room Tan 60% Cellulose 30% Matrix science None Detected A-145-Wrap Carvas over fiberglass insulation root water, Mech Room Tan 60% Cellulose 30% Matrix science None Detected A-146-Insulation Carvas over fiberglass insulation root water, Mech Room Fibrous 95% Min. Wool 3% Non-fibrous (Other) None Detected 091622877-0044 On hot water pipes in trench, Mech Room Yellow 2% Cellulose 3% Non-fibrous (Other) None Detected 091622877-0044 On hot water pipes in trench, Mech Room Fibrous 95% Min. Wool 3% Non-fibrous (Other) None Detected 091622877-0044 On hot water pipes in trench, Mech Room		Room				
op1622877-0042A on hot water, Mech Room Homogeneous A-145-Insulation Canvas over fiberglass insulation on hot water, Mech Room Yellow 90% Min. Wool 10% Non-fibrous (Other) None Detected 091622877-0043 on hot water, Mech Room Homogeneous 60% Cellulose 30% Matrix 10% Non-fibrous (Other) None Detected A-145-Wrap Canvas over fiberglass insulation Room Tan 60% Cellulose 30% Matrix 10% Non-fibrous (Other) None Detected A-145-Insulation Fibrous Fibrous 2% Cellulose 3% Non-fibrous (Other) None Detected A-146-Insulation Ganvas over fiberglass insulation 95% Min. Wool 95% Min. Wool 3% Non-fibrous (Other) None Detected A-146-Insulation Canvas over fiberglass insulation 95% Min. Wool 75% Cellulose 3% Non-fibrous (Other) None Detected A-146-Wrap Canvas over fiberglass insulation 95% Nin. Wool Tan 75% Cellulose 25% Non-fibrous (Other) None Detected 091622877-0044 on hot water pipes in trench, Mech Room Homogeneous Homogeneous Eibrous 25% Non-fibrous (Other) None Detected	A-144-Wrap	Canvas over fiberglass insulation	Tan Fibrous	65% Cellulose	30% Matrix 5% Non-fibrous (Other)	None Detected
A-145-Insulation Canvas over fiberglass insulation Yellow 90% Min. Wool 10% Non-fibrous (Other) None Detected 091622877-0043 on hot water, Mech Room Homogeneous 60% Cellulose 30% Matrix None Detected A-145-Wrap Canvas over fiberglass insulation Tan 60% Cellulose 30% Matrix None Detected 091622877-0043A on hot water, Mech Room Homogeneous 60% Cellulose 30% Matrix None Detected 091622877-0043A on hot water, Mech Room Homogeneous 2% Cellulose 3% Non-fibrous (Other) None Detected 091622877-0043A Canvas over fiberglass insulation Yellow 2% Cellulose 3% Non-fibrous (Other) None Detected 091622877-0044 Canvas over fiberglass insulation Fibrous 95% Min. Wool 3% Non-fibrous (Other) None Detected 091622877-0044 on hot water pipes in trench, Mech Room Homogeneous 75% Cellulose 25% Non-fibrous (Other) None Detected 091622877-0044A on hot water pipes in trench, Mech Room Homogeneous 25% Non-fibrous (Other) None Detected	091622877-0042A	on hot water, Mech Room	Homogeneous			
091622877-0043 on hot water, Mech Room Homogeneous A-145-Wrap Canvas over fiberglass insulation Room Tan 60% Cellulose 30% Matrix 10% Non-fibrous (Other) None Detected 091622877-0043A on hot water, Mech Room Homogeneous 10% Non-fibrous (Other) None Detected 091622877-0043A on hot water, Mech Room Homogeneous 2% Cellulose 3% Non-fibrous (Other) None Detected A-146-Insulation Canvas over fiberglass insulation on hot water pipes in trench, Mech Room Yellow 2% Cellulose 3% Non-fibrous (Other) None Detected A-146-Wrap Canvas over fiberglass insulation g01622877-0044 Tan 75% Cellulose 25% Non-fibrous (Other) None Detected 091622877-0044A on hot water pipes in trench, Mech Room Homogeneous 75% Cellulose 25% Non-fibrous (Other) None Detected	A-145-Insulation	Canvas over fiberglass insulation	Yellow Fibrous	90% Min. Wool	10% Non-fibrous (Other)	None Detected
A-145-WrapCanvas over fiberglass insulation on hot water, Mech RoomTan60% Cellulose30% Matrix 10% Non-fibrous (Other)None Detected091622877-0043A Op1622877-0043Aon hot water, Mech RoomHomogeneous2% Cellulose 95% Min. Wool3% Non-fibrous (Other)None DetectedA-146-Insulation 091622877-0044Canvas over fiberglass insulation on hot water pipes in trench, Mech RoomYellow Homogeneous2% Cellulose 95% Min. Wool3% Non-fibrous (Other)None DetectedA-146-Wrap 091622877-0044ACanvas over fiberglass insulation on hot water pipes in trench, Mech RoomTan Fibrous Fibrous75% Cellulose P5% Cellulose25% Non-fibrous (Other)None DetectedA-146-Wrap 091622877-0044ACanvas over fiberglass insulation on hot water pipes in trench, Mech RoomTan Homogeneous75% Cellulose25% Non-fibrous (Other)None Detected	091622877-0043	on hot water, Mech Room	Homogeneous			
iberglass insulation on hot water, Mech RoomFibrous Homogeneous10% Non-fibrous (Other)A-146-InsulationCanvas over fiberglass insulation on hot water pipes in trench, Mech RoomYellow2% Cellulose 95% Min. Wool3% Non-fibrous (Other)None Detected091622877-0044On hot water pipes in trench, Mech RoomHomogeneous95% Min. Wool3% Non-fibrous (Other)None DetectedA-146-WrapCanvas over fiberglass insulation trench, Mech RoomTan75% Cellulose Fibrous25% Non-fibrous (Other)None Detected091622877-0044Aon hot water pipes in fiberglass insulation trench, Mech RoomTan75% Cellulose Fibrous25% Non-fibrous (Other)None Detected	A-145-Wrap	Canvas over	Tan	60% Cellulose	30% Matrix	None Detected
A-146-Insulation Canvas over fiberglass insulation Yellow 2% Cellulose 3% Non-fibrous (Other) None Detected 091622877-0044 on hot water pipes in trench, Mech Room Homogeneous 95% Min. Wool 95% Non-fibrous (Other) None Detected A-146-Wrap Canvas over fiberglass insulation Tan 75% Cellulose 25% Non-fibrous (Other) None Detected 091622877-0044A on hot water pipes in trench, Mech Room Homogeneous 1 1 1	091622877-0043A	fiberglass insulation on hot water, Mech Room	Fibrous Homogeneous		10% Non-fibrous (Other)	
11berglass insulation Fibrous 95% Min. Wool 091622877-0044 on hot water pipes in trench, Mech Room Homogeneous A-146-Wrap Canvas over Tan 75% Cellulose 25% Non-fibrous (Other) None Detected 091622877-0044A on hot water pipes in fiberglass insulation Fibrous 1 1 1 091622877-0044A on hot water pipes in trench, Mech Room Homogeneous 1 1 1	A-146-Insulation	Canvas over	Yellow	2% Cellulose	3% Non-fibrous (Other)	None Detected
A-146-Wrap Canvas over Tan 75% Cellulose 25% Non-fibrous (Other) None Detected fiberglass insulation Fibrous 091622877-0044A on hot water pipes in Homogeneous trench, Mech Room	091622877-0044	Tiberglass insulation on hot water pipes in trench. Mech Room	⊢ibrous Homogeneous	95% Min. Wool		
091622877-0044A on hot water pipes in Homogeneous trench, Mech Room Homogeneous	A-146-Wrap	Canvas over	Tan	75% Cellulose	25% Non-fibrous (Other)	None Detected
	091622877-0044A	tiberglass insulation on hot water pipes in trench, Mech Room	Fibrous Homogeneous			



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	% Туре	
A-147-Insulation	Canvas over fiberglass insulation	Yellow Fibrous	95% Min. Wool	5% Non-fibrous (Other)	None Detected	
091622877-0045	on hot water pipes in trench, Mech Room	Homogeneous				
A-147-Wrap	Canvas over fiberglass insulation	Tan/Black Fibrous	70% Cellulose	30% Non-fibrous (Other)	None Detected	
091622877-0045A	on hot water pipes in trench, Mech Room	Homogeneous				

Analyst(s)

Beheshta Ahadi (77) Jared Martin (9)

Acipliche

Chris Dojlidko, Laboratory Manager or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 12/02/2016 15:12:09

EMSL Analytical, Inc. Customer ID: ECSI85 464 McCormick Street San Leandro, CA 94577 MSI **Customer PO:** Tel/Fax: (510) 895-3675 / (510) 895-3680 Project ID: http://www.EMSL.com / sanleandrolab@emsl.com Attention: Ryan Govan **Phone:** (925) 370-2222 Environmental Construction Services, Inc. Fax: (925) 370-2282 PO Box 5277 Received Date: 12/28/2016 11:30 AM Bay Point, CA 94565 Analysis Date: 01/12/2017 - 01/13/2017 Collected Date: 12/27/2016

Project: American River College - Liberal Arts Building

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

EMSL Order: 091700137

			Asbestos		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-148-Built Up Roofing	Built up roofing, silver paint, building 2	Black Fibrous	20% Cellulose	60% Matrix 8% Non-fibrous (Other)	12% Chrysotile
091700137-0001		Homogeneous			
A-148-Silver Paint	Built up roofing, silver paint, building 2	Black/Silver Fibrous		60% Matrix 37% Non-fibrous (Other)	3% Chrysotile
091700137-0001A		Homogeneous			
A-148-Insulation	Built up roofing, silver paint, building 2	Brown Fibrous	85% Cellulose	15% Non-fibrous (Other)	None Detected
091700137-0001B		Homogeneous			
A-149-Built Up Roofing	Built up roofing, silver paint, building 1	Black Fibrous	10% Cellulose	60% Matrix 30% Non-fibrous (Other)	None Detected
	D. III	Oilean			New Datastad
A-149-Silver Paint	paint, building 1	Silver Non-Fibrous Homogeneous		30% Non-fibrous (Other)	None Detected
A-149-Built Up Roofing	Built up roofing, silver paint, building 1	Black Fibrous	10% Cellulose 7% Glass	60% Matrix 23% Non-fibrous (Other)	None Detected
091700137-0002B		Homogeneous			
A-149-Tar	Built up roofing, silver paint, building 1	Black Non-Fibrous		70% Matrix 30% Non-fibrous (Other)	None Detected
091700137-0002C		Homogeneous			
A-149-Felt	Built up roofing, silver paint, building 1	Black Fibrous	30% Cellulose	60% Matrix 10% Non-fibrous (Other)	None Detected
	D. III	Romogeneous	450/ O - H. J		New Petersteri
A-149-Feit Paper	paint, building 1	Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	None Detected
	Built un roofing silver	Brown	80% Cellulose	20% Non-fibrous (Other)	None Detected
091700137-0002F	paint, building 1	Fibrous Homogeneous			None Detected
A-150-Built Up Roofing	Built up roofing, silver paint, building 6	Black Fibrous	20% Cellulose	60% Matrix 20% Non-fibrous (Other)	None Detected
091700137-0003		Homogeneous			
A-150-Silver Paint	Built up roofing, silver paint, building 6	Silver Non-Fibrous		60% Matrix 40% Non-fibrous (Other)	None Detected
091700137-0003A		Homogeneous			
A-150-Built Up Roofing 2	Built up roofing, silver paint, building 6	Black Fibrous Homogeneous	15% Cellulose 5% Glass	60% Matrix 20% Non-fibrous (Other)	None Detected
091700137-0003B		-			
A-150-Built Up Roofing 3	Built up roofing, silver paint, building 6	Black Fibrous Homogeneous	15% Cellulose	60% Matrix 25% Non-fibrous (Other)	None Detected
091700137-0003C		-			
A-150-Felt	Built up roofing, silver paint, building 6	Black Fibrous	10% Glass	60% Matrix 30% Non-fibrous (Other)	None Detected
091700137-0003D		Homogeneous			



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		Non-Asbestos			Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-150 Insulation	Built up roofing, silver paint, building 6	Brown Fibrous	90% Cellulose	10% Non-fibrous (Other)	None Detected
091700137-0003E		Homogeneous			
A-151-Built Up Roofing	Built up roofing, silver paint, building 5	Black Fibrous	20% Cellulose	60% Matrix 20% Non-fibrous (Other)	None Detected
091700137-0004		Homogeneous			
A-151-Silver Paint	Built up roofing, silver paint, building 5	Silver Fibrous Homogeneous		70% Matrix 26% Non-fibrous (Other)	4% Chrysotile
A 151 Puilt I In Poofing	Built up roofing silver	Brown/Black	25% Callulasa	60% Matrix	None Detected
091700137-0004B	paint, building 5	Fibrous	5% Glass	10% Non-fibrous (Other)	None Delected
A_151_Tar	Built up roofing silver	Black		60% Matrix	None Detected
091700137-0004C	paint, building 5	Non-Fibrous Homogeneous		40% Non-fibrous (Other)	None Delected
A_151_Eolt	Built up roofing silver	Black	15% Glass	60% Matrix	None Detected
091700137-0004D	paint, building 5	Fibrous Homogeneous	1370 Glass	25% Non-fibrous (Other)	None Delected
A-152-Built Lin Roofing	Built un roofing silver	Black	10% Cellulose	60% Matrix	None Detected
091700137-0005	paint, building 3	Fibrous Homogeneous		30% Non-fibrous (Other)	None Detected
A-152-Silver Paint	Built up roofing, silver	Silver		60% Matrix	None Detected
091700137-0005A	paint, building 3	Non-Fibrous Homogeneous		40% Non-fibrous (Other)	
A-152-Built Up Roofing	Built up roofing, silver	Black	10% Cellulose	60% Matrix	None Detected
091700137-0005В	paint, building 3	Fibrous Homogeneous	is 30% Non-fibrous (Other) geneous	30% Non-fibrous (Other)	
A-152-Tar	Built up roofing, silver	Black		60% Matrix	None Detected
001700137-00050	paint, building 3	Non-Fibrous		40% Non-fibrous (Other)	
4.450 Falt	Built up reafing ailvor	Black		60% Matrix	None Detected
A-152-Feit	paint, building 3	Fibrous Homogeneous	10% Glass	18% Non-fibrous (Other)	None Detected
A_152_Insulation	Built up roofing silver	Brown	70% Cellulose	30% Non-fibrous (Other)	None Detected
091700137-0005E	paint, building 3	Fibrous Homogeneous			None Delected
A-153-Silver Paint	Silver paint / sealer	Silver		100% Non-fibrous (Other)	None Detected
	on conduit on roof,	Non-Fibrous			
091700137-0006	building 3	Homogeneous			
A-153-Sealant	Silver paint / sealer on conduit on roof,	Black Fibrous		92% Non-fibrous (Other)	8% Chrysotile
091700137-0006A	building 3	Homogeneous			
A-154	White sealer on duct roof, building 5	Gray/White Fibrous	4% Cellulose	60% Ca Carbonate 36% Non-fibrous (Other)	None Detected
091700137-0007		Homogeneous			
A-155	White sealer on duct roof, building 5	White Non-Fibrous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
091700137-0008		Tomogeneous			
A-156	Tan caulking on roof HVAC unit, building 2	Ian/Silver Non-Fibrous		100% Non-fibrous (Other)	None Detected
091700137-0009	Disclosure and inco	Romogeneous			New Datastad
A-157	Black wrap on pipes at HVAC unit, building	Black Non-Fibrous		100% Non-fibrous (Other)	None Detected
A 150 loculation	L Vollow fiberalese also	Vollow		E0/ Non Share (Other)	Nono Dotastad
A-150-IIISUIATION	insulation, white sealer on roof,	Fibrous Homogeneous	9 ວ % №IIN. ₩00I	5% INOTI-TIDITOUS (UTITER)	NUTE DETECTED
	2017 07:20:25				
initial report from: 01/13/	2017 07:29:25				



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Project ID:

		Non-Asbestos			<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
A-158-Sealer 091700137-0011A	Yellow fiberglass pipe insulation, white sealer on roof, building 2	White Non-Fibrous Homogeneous		60% Ca Carbonate 40% Non-fibrous (Other)	None Detected	
A-159	Gray sealer on metal cap on roof pipe	Gray/Black Fibrous		90% Non-fibrous (Other)	10% Chrysotile	
091700137-0012	support, building 2	Homogeneous				
A-160-Insulation	Yellow fiberglass pipe insulation, white sealer on roof, building 2	Yellow Fibrous Homogeneous	95% Min. Wool	5% Non-fibrous (Other)	None Detected	
A-160-Sealer 091700137-0013A	Yellow fiberglass pipe insulation, white sealer on roof, building 2	White Non-Fibrous Homogeneous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected	
A-161	White wool pipe insulation on roof, building 2	White Fibrous Homogeneous	95% Min. Wool	5% Non-fibrous (Other)	None Detected	
A-162-Silver Paint	Silver paint / sealer on metal cap at roof, building 1	Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	
A-162-Sealer	Silver paint / sealer on metal cap at roof,	Black Fibrous		92% Non-fibrous (Other)	8% Chrysotile	
A-163-Insulation	Yellow fiberglass, white wool pipe	Yellow Non-Fibrous	95% Min. Wool	5% Non-fibrous (Other)	None Detected	
091700137-0016	insulation on roof, building 1	Homogeneous				
A-163-Insulation 2	Yellow fiberglass, white wool pipe insulation on roof, building 1	White Fibrous Homogeneous	95% Min. Wool	5% Non-fibrous (Other)	None Detected	
A-164	Brown foam pipe insulation on roof, building 1	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	
A-165-Silver Paint	Silver paint / sealer on pipe support on roof, building 1	Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	
A-165-Sealer	Silver paint / sealer on pipe support on roof building 1	Black Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile	
A-166	Brown foam pipe insulation on roof,	Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected	
091700137-0019	building 3	Homogeneous			New Peterted	
A-167-Insulation	Yellow pipe insulation, white canvas on roof, building 3	Yellow Fibrous Homogeneous	95% Min. Wool	5% Non-fibrous (Other)	None Detected	
A-167-Canvas	Yellow pipe insulation, white canvas on roof, building 3	White Fibrous Homogeneous	25% Cellulose 20% Glass	55% Non-fibrous (Other)	None Detected	
A-168-Silver Paint	Silver paint/sealer on metal cap on pipe support building 3	Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	
A-168-Sealer	Silver paint/sealer on metal cap on pipe	Black Fibrous		96% Non-fibrous (Other)	4% Chrysotile	
091700137-0021A	support, building 3	Homogeneous				



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			Asbestos		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-169-Silver Paint	Silver paint / sealer on metal pipe cover	Silver Non-Fibrous		100% Non-fibrous (Other)	None Detected
091700137-0022	on roof, building 6	Homogeneous			
A-169-Sealer	Silver paint / sealer on metal pipe cover on roof, building 6	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-170	Brown pressed wood	Brown Fibrous	95% Cellulose	5% Non-fibrous (Other)	None Detected
091700137-0023	exterior panels on soffit at Room 166	Homogeneous			
A-171	Exterior stucco on walkway ceiling at	Gray Non-Fibrous		40% Quartz 15% Ca Carbonate	None Detected
091700137-0024	room 166	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-172	Exterior stucco on	Gray		40% Quartz	None Detected
091700137-0025	walkway ceiling at room 125	Non-Fibrous Homogeneous		15% Ca Carbonate 25% Gypsum 20% Non-fibrous (Other)	
A-173	Exterior stucco on walkway ceiling at	Gray Non-Fibrous		40% Quartz 15% Ca Carbonate	None Detected
091700137-0026	room 120	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-174	Exterior stucco on	Gray Non-Fibrous		40% Quartz 15% Ca Carbonate	None Detected
091700137-0027	room 154	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-175	Exterior stucco on walkway ceiling at	Gray Non-Fibrous		40% Quartz 15% Ca Carbonate	None Detected
091700137-0028	mech. Room	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-176-Stucco	Exterior stucco on	Gray		40% Quartz	None Detected
091700137-0029	room 133 H	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-176-Skim Coat	Exterior stucco on	Yellow		40% Quartz	None Detected
091700137-0029A	room 133 H	Homogeneous		20% Ca Carbonate 20% Gypsum 20% Non-fibrous (Other)	
A-177	Exterior stucco on walkway ceiling at	Gray Non-Fibrous		40% Quartz 15% Ca Carbonate	None Detected
091700137-0030	room 133 R	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-178	Exterior stucco on	Gray		40% Quartz	None Detected
091700137-0031	at room 133 Q	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-179	Exterior stucco	Gray		40% Quartz	None Detected
091700137-0032	135	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-180	Exterior stucco	Gray		40% Quartz	None Detected
091700137-0033	152	Homogeneous		25% Gypsum 20% Non-fibrous (Other)	
A-181	Exterior stucco	Gray		40% Quartz	None Detected
091700137-0034	window in fill at room 152	Non-Fibrous Homogeneous		15% Ga Carbonate 25% Gypsum 20% Non-fibrous (Other)	



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			Non-Asbestos		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
A-182-Brick	Brick and mortar wall at room 166	Red Non-Fibrous Homogeneous		50% Quartz 50% Non-fibrous (Other)	None Detected
A-182-Mortar	Brick and mortar wall at room 166	Gray Non-Fibrous Homogeneous		45% Quartz 20% Ca Carbonate 20% Gypsum 15% Non-fibrous (Other)	None Detected
A-183-Brick	Brick and mortar wall at room 125	Red Non-Fibrous Homogeneous		50% Quartz 50% Non-fibrous (Other)	None Detected
A-183-Mortar 091700137-0036A	Brick and mortar wall at room 125	Gray Non-Fibrous Homogeneous		40% Quartz 20% Ca Carbonate 20% Gypsum 20% Non-fibrous (Other)	None Detected
A-184-Brick	Brick and mortar wall at room 120 C	Red Non-Fibrous Homogeneous		50% Quartz 50% Non-fibrous (Other)	None Detected
A-184-Mortar 091700137-0037A	Brick and mortar wall at room 120 C	Gray Non-Fibrous Homogeneous		40% Quartz 20% Ca Carbonate 20% Gypsum 20% Non-fibrous (Other)	None Detected
A-185-Brick	Brick and mortar wall at room 157	Red Non-Fibrous Homogeneous		50% Quartz 50% Non-fibrous (Other)	None Detected
A-185-Mortar 091700137-0038A	Brick and mortar wall at room 157	Gray Non-Fibrous Homogeneous		40% Quartz 20% Ca Carbonate 20% Gypsum 20% Non-fibrous (Other)	None Detected
A-186-Brick	Brick and mortar wall at Mech Room	Red Non-Fibrous Homogeneous		50% Quartz 50% Non-fibrous (Other)	None Detected
A-186-Mortar 091700137-0039A	Brick and mortar wall at Mech Room	Gray Non-Fibrous Homogeneous		40% Quartz 20% Ca Carbonate 20% Gypsum 20% Non-fibrous (Other)	None Detected
A-187	Window glazing compound at room 157	Gray Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
A-188	Window glazing compound at room	White Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
A-189	Window glazing compound at room	Gray Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
A-190	Window glazing compound at room	Gray/Tan Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
A-191	Window glazing compound at room	Tan Non-Fibrous		70% Ca Carbonate 28% Non-fibrous (Other)	2% Chrysotile
A-192	Window glazing compound at room	Gray Non-Fibrous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
031100131-0043	129	nomoyeneous			



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Analyst(s)

Beheshta Ahadi (28) Matthew Batongbacal (28) Raphael Feliciano (26)

auter

Matthew Batongbacal or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 01/13/2017 07:29:25
Date: 8/19	ENVIRONMENTAL CONSTRUCTION SERVICES, INC. Page of BULK SAMPLE ANALYSIS FORM
Laboratory: EM	SL PLM Bulk Analysis
Results Requested	By: Rush 24Hr 48Hr 72Hr Other Deek ITEM Bulk Analysis
Job Name: Ameri	can River College - Liberal Arts Building Job Number:
Location: 4700	College Oak Drive, Sacramento, CA 95841 Collected By: Ryan Govan
Sample No.	Location/Description
A-01	Blue 12' floor tike, white mustice, room 166
A-02	Black mastic Fesides under bin tile, scon 166.
A-03	Gray, brown on blue viny 1 floor base, room 166
A-04	DryWall and Joint compound, Fach 166
A-25	2'X4' Fissurd ceiling tile, room 166
A-06	12" Perforated tile, brown muster on soffit above centing, from 166
A-07	Dryman and Jant compared, behind tills on soffite, (com 166.
A-08	Window Slazing compand at room 166.
A-29	Window glazing compand at from 164.
A-10	Window glazing company at room 163
A-11	Unlow glazing compand at fam 169
AIR	Window glazing compand at room 167
A-13	White scaler on duct above ceiling, Can 166.
A-14	Dryhall and joint compared in mech. room novet to 166
A-15	Concrete floor in much room next to room 166.
A-16	Black master resdes under 12" floor tite room 165
ANT	Blue 12" floor tile, yellaw mastic, (com 165
A-18	Gray, brown master on blue vinit flar base, race 165.
A-19	12" Perforated tile, blown master about Ceiling, from 165
A-20	2'x4' fissund ceiling tim, form 165
Date: Tim	e: Relinquished By: Company Received By: Company: Date: Time:
8/25/16	Reputton ECS
P.0 Box 52	277 Bay Point, CA 94565 (925) 370-2222 Fax (925) 370-2282

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derID: 0	916165	15				0914	1051	2
Date: 8	:/19/1	EN [.] L	VIRONMENTA BULK	L CONSTRU SAMPLE A	UCTION SERVI NALYSIS FORM	CES, INC. [Azalysis Req	Page_2	<u>of</u>
Pace		<u> </u>				A PLM Bulk A	nalysis	
Laboratory		L		\sim) last	DEM Point (Count 400 - 1 nalysis	.000
Results Re	quested F	ly: Rush	24Hr 48Hr	72Hr [ther]_	1 week	- FAA Lead P	aint Analysis	
Job Name:	Americ	an River	College - Liberal Arts	Building	Job Number:			_
Location:	4700 C	ollege O	ak Drive, Sacramento	o, CA 95841	Collected By: Ryan Gov	/an		-
Sample No.			Location/Descrip	tion				
A-2	۱	Dry	wall and In	out compou	nd behind 12't	in abouce	ciling, fac	<u>~165</u>
A-2	2	<u></u>	te Joint ta	pe on det	inside soffit			
<u>A.2</u>	3	DN	Lall and Do	int company	2, room 164	<u>+</u>		
A.?	9	131-2	- 12" fleer til	r, Yellow	mistu, gray 1	2:11-1, 100-	n 164.	
A-2	5	zx	4 Fissural C	eiling they	(ccm 170_			
A.Z	L	2 X	y fissurel (eiling tile	(replacement to	he), (com	01	
<u>A~2</u>	77	Dryu	-all and 30.	nt compon	-2, 100m 170	>		
A. 78	5	Bin	12" floor til.	L) Orange V	nister, grang	filler Tou	n170	
Air		Wh	the orange	mastron	blue May Flee	- basy score	n 170	
A-34	>	Blac	kigay Filler	at edse a	st floer tile;	<u>(com'170</u>	•	
<u>A.3</u>	}	Black	ite mastic Ce.	siding unde	r blue fleer to	ile, room	169.	
A-37	ζ	Dry	wall and is	sint Compo	nd, rocm 16	<u> </u>		
A-3	3	Tan	brown my	stre on b	Ine viny floor	basy Fact	167	
A-3	۶	Blac	h orange m	uste unde	- blue floor +	illy (Ocm	167	
<u>A.3</u>	5	Dry	wall and 5	iant com	port, room 1	67		
A.3	6	Gree	m, black mas	itic under a	carpit, rcom	129_		
<u>A-3</u>	ר	Bra	-n, white 1	mistion b	soun Viny fle	or base, (c.	<u>en 129.</u>	
A-3	8	ירית	mail and joi	it conform	1 (con 129			
A-3	٩	2'Yu	1 fissional cen	Ingtim ro	cm 129			
A. 1	10	12" F	Perfornted fil	e on Lal	1, room 129			
Date:	Time:	Re	linquished By:	Company	Received By:	Company:	Date:	Time:
8/25/16			Ryn Thom	ECS	RIOIÓN			
			•					
2.0 Bo	x 52'	77 Ba	ay Point, CA	A 94565 (925) 370-222	22 Fax (92	25) 370	-2282

j.

091010515

	ENVIRONMENTAL CONSTRUCTION SERVICES, INC. Page 3 of 3									
Date: 8/19/1	BULK SAMPLE ANALYSIS FURM									
Laboratory: EMSL Duk Analysis										
Results Requested By: Rush 24Hr 48Hr 72Hr ther Week Grand FAA Lead Paint Analysis										
Job Name: America	an River College - Liberal Arts Building Job Number:									
Location: 4700 C	ollege Oak Drive, Sacramento, CA 95841 Collected By:Ryan Govan									
Sample No.	Location/Description									
A-41	Gran, black mustic under carpet, From 128.									
A-42	Ban, White meste on brenn viny floor basy from 128.									
A-43	Dry wall and Tomt compand, ram 128.									
A-44	Green, black mustic under carpet, room 126.									
A-43	Brown white mastic on brown Vinyi Acor base, Faun 126									
A-46	Drywall and Joint compand, From 126									
A-47	Gran, black mastic under carpet, (com 125									
A-48	Brown meste on brown Vingi floor base, racm 125									
A-49	Drywall and Soint company, (com 125,									
A-50	2'x4' f. swed ceily tile, room 125.									
A-51	12" Perfixed tile on Wall, 600m 125									
A-52	2'x4' fissurd ceiling tile, soom 122.									
A.53	2'XY' F.SSU-d (eiling tile (replacement), (com 122									
A.SY	Grown, black might under carpet, rown 122									
A-35	Tan, brown masticon black ving flar base, room 122.									
A-56	Dryhall and joint compand, (com 122									
A-57	Dryhall and Joint compand, (con 124									
A-58	white, blown mastic on bown vinig flour base, from 121									
A-59	Green, black master under carpet, room 121:									
A-60	Diyuall and joint compand, from 121.									
Date: Time:	Relinquished By: Company Received By: Company: Date: Time:									
8/25/16	Run Tun ECS ROOD 8.25.16 20M									
	WI WI									
P.0 Box 52'	77 Bay Point, CA 94565 (925) 370-2222 Fax (925) 370-2282									

Date: 1)/ Laboratory: Results Rec Job Name:	EMS uested E America	E SL Sy: R an Riv	UNVIRONMENTA BULK ush 24Hr 48Hr ver College - Liberal Art	SAMPLE A	UCTION SERVIO NALYSIS FORM 2 Werk Job Number:	CES, INC. Analysis Requ PLM Bulk An PLM Point C TEM Bulk An FAA Lead Pa	Page_/ ested: alysis ount 400 - : alysis int Analysis	.000		
Location: _	4700 C	ollege	e Oak Drive, Sacrament	o, CA 95841	Collected By: Ryan Gov	an				
Sample No.			Location /Descri	ntion						
A-6	i	Ð	ryingh and i	ant compos	wh (com is	30				
A-6	ζ	D	Twall and S	out confor	L. Cam					
A-6	3	D	rywall and J	ount compan	nd ram 13	3 d.				
A-6	1	D	rywall and]	out compo	nd, from 13	3 U.				
A-6	5	D	ywall and 3	ourt compo	nd, 600m 13	34				
A-b	6	Ð	iyund and J	out compo	nd, From 13	که				
A-6	7	De	rywah and J	out temp	ond, From 1	31				
A-68	5	ß	icun Mustic &	for ald +1	es abour susper	nded ceiling	hallw	Mat 133		
A-60	1	я С	ymall and Jos	nt compound	abour ceiling	hallway	at 133	9.		
A-7(C	D٣	ywall and 30	-t compand	above ceiling	room 133	d.	•		
A-7	1	Be	sown mestric	in old cer	Ing tite above	ceiving 1 From	n 133 J	•		
A-7'	2	Pi	PU elbow in S	ulation abo	ne ceiling, Rac	m 135.				
AM	3	Ja	sint tape on	duct about	re Ceiling, Sco	im 135.				
A-7	4	3	eart tapp on	duct about	c ceiling, la	1-135,				
A.	ς.	Ri	A elbow This	victing a bur	- ceiling, For	on 135-				
A-7	L	2	X4' fissured C	eiling film	(common), (com 135				
A-7	7	2'\	x4' Pinholac	eilny tim 1	(eplacement),	(com 135.				
A-7	8	2'	VY fissure C	eing till ((common) (a	om 135.				
A-7	9	Ba	own mastic a	n 12" Ceily	tille about Sus	spunded Ce	· I. m. For	n 131		
A-9	SO	ŕ	Ky fissurd Ce	ilmy file (replacement)	100m 131.				
Date:	Time:		Relinquished By:	Company	Received By:	Company:	Date:	Time:		
IVAND			Ryn Man Ecs							

P.O Box 5277 Bay Point, CA 94565 (925) 370-2222 Fax (925) 370-2282

Date: 1/////(Laboratory: EMS Results Requested F Job Name: Americ Location: 4700 C	ENVIRONMENTAL CONSTRUCTION SERVICES, INC. Page of BULK SAMPLE ANALYSIS FORM Analysis Requested: PLM Bulk Analysis PLM Point Count 400 - 1000 TEM Bulk Analysis By: Rush 24Hr 48Hr 72Hr Other QUECK Analysis Requested: PLM Point Count 400 - 1000 TEM Bulk Analysis FAA Lead Paint Analysis Analysis By: Rush 24Hr 48Hr 72Hr Other QUECK
Sample No.	Location/Description
A-81	2'X4' figured (either toby (common) (com 131
A-82	2 vul fissured ceiter tue (common) Hallihar at 1339.
A-83	2' Vy fissued ceing tike (replacement). Helling at 1339.
A-84	Green master Under Carpet, 600m 133 P.
A-85	Brann and white mestr on brown Viny / fiver basin, 6com 133R
A-86	Columnashe under Carpet, room 133. 5.
A-87	Brown meshe on brown Vingl Flour base, from 133+.
A-88	Green, black mostic under cappet, from 1339.
A-89	Gleen mastric under Carpet, (com 133d.
A-90	Green mastic, white compare under carpet, room 133 4
A-91	Brown mestic on brown Viny/ floor bish, Foom 133.U.
A-92	Green, black mustic under coopert, from 133 X.
A-93	Green, black master under carpet, From 132
A-94	Green, Black mastic under carpet, rem. 135.
A-95	Gran, brown mester under carpel, from, 1356
A-96	Greet and nother on 4" ceramic way tile, Mens Festreem.
A-97	Great and morter on 2" Cecame floor tiles, Men's restracm.
A-98	Drywell and Joint Compand, Men's Festeron.
A-99	Dry wall and Jc. at compand, women's restran.
A-100	Grant and marter on 2" ceanic floor tits, momen's Fostroom
Date: Time:	Relinquished By: Company Received By: Company: Date: Time:
1\/14/1L	Run Thon Ecs

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Date: 1/1/14 Laboratory: EMS Results Requested I Job Name: Americ Location: 4700 C	ENVIRONMENTAL CONSTRUCTION SERVICES, INC. Page 3 of BULK SAMPLE ANALYSIS FORM Analysis Requested: Analysis Requested: Analysis Requested: Analysis Requested: Analysis PLM Point Count 400 - 1000 TEM Bulk Analysis Streme 2016 Streme 2000 (Streme 2000) BY: Rush 24Hr 48Hr 72Hr Other 2000 (Streme 2000) Analysis Requested: Analysis Requested: Analysis Requested: Analysis PLM Point Count 400 - 1000 TEM Bulk Analysis FAA Lead Paint Analysis Analysis Dilege Oak Drive, Sacramento, CA 95841 Collected By: Ryan Govan
Sample No.	Location/Description
A- 101	To at the on duct in home & Earling
A-102	Grant and morter on 4" Ceramic Lall files, homen's Forthom.
Date: Time	Relinquished By: Company Received By: Company: Date: Time:
	R. M. Ecs
	in the co

P.O Box 5277 Bay Point, CA 94565 (925) 370-2222 Fax (925) 370-2282

Date: Laboratory Results Re Job Name:	EMS	ENV 5 5L By: Rush an River C	[RONM] B 24Hr ollege - Lib	ENTAI ULK S 48Hr (7 eral Arts	C CONSTR SAMPLE A	UCTION SEI NALYSIS F(Job Number:	RVICES ORM	S, INC. Analysis Requ PLM Bulk An PLM Point C TEM Bulk An FAA Lead Pa	Page ested: alysis ount 400 - alysis int Analysis) <u>or</u> 1000
Location: .	4700 C	ollege Oak	Drive, Sac	ramento,	, CA 95841	Collected By: Ryar	n Govan			-
Sample No.			Location	/Descript	ion					
A-10	3	Day	all and	<u>jo.</u> ,+	- compound	abour ceil.	<u>-1 [a</u>	um 152.	-	
A-10	.4	12" Ce	iling t	.he an	d brown n	nastic above	LJUSP	ended (ei	ling; fo	on 152
A-10	5.	Dryw	all and	Joint	t Compound	, room 15	56			
A-10	6	Dryne	M and	30114	- compourd	, rom 15	2			
A-10	דנ	Dryw	u and	Jont	- Compand	ron 15	2			
A-11	28	DIYL	all and	Jow	- compand	, (com 15)	26			
A-10	(A	ヹ゙゙゙ヹヸ	tizzur	sce.	Ing the Co	iemmon)	rcom	152.	· · · · · · · · · · · · · · · · · · ·	
A-11	0	r ' X4'	fissur	d Ce:	Ing the (replacement	-) room	152,		
A-11	1	2 74	fissur	2 cei	11 +1-1	(cinnon) (ran	152		
A-11	R	ぇ 、メイ	fissur	-t ce	iling tile,	(replacement	it) (cer	152		
A-Ir	3	ことれ	e 12" f	lcor f	ile, Orena	L, black me	est c.	rom 15	56	
A-11	4	O ranz	blac	k Ma	stre unde	r Carpet, (com 1	52.		
A-11	5	Whit	e mast	<i>con</i>	black vin	1 fleer bes-	e (cer	n 1520		
A-11	6	Black	Kinyl	fice	baser wh	ite, brown	masti	c, rean	152	
A-11	<u>ה</u>	O Cane	black	-mas-	tic under e	arpet. rcon	n 152	,		
A-11	8	Bar	2 deor	Core	1 (am 15	6				
A-11	9	たち	sured	nall .	tiles barn	master la	icon 1	52B.		
A-12	D O	2×4	fissu	nd Ce	Eling tile	(Beplacem	ent)	Form 1	54.	
A-17	21	2' 44'	F.SSU	rd Co	They time	(common)) 100	m 154.		
A. 12	2	Bin 1	2" flax	file	black ma	the Gram	154.			
Date:	Time:	Relin	quished By:		Company	Received By:	Cor	npany:	Date:	Time:
1V28/1L		1	2 1	m	FLS					
			m							
P.0 Box	x 52'	77 Bay	z Poin	t. CA	94565 (925) 370-2	2222	Fax (92	5) 370	-2282

ENVIRONMENTAL CONSTRUCTION SERVICES, INC. Page 2 of 3 BULK SAMPLE ANALYSIS FORM Laboratory: EMSL PLM Point Count 400 - 1000											
Results Requested By: Rush 24Hr 48Hr (72Hr) Other [FAA Lead Paint Analysis											
Job Name: American River College - Liberal Arts Building Job Number:											
Location:	4700 C	ollege	Oak Drive, Sacramente	o, CA 95841	Collected By: Ryan Gov	an		_			
Sample No.			Location/Descrip	otion							
A·N	3	Dry	wall and Jon	nt company	1,5com 154.						
A-12	24	w	ite sealer on	duct about	e ceiling from	~154					
A-12	\$	BIL	- nº floor fil	r, Orange	-, black mist.	, room is	57.				
A-12	26	p-	wall and Ju	owt compa	und from 15	7.					
A-12	7	5	nte, brann,	maste on	blue way for	ior barry r	com 15	57			
A-12	8	5	ite nº floor	till oran	pe, black must	e ran 1	206.				
A-17	29	wh	the 12" floor	file, black	- mastic, (com	120 B					
A-13	50	Dr	wall and Join	A compand	1000 120 D.						
A-13	31	Dr	Iman and Jon	+ compound	100 120 A.						
A-13	,2	Dr	Iwall and Jor	it compound	, from 120 C.						
A-13	33	ź¥	y' fissured ce	eiling file	, 50cm 120 C						
A-13	54	12"	certing tite, be	un mustic	abour suspende	b ceiling, 6	From 12	٥٢			
A-13	5	Ta	, ben mas	tru on blac	KVIN-11 flour h	se (com	2066				
A- 17	31	100	that and 3	out com	Nourd) Mech.	(cuon.	<u> </u>				
A-13	,7	50	in take on	Lect ne	eh. Com						
A-13	88	50	int take on	duct. M	uch. Trun.						
A-13	9	5	te seder	on inside	of duct inrel	n TCO 49M					
A-14	0	Pip	e insulation on	Hetnady	mar Pur Jack	cut mech	tem				
A-14	1	Pipe	e insulation on	Hell cherry	mar Pyl Jack	A Meet	Cam.				
A-14	12	Pip	- insulation on	Hot Later	when PVE Jude	el Mech	(com				
Date:	Time	: 1	Relinquished By:	Company	Received By:	Company:	Date:	Time:			
1/28/11			Rem Men	Frs							
, -4, 15											
P 0 Boy	v 52'	∟ 77 F	Pay Point CA	94565 (9	925) 370-222	2 Fav (92	25) 370	-2282			

Date:	h5/11	ENVIRONMENTA BULK	L CONSTE SAMPLE A	RUCTION SERV	VICES, INC. RM , Analysis Rec	Page	5 of 3
Date.					PLM Bulk	Analysis	
Laboratory	: EMS	SL	\sim		🗌 PLM Point 🗌 TEM Bulk A	Count 400 — : Analysis	1000
Results Re	equested I	By: Rush 24Hr 48Hr (72Hr Other		FAA Lead F	aint Analysis	
Job Name	Americ	an River College - Liberal Arts	s Building	Job Number:			_
Location:	4700 C	ollege Oak Drive, Sacramento	o, CA 95841	Collected By: Ryan C	Govan		_
Sample No.		Location/Descrip	otion				
A-14	3	Canvas over fibe	rgalass ins	Northern on Hot w	Jator Mech.	(com	
A-14	14	Canvus over fiber	glass insu	lation on Hat L	otor Mech	. Feem	
A-14	5	Canves our Fiber	ghas tash	aten on Hota	reter mech	. ram.	
A-14	16	Canvis over Fiber	tess insu	iction on Hotu	atur pipes in t	rench, M	ech. (com
A-14	٦	Canvas over F. Sur	glass insul	ction on 1tot be	ater Piles in to	unch, Me	ch, fam
						,	
Date:	Time:	Relinquished By:	Company	Received By:	Company:	Date:	Time:
11/25/16		Rymmun	ECS				
P.O Boz	x 527	77 Bay Point, CA	94565	(925) 370-22	222 Fax (92	25) 370	-2282

derID: 091700	09/700137
Date: <u>N/N/</u> Laboratory: <u>EM</u> Results Requested	ENVIRONMENTAL CONSTRUCTION SERVICES, INC. Page _ of BULK SAMPLE ANALYSIS FORM Analysis Requested: PLM Bulk Analysis PLM Point Count 400 - 1000 TEM Bulk Analysis By: Rush 24Hr 48Hr 72Hr Other _ 2 Week By: Rush 24Hr 48Hr 72Hr Other _ 2 Week
Job Name: Ameri	can River College - Liberal Arts Building Job Number:
Location: 4700	College Oak Drive, Sacramento, CA 95841 Collected By: Ryan Govan
Sample No.	Location/Description
A. 148	Built up roofing, silver paint, building 2.
A-149	Built up roofing, Silver Paint, building 1.
A-150	Built up roofing, Silver Paint, building 6.
A-151	Built up roofing, silver Pant, building 5.
A-152	Built up rooting, Silver Paint, building 3.
A-153	Silver Pant/Seater on conduit on root, building 3.
A-154	white sealed on duct on roof, building 5.
A-155	white sealer on duct on root, building 5.
A-156	The calking on roof HVAC unit, building 2.
A-157	Black wrap on pipes at HVAc unit, building 2.
A-158	Holber fibreglass pipe insulation, white seater on roof, building 2.
A-159	Gray Sealer on metal cap on roof Pipe support, building 2.
A-160	Yellow Fiberglass Insulation, white sealer on root, building 2.
A-161	white wool pipe insulation on root, building 2.
A-162	Silver Paint/Seater on metal cap at roof exhaust fan, building 1.
A-163	Yellow fiberglass, white wool pipe insulation on root, building 1.
A-164	Brown form pipe insulation on root, building 1.
A-165	S. Wer Pant/Seater on P. Re support on root, building 1.
A-166	Brain from pipe insulation on root, building 3.
A-167	Yellow Pipe insulation, white canvas on root, building 3.
Date: Tim	e: Relinquished By: Company Received By: Company: Date: Time:
2/28/16 Febr	Ex Rynhow ELS J.ALBONES EMSL 11/28/14 11:300

Date: <u>12/2</u> Laboratory: <u>E</u> Results Requeste	H 116 MSL d By: F	ENVIRONMENT BULK	AL CONSTI SAMPLE	RUCTION SERVI ANALYSIS FORM	Analysis Re PLM Bulk PLM Point TEM Bulk FAA Lead	Page_ quested: Analysis Count 400 - Analysis Paint Analysis	2 of <u>3</u>
Job Name: Ame	Colleg	e Oak Drive, Sacramer	nto, CA 95841	Job Number:	van		-
Location:				Collected By:			
ample No.	-	Location/Descr	iption			1	
17-168	S	ilverPant/Sea	hron me	etal capon pipe	- Support,	building	3.
1-169	5	Iver Pant / See	ter on m.	elas pipe cover a	on real, b	vilding	6.
A-170	B	rown pressed u	red betwee	n blue metal ext	which Panuls	onsoff.t.	at Rm 166
A-171	E	teres Studio on	walknowy	ceiling out ra	om 166.		
A- 172	E	Hence Stuce or	n Walkway	(eiling at 10	om 125.		
A- 173	E	xtericr Studio o	n Walkway	ceiling at ra	em 120.	1200	
A-174	8	stenor Stuce o	n haking	Ceiling at roc	m 154.		
A- 175	E	xteaur stuce co	- Walkwa	y Ceiling at me	ech. room		
A-176	E	sterior studio	on walku	my ceiling at fo	om 1331	+.	
A-177	E	etenur Stucco	on walku	ry Ceiling at	Fccm 133	R.	
A-178	E	tence Stucco a	on wall a	t does to hall	very at loor	n 133 à	
A-179	E	phener Stucco 1	vindow in-	fill at foom 1:	35,	129-14-16-	1.1.14
A-180	Ex	tencr Stucco i	virtow in	fill at room 1	52.		
A-181	E	sterior Stucio 1	window in	fill at 600m	152.		59
A-182	B	rick and mos	tar wall a	at 600m 166.			
A-183	B	rick and mo	star wall a	at room 125.			
A. 184	B	rick and mo	star Wall	at 500m 1200	L.		
A- 185	B	rick and mo	star wall	at (com 157.			
A-186	B	rick and mor	for wall	at mech. room	N.		
A-187	h	indow glazin	y compound	at roum 157	-		
Date: Ti	me:	Relinquished By:	Company	Received By:	Company:	Date:	Time:
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Date: 12/2- Laboratory: E Results Requeste	EN 1/14 MSL ed By: Rush	VIRONMENTA BULK 24Hr 48Hr	L CONSTE SAMPLE A	UCTION SERVIC ANALYSIS FORM 2 Week.	ES, INC. Analysis Requested PLM Bulk Analysis PLM Point Count TEM Bulk Analysis FAA Lead Paint A	Page <u>3</u> of <u>3</u> : 400 - 1000 malysis
Job Name: Ame	erican River	College - Liberal Arts	Building	Job Number:		
Location: 4700	0 College O	ak Drive, Sacramento	o, CA 95841	Collected By: Ryan Govar	n	
Sample No.		Location/Descrip	tion			
A-188	Vir	dow glazing	Compourd	at 500m 154.		
A-189	win	dow glazing	compound	at ram. 120 C		
A-190	wir	Sow glazing	compound	at room 120,	A.	
A. 191	win	ton glazing	composed	at room 121.	the second	
A-192	win	dan glazing	compand	at room 129.		
				an a		
				Mary Street	1. 10.00	
		e de l'Asprès de		St. St. St. Standing	Salar and Salar	
			1944 B. 1944			
		1.				
				and the second		
					136-25	
Date: Ti	me: Re	linquished By:	Company	Received By:	Company: D	ate: Time:
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		0		Salar Maria		
DO Box 5	DAN D	Day Daint C	01565	(025) 270 2225	Ear (025)	270 2202







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BY OWNER

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SECTION 27 0800	COMMUNICATIONS COMMISSIONING
SECTION 27 1100	COMMUNICAITONS EQUIPMENT ROOMS
SECTION 27 1313	COMMUNICATIONS COPPER BACKBONE CABLING
SECTION 27 1323	COMMUNICATIONS OPTICAL FIBER BACKBONE CABLING
SECTION 27 1500	COMMUNICATIONS HORIZONTAL CABLING
SECTION 27 3226	EMERGENCY TELEPHONES
SECTION 27 4100	AUDIO VISUAL SYSTEM
SECTION 27 5126	ASSISTIVE LISTENGIN SYSTEM (ALS)
SECTION 27 5313	WIRELESS CLOCKS

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

SECTION 28 2300	SURVEILLANCE CAMERAS
SECTION 28 6113	FIRE ALARM SYSTEM
SECTION 28 6516	INTRUSION/ACCESS ALARM SYSTEMS

SITE AND INFRASTRUCTURE SUBGROUP:

DIVISION 31 – EARTHWORK

SECTION 31 2000 EARTHWORK

DIVISION 32 – EXTERIOR IMPROVEMENTS

SECTION 32 0100	LANDSCAPE MAINTENANCE PERIOD
SECTION 32 0523	CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS
SECTION 32 1316	SITE CONCRETE
SECTION 32 1373	SITE SEALANTS
SECTION 32 3000	SITE FURNISHINGS
SECTION 32 8400	IRRIGATION
SECTION 32 9113	SOIL PREPARATION AND SOIL MIXES
SECTION 32 9119	PLANTING AREA FINISH GRADING
SECTION 32 9200	GRASSES
SECTION 32 9300	PLANT MATERIAL

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DIVISION 33 – UTILITIES

SECTION 33 0516	UTILITIES STRUCTURES
SECTION 33 1000	WATER UTILITIES
SECTION 33 3000	SANITARY SEWERAGE UTILITIES
SECTION 33 4000	STORM DRAINAGE UTILITIES
SECTION 33 4101	LANDSCAPE DRAINAGE

PROCESS EQUIPMENT SUBGROUP: NOT USED

END OF DOCUMENT 00 0110

SECTION 05 1200

STRUCTURAL STEEL FRAMING

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. Structural steel.
 - 2. Grout.

B. Related Requirements:

- 1. Section 05 1213 "Architecturally Exposed Structural Steel Framing" for steel where additional finish smoothness is required.
- 2. Section 09 9100 "Painting" for primer on structural steel.
- 3. Section 09 9600 "High-Performance Coatings" for surface-preparation and priming requirements.

1.3 DEFINITIONS

- A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- B. Seismic-Load-Resisting System: Elements of structural-steel frame designated as "SLRS" or along grid lines designated as "SLRS" on Drawings, including columns, beams, and braces and their connections.

1.4 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at project site.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show fabrication of structural-steel components.

- 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
- 2. Include embedment Drawings.
- 3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
- 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.
- 5. Identify members and connections of the Seismic-Load-Resisting System.
- 6. Indicate locations and dimensions of protected zones.
- 7. Identify demand critical welds.
- C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing, including the following:
 - 1. Power source (constant current or constant voltage).
 - 2. Electrode manufacturer and trade name, for demand critical welds.
- D. Delegated-Design Submittal: For structural-steel connections indicated to comply with design loads, include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- 1.7 INFORMATIONAL SUBMITTALS
 - A. Qualification Data: For Installer, fabricator, and shop-painting applicators.
 - B. Welding certificates.
 - C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
 - D. Mill test reports for structural steel, including chemical and physical properties.
 - E. Product Test Reports: For the following:
 - 1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 - 2. Direct-tension indicators.
 - 3. Tension-control, high-strength, bolt-nut-washer assemblies.
 - 4. Shear stud connectors.
 - 5. Shop primers.
 - 6. Nonshrink grout.
 - F. Survey of existing conditions.
 - G. Source quality-control reports.
 - H. Field quality-control and special inspection reports.
- 1.8 QUALITY ASSURANCE
 - A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD, or is accredited by the IAS Fabricator Inspection Program for Structural Steel AC 172.

B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category ACSE, Category CSE. (ADD3)

- C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or to SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code Steel."
 - 1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8/D1.8M. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.
- E. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 303.
 - 2. AISC 360.
- 1.9 DELIVERY, STORAGE, AND HANDLING
 - A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
 - B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A 992 or ASTM A 572, Grade 50.
- B. Materials complying with third and fourth options in "Channels, Angles(, M) (, S)-Shapes" Paragraph below are widely available. Fifth and sixth options include specialty-steel materials; verify availability if required.
- C. Channels, and Angles: ASTM A 36, Grade 36.
- D. Plate and Bar: ASTM A 572, Grade 50, or ASTM A 529, Grade 50.

- E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, or ASTM A 1085, Grade 50, structural tubing.
- F. Steel Pipe: ASTM A 53, Grade B.
- G. Steel Castings: ASTM A 216, Grade WCB with supplementary requirement S11.
- H. Steel Forgings: ASTM A 668.
- I. Buckling Restrained Braces (BRB): Core Brace BRB braces with bolted connections, or equal.
- J. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers; all with plain finish.
 - 1. Direct-Tension Indicators: ASTM F 959, Type 325, compressible-washer type with plain finish.
- B. Zinc-Coated High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade DH heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers.
 - 1. Finish: Hot-dip zinc coating or Mechanically deposited zinc coating.
 - 2. Direct-Tension Indicators: ASTM F 959, Type 325, compressible-washer type with [mechanically deposited zinc coating] [mechanically deposited zinc coating, baked epoxy-coated] finish.
- C. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex or round head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.
 - 1. Finish: Plain or Mechanically deposited zinc coating at exterior exposure.
- D. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, coldfinished carbon steel; AWS D1.1/D1.1M, Type B.
- E. Headed Anchor Rods: ASTM F 1554, Grade 36, straight.
 - 1. Nuts: ASTM A 563 hex carbon steel.
 - 2. Plate Washers: ASTM A 36 carbon steel.
 - 3. Washers: ASTM F 436, Type 1, hardened carbon steel.
 - 4. Finish: Plain or Hot-dip zinc coating at exterior exposure, ASTM A 153, Class C.
- F. Threaded Rods: ASTM A 36.
 - 1. Nuts: ASTM A 563 (ASTM A 563M) [heavy-]hex carbon steel.
 - 2. Washers: ASTM F 436 , Type 1, hardened, or ASTM A 36/A 36M carbon steel.
 - 3. Finish: Plain or Hot-dip zinc coating at exterior exposure, ASTM A 153, Class C.
- G. Clevises and Turnbuckles: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1035.

- H. Eye Bolts and Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1030.
- I. Sleeve Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1018.
- 2.3 PRIMER
 - A. Primer: Comply with Section 09 9113 "Exterior Painting" and Section 09 9123 "Interior Painting."
 - B. Primer in first "Primer" Paragraph below requires SSPC-SP 2 surface preparation or better and 24 hours' drying before recoating. Type II has lower VOC content than Type I.
 - C. Primer: SSPC-Paint 25, Type I, zinc oxide, alkyd, linseed oil primer.
 - D. Primer: SSPC-Paint 25 BCS, Type I, zinc oxide, alkyd, linseed oil primer.
 - E. Primer: SSPC-Paint 23, latex primer.
 - F. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.
 - G. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20, ASTM A 780.
- 2.4 GROUT
 - A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time.
 - B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," and to AISC 360.
 - 1. Camber structural-steel members where indicated.
 - 2. Fabricate beams with rolling camber up.
 - 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
 - 4. Mark and match-mark materials for field assembly.
 - 5. Complete structural-steel assemblies, including welding of units, before starting shoppriming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.
- C. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.

- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning."
- F. Retain "Shear Connectors" Paragraph below if shear connectors are shop installed to structural steel.
- G. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.
- H. Steel Wall-Opening Framing: Select true and straight members for fabricating steel wallopening framing to be attached to structural-steel frame. Straighten as required to provide uniform, square, and true members in completed wall framing. Build up welded framing, weld exposed joints continuously, and grind smooth.
- I. Welded Door Frames: Build up welded door frames attached to structural-steel frame. Weld exposed joints continuously and grind smooth. Plug-weld fixed steel bar stops to frames. Secure removable stops to frames with countersunk machine screws, uniformly spaced not more than 10 inches o.c. unless otherwise indicated.
- J. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel members.
 - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 - 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
 - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened, Pretensioned, or Slip critical.
- B. Weld Connections: Comply with AWS D1.1 and AWS D1.8 for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.7 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
 - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
 - 2. Surfaces to be field welded.

- 3. Surfaces of high-strength bolted, slip-critical connections.
- 4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
- 5. Galvanized surfaces.
- 6. Surfaces enclosed in interior construction.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
 - 3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
 - 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
 - 5. SSPC-SP 14/NACE No. 8, "Industrial Blast Cleaning."
 - 6. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - SSPC-SP 10/NACE No. 2, "Near-White Blast Cleaning."
 - 8. SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning."
 - 9. SSPC-SP 8, "Pickling."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
 - 2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.
- D. Painting: Prepare steel and apply a one-coat, nonasphaltic primer complying with SSPC-PS Guide 7.00, "Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems," to provide a dry film thickness of not less than 1.5 mils.
- 2.8 GALVANIZING
 - A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M at all exposed to weather conditions.
 - 1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.
 - 2. Galvanize all steel and welded door frames attached to structural-steel frame and located in exterior walls.
- 2.9 SOURCE QUALITY CONTROL
 - A. Testing Agency: Owner will engage a qualified testing agency to perform shop tests and inspections.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
 - B. Bolted Connections: Inspect and test shop-bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

- C. Welded Connections: Visually inspect shop-welded connections according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1. Liquid Penetrant Inspection: ASTM E 165.
 - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - 3. Ultrasonic Inspection: ASTM E 164.
 - 4. Radiographic Inspection: ASTM E 94.
- D. In addition to visual inspection, test and inspect shop-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - 1. Perform bend tests if visual inspections reveal either a less-than-continuous 360degree flash or welding repairs to any shear connector.
 - 2. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.
- E. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
 - 1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
 - 1. Do not remove temporary shoring supporting composite deck construction until castin-place concrete has attained its design compressive strength.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Baseplates, Bearing Plates, and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Weld plate washers to top of baseplate.

- 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
- 4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- C. Maintain erection tolerances of structural steel within AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection. Finish thermally cut sections within smoothness limits in AWS D1.1.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Pretensioned or Slip critical as noted on drawings.
- B. Weld Connections: Comply with AWS D1.1[and AWS D1.8 for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 - 2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
 - Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," for mill material.

3.5 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
 - 1. Verify structural-steel materials and inspect steel frame joint details.
 - 2. Verify weld materials and inspect welds.
 - 3. Verify connection materials and inspect high-strength bolted connections.
- B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- C. Bolted Connections: Inspect and test bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: Visually inspect field welds according to AWS D1.1/D1.1M.
 - 1. In addition to visual inspection, test and inspect field welds according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - c. Ultrasonic Inspection: ASTM E 164.
 - d. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - 1. Perform bend tests if visual inspections reveal either a less-than-continuous 360degree flash or welding repairs to any shear connector.
 - 2. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.

3.6 REPAIRS AND PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 powertool cleaning.
- C. Touchup Painting: Cleaning and touchup painting are specified in Section 09 9100 "Painting."
- D. Touchup Priming: Cleaning and touchup priming are specified in Section 09 9600 "High-Performance Coatings."

END OF SECTION 05 1200

Gould Evans Addendum 3 May 15, 2018

SECTION 07 4245 - EXTRUDED GLASS FIBER CONCRETE PANELS

PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS
 - A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- 1.2 SECTION INCLUDES
 - **A.** Glass fiber concrete panel system**s as follows**:
 - 1. Exterior glass fiber concrete panel plank systems installed as part of rainscreen assemblies.
 - <u>2.</u> Interior glass fiber concrete panel plank systems.

1.3 RELATED SECTIONS

- A. Section 07 2613 Above-Grade Air and Vapor Barrier: Adhered, UV-resistant waterproofing under extruded glass fiber concrete panel system; installation requirements for sheet membrane waterproofings.
- B. Section 07 4213 Metal Wall Panels.
- C. Section 07 6000 Flashing and Sheet Metal.
- D. Section 07 9200 Joint Sealants.
- 1.4 SUSTAINABILITY REQUIREMENTS
 - A. Refer to Section 01 8113 for sustainability requirements related to this Section.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation layouts of rainscreen panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details. Distinguish among factory-, shopand field-assembled work.
 - 1. Drawings shall be complete with specific instructions for the installation of panels, sub-frame assemblies and other component parts.
 - 2. Include engineering analysis.
 - 3. Drawings shall indicate sizes of ventilation openings and methods of preventing unwanted insects or animals from entering cavity behind panels.
 - 4. Layout of glass fiber concrete wall planks on wall and locations of special pieces and trim.
 - 5. Include shop drawings for mockup.
 - 6. Accessories: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches (1:10):
 - a. Flashing and trim.
 - b. Anchorage systems.

- c. Corner gasketing and sealants.
- C. Samples for Verification: For each type, color, texture, and pattern required.
 - 1. Two samples 12-inch- (300-mm-) long-by-actual-width Sample of wall panel.
 - 2. Exposed Flashing, Exposed Closures, and Gaskets: Two samples of each component.
 - 3. Two samples of each color or finish selected; 3- x 4-inches (76 x 102mm) minimum.
 - 4. Trim and Closures: 12 inches (300 mm) long. Include fasteners and other exposed accessories.
 - 5. Accessories: 4-inch- (100-mm-) long Samples for each type of accessory. Include:
 - a. Attachment profile.
 - b. Typical attachment brackets and anchors.
 - c. Typical exposed fasteners (painted to match concrete wall plank).
 - 6. Exposed Sealants: For each type and color of joint sealant required. Install joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of rainscreen panels adjacent to joint sealants.
- D. Sustainability Submittals: See Section 01 8113 for additional requirements; provide the following:
 - 1. Product data for products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating costs for each product having recycled content.
 - 2. Product data for each concrete mixture containing fly ash as a replacement for portland cement or other portland cement replacements. For each design mixture submitted, include an equivalent concrete mixture that does not contain portland cement replacements, to determine amount of portland cement replaced.
- E. See architectural sheets A501 and A538 for minimum requirements of supporting members connections and spacing.
- 1.6 CLOSEOUT SUBMITTALS
 - A. Maintenance Data: For rainscreen panels to include in maintenance manuals.
 - B. Warranty: Sample of special warranties.

1.7 QUALITY ASSURANCE

- A. Source Limitations for Wall Planks: Obtain each type, color, and pattern of wall plank, including related accessories, through one source from a single manufacturer.
- B. System Manufacturer's Qualifications: Provide exterior wall system manufactured by a firm experienced in manufacturing systems that are similar to those indicated for this project and have a record of successful in-service performance.
- C. Installer Qualifications: Company experienced in installing exterior wall cladding systems and acceptable to glass fiber concrete plank and aluminum support system suppliers.
- D. Installer Qualifications: Fabricator of composite wall panels.
 - 1. Installer's responsibilities include fabricating and installing composite wall panel assemblies and providing professional engineering services needed to assume engineering responsibility.

- 2. Engineering Responsibility: Preparation of data for composite wall panels, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- 3. Design shall include, but not be limited to attachment to sub-construction, panel-topanel joinery, panel-to-dissimilar-material joinery, and joint seals associated with the composite wall panel system.
- E. Air Barrier Installer Qualifications: Installer with successful experience in the installation of air barrier/secondary water-resistive barriers.
- F. Prior to installation of **exterior plank** cladding, rainscreen panel supplier's field representative shall inspect wall substrate and air barrier to confirm proper installation and submit a report of observations and findings to the Architect.
 - 1. Factory Trained Employees to Inspect and Certify the following: Original signed certificates, approving all aspects of construction to be delivered to the Owner.
 - 2. Inspections:
 - a. 1st Inspection: Mockup as described below.
 - b. 2nd Inspection: At the 35%-50% construction stage.
- G. Mockup: Build mockup to verify selections made under sample submittals and to demonstrate aesthetic effects.
 - 1. Build mockup of typical **exterior plank cladding rainscreen** wall area as shown on approved Shop Drawings.
 - a. Size: 48" x 48" minimum.
 - 2. Locate mockup where directed by Architect.
 - 3. Construct mock up to be ready for review the day of the pre-installation conference.
 - 4. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 - 5. Demonstrate the proposed range of aesthetic effects, materials and execution.
 - 6. Include the following conditions:
 - a. Top of wall.
 - b. Bottom of wall.
 - c. Spacing of panels.
 - d. Corner condition.
 - e. Condition at window and door penetrations.
 - f. Reveals.
 - 7. Include substrate, air barrier, aluminum supports, and wall planks demonstrating a complete system.
 - 8. Do not proceed with construction of mockup until all submittals for the mockup have been approved by the Architect.
 - 9. Construct mockup using identical detailing, erection and finishing procedures as proposed for the Work.
 - 10. Approved mockup establishes minimum standard of quality and workmanship for the Work.
 - 11. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 12. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Architect in writing.
 - 13. Approved mockups may become part of the completed Work if undisturbed at time of Final Completion.

1.8 PRE-INSTALLATION CONFERENCE

- A. Conduct conference at Project site. Review methods and procedures related to composite wall panel assemblies including, but not limited to, the following:
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, composite wall panel Installer, composite wall panel manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects composite wall panel including installers of doors, windows, and louvers.
 - 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 mockup procedures, location of mockup and protection procedures after completion of approved mockup.
 - 4. Review methods and procedures related to composite wall panel installation, including manufacturer's written instructions.
 - 5. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
 - 6. Review flashings, special composite wall panel details, wall penetrations, openings, and condition of other construction that will affect composite wall panel.
 - 7. Review governing regulations and requirements for insurance, certificates, and testing and inspecting if applicable.
 - 8. Review temporary protection requirements for composite wall panel assembly during and after installation.
 - 9. Review composite wall panel observation and repair procedures after composite wall panel installation.
 - 10. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Prior to shipping, pack and crate glass fiber concrete panel system components to prevent damage during transit and storage. During transport, handle the panels with special care taken not to damage the edges of the sheets.
- B. Inspect **glass** fiber concrete planks and aluminum attachment components immediately upon delivery at site. Notify manufacturer of damage prior to installation of materials.
- C. Follow manufacturer's instructions for storage of glass fiber concrete planks. Keep pieces in original packing material until ready to install.
- D. Do not store exterior wall system components in contact with other materials that might cause staining, denting, surface damage, or other deleterious effects.

1.10 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of composite wall panels to be performed according to manufacturer's written instructions and warranty requirements.
 - 1. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Field Measurements: Verify locations of structural members and wall opening dimensions by field measurements before composite wall panel fabrication and indicate measurements on Shop Drawings.

1.11 COORDINATION

- A. Coordinate composite wall panel assemblies with rain drainage work, flashing, trim, and construction of studs, soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.
- 1.12 WARRANTY
 - A. Manufacturer's Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of glass fiber concrete panel assemblies that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
 - 1. Cracking.
 - 2. Deforming.
 - 3. Delamination between the veneer and core, or otherwise deteriorating beyond normal weathering.
 - 4. Warranty Period: Twenty years from date of Final Completion.
 - B. Installer's Special Warranty: Installer's standard form in which installer agrees to repair or replace concrete wall planks that fail in workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

- 2.1 DESIGN REQUIREMENTS
 - A. Design and install **exterior glass** fiber concrete cladding and attachment **rainscreen** system to provide in conjunction with wall substrate and air barrier a weather tight wall assembly utilizing rain screen principle.
 - B. System Design: System design shall be responsibility of cladding supplier. Products provided must conform with design intent shown.
 - C. **Exterior Glass Fiber Concrete** Panel System: Rear Ventilated Rain Screen Design. System shall drain water and condensation to exterior. A complete pre-engineered system including but not limited to glass fiber concrete cladding, aluminum metal support structure, closure pieces, trim and flashing. Wall panels shall be removable. Fasteners are exposed.
 - 1. The panels shall be secured to an aluminum metal support structure which secures to cold-formed metal framing. Spacing of cold formed metal framing indicated on structural drawings shall not be greater than 16 inch oc.
 - 2. Aluminum metal support structure shall also be of multiple components, with one component attaching to structure over the air barrier (using an attachment bracket) and one component fastening to bracket horizontally to allow for attachment of composite wood panels.
 - 3. Visually inspect membrane for breaches and repair as recommended by membrane manufacturer prior to installation of support system.
 - D. Interior Glass Fiber Concrete Panel Plank Cladding: Interior wall cladding system, installed on galvanized steel framing over metal stud and gypsum board wall substrates, including trim pieces indicated on the Drawings.
 - 1. Fasteners are exposed, of type, size, and spacing as indicated on the Drawings.
 - 2. Furring of type, configuration, and spacing as indicated on the Drawings.
- E. Joints: Dry and un-caulked.
- F. Metal Flashing for Rainscreen Wall Assembly: Provide metal flashing for a proper water managed assembly, to direct condensation and water infiltration within the rainscreen wall assembly to weeping points. Coordinate details and installation with air and water barrier provided with Section 07 27 19. All flashing and ventilation profiles shall be provided by installer per manufacturer's recommendations (sizes and locations).
 - 1. Drainage flashing is the primary component of a water managed system which diverts water that has penetrated the exterior cladding away from the cladding compartment or condensation that occurs at the interior face of cladding surface
 - 2. Provide metal drainage flashing at locations listed below prior to installation of membrane to assure proper water drainage. Membrane shall assure proper lap over flashing:
 - a. At bottom of system.
 - b. At penetrations: windows, doors, louvers, etc.
 - c. At floor line or other locations which accommodate vertical movement.
 - d. End dams: provide shop-formed end dams where drainage flashing terminates at openings.
 - 1) Configuration shall be triangular shaped, full width of horizontal flashing leg x 1 inch high.
 - 2) Attachment solder joints and miters for an air and water tight condition.
 - e. Design Modifications shall be provided only as necessary to satisfy as built conditions and to meet performance requirements. Significant system and aesthetic design shall be requested in writing to architect 10 days prior to bid date.
- G. Contractor shall be responsible for engineering system per architectural design criteria and performance requirements.

2.2 PERFORMANCE REQUIREMENTS

- A. Performance Requirements: Design **exterior glass fiber concrete panel rainscreen** system**s** to withstand design loads as required by CBC but not less than the following minimum loads:
 - 1. Wind Pressure: 25 psf minimum, positive and negative.
 - 2. Seismic Loads: As required by CBC.
 - 3. Maximum Story Drift: 1/4-inch.
 - 4. Maximum Allowable Deflection: 1/360 of span or less of span when tested in accordance with positive and negative pressures and as required to prevent cracking or damage to panel facing.
 - 5. System shall have a design load of positive and negative pressures up to 40 psf in accordance with ASTM E330.
- B. Design **exterior glass fiber concrete** panel **rainscreen** systems to provide movement of components without causing buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to the following seasonal temperature ranges.
 - 1. Ambient: 120 degrees F (67 degrees C).
 - 2. Cladding Surface: 180 degrees F (100 degrees C).
 - 3. Design system to accommodate tolerances of structure.
- C. Design the installation in such a way that any restraint between the rainscreen panel systems and sub-framing is avoided. Do not tie framing together.

- D. Design panel system to provide a ventilated air space between panels and underlayment based on a rain screen or rear ventilated façade design principle with openings at the base and top of the panel areas.
- E. Accommodate tolerances of support structure.
- F. Ventilated rainscreen system shall provide complete secondary drainage system, draining at base of wall. Supporting substrate for exterior wall panels shall comply with all current codes and regulations.
 - 1. Condensation: System shall accommodate positive drainage for moisture entering or condensation occurring within panel system.
 - 2. Design drainage system for 100 year rain cycle
- G. Flatness: **Exterior and interior glass fiber concrete plank** System system assemblies shall be flat with no noticeable warpage, buckling, deflections or other surface irregularities

2.3 MANUFACTURERS

- A. Basis-of-Design Product: The design for the exterior **and interior** wall panels for glass fiber concrete cladding rainscreen **and interior wall cladding** systems is based on the manufacturer identified below. No known equal.
 - 1. Basis-of-Design: Reider Smart Elements; fiberC Glass Oko Skin slat wall panels.
 - a. Distributed in North America by: Sound Solutions, Inc.; www.soundsolutions.ca / www.fibreC.us.
 - b. Panel Thickness: 1/2-inch (13 mm).
 - c. Color: Liquide Black
 - d. Texture: Smooth and sandblasted variations; see Drawings for locations.
 - e. Exposed fasteners; pattern and spacing as indicated on Drawings.

2.4 **EXTERIOR** RAINSCREEN **AND INTERIOR CLADDING** MATERIALS

- A. Panels: Glass fibre-fiber concrete panels made from pure mineral raw materials, (sand cement, water). Reinforced through AR (alkali-resistant) glass fibers as continuous linear glass fibre strands and short fibres in matrix.
 - 1. Material: fibreC extruded, fiber reinforced concrete panel.
 - 2. Surface Texture: 50% FL ferro light /sand blasted surface and 50% FE ferro / sand blasted surface.
 - 3. Surface treatment: Hydrophobic Matt.
 - 4. Dimensions: As indicated on Drawings.
 - 5. Dimensional Tolerances: Length +/- 2mm, Width +/- 2mm, Thickness +/- 1mm
- B. Fasteners: Corrosion resistant stainless steel **Provide** fasteners and anchors of type, size, and spacing required for type of substrate and Project conditions, to meet performance requirements, and as indicated in design calculations. Screw heads to be powder coated to blend with color of panels.
 - 1. Exterior Rainscreen: Corrosion resistant stainless steel.
 - 2. Interior Wall Cladding: Galvanized steel.
- C. Sheet Metal: Provide sheet metal flashings and trim as required for **exterior rainscreen** cladding system in accordance with Section 07 6000.
 - 1. Shop form components to profiles, dimensions, and thicknesses indicated on Drawings. Items to be provided include:
 - a. Cavity Drainage Flashings: Flashing at bottom of air cavities and pressurized compartments to gravity drain water from cavity.

- b. Flashing Joint Profiles at Horizontal Joint Conditions: Formed profiles fabricated and installed to shed water within horizontal joint condition (non-continuous, interrupted at vertical U profile).
- c. Window Sills, Parapet Caps, Transition Pieces to Adjacent Materials, and other Exposed Trim: As selected by Architect. Attach with clips or other means to avoid exposed fasteners.
- 2. Form sheet metal fabrications in longest possible lengths. Turn back all exposed edges to form hem. Fabricate vertical faces with bottom edge formed outward and hemmed to provide drip.
- D. Auxiliary Components:
 - 1. Hat channel subgirts
 - 2. Z-bar subgirts.
 - 3. Horizontal and vertical subgirts
 - 4. Metal trims, flashings, and cap.
 - 5. Metal vents.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine walls to receive rainscreen systems and interior plank systems. Ensure substrate is structurally sound, clean, and free of contaminants which inhibit bond of air barrier.
- B. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of rainscreen panels.
- C. Inspect surfaces to receive panels to verify substrate is even, smooth, sound, clean, dry and free from defects detrimental to the Work.
- D. Examine rough-in components and systems penetrating wall panels to verify actual locations of penetrations relative to seam locations of panels prior to installation.
- E. Verify primary and secondary wall framing structural support members have been installed with alignment tolerances required by wall panel manufacturer.
- F. Examine alignment of backup structure prior to installing sub-frame. Verify the following:
 - 1. Maximum Substrate Deflection: L/360 or as recommended by cladding system manufacturer.
 - 2. Maximum Substrate Surface Variation: 1/8 inch in 10 feet.
- G. Stud Construction: Verify stud framing is adequately braced without deflection and sheathing **or gypsum board panels** is are properly secured with edges over firm bearing. Ensure proper framing and supports are provided and located for secure attachment of vertical wood-supports.
- H. Do not proceed with cladding installation until deficiencies have been addressed.

3.2 PREPARATION

A. Install assembly of thermal insulation and sheathing as detailed on Drawings and approved shop drawings.

- B. Air Barrier: Verify air barrier has been properly installed over wall sheathing as specified in Section 07 2613 to prevent air infiltration or water penetration and detailed on Drawings and approved shop drawings. Install horizontally starting at bottom of wall. Do not leave air barrier membrane exposed for lengthy period of time. Exercise care not to puncture or tear barrier with subsequent cladding operations.
- C. Flashings: Install sheet metal flashings, pressure compartment dividers, and trim as specified in Section 07 6000 and as positioned and detailed on Drawings and approved shop drawings. Ensure flashings at bottom of wall and pressure compartments properly drain water from air cavity to exterior through weep holes. Turn up flashings 4 inches minimum and seal to substrate. Lap flashing end joints 6 inches and seal watertight.

3.3 RAINSCREEN-GLASS FIBER CONCRETE PANEL CLADDING INSTALLATION

- A. Install **exterior rainscreen and interior** cladding **systems** in accordance with manufacturer's instructions and approved shop drawings.
- B. Establish level lines for panel coursing and positioning of support rails.
- C. Reference Drawings for vertical support attachment. Vertical Supports: Attach vertical supports with engineered fasteners and anchors to accomplish performance requirements specified herein.

- D. Orient rainscreen supports vertically to allow for continuous ventilation behind the planks. Provide a minimum of three vertical supports per plank (regardless of finished panel module size) to prevent bowing or deflection at the center of the plank.
 - 1. Shim supports as required to provide an even and consistent surface for proper fastening of the planks.
- E. Glass Fiber Concrete Planks: Starting at bottom of wall, fasten panels by fastening into vertical supports at location of predrilled holes in glass fiber concrete panels
 - 1. Layout work to avoid or minimize cuts. Site cut glass fiber concrete panels using power saw with appropriate blade type to prevent broken corners, edges, and chips.
 - 2. Stack Bond-Joint Pattern: Install panels with continuous vertical and horizontal joints unless otherwise noted on Drawings. Vertical and horizontal joints shall be open approximately 5/16 inch (8 mm) wide.
 - 3. Tolerances: Shim and align composite wood panels to provide these tolerances:
 - a. Deviations form level or plumb alignment: 1/4 inch in 20 feet maximum, non-accumulative.
- F. Install rainscreen cladding systems' planks plumb, level, and true and accurately spaced in accordance with manufacturer's recommendations and approved submittals.
 - 1. Maintain uniform dimensional offset from substrate as indicated on Drawings.
- G. Anchor rainscreen cladding systems' planks securely and permanently according to engineering recommendations and in accordance with approved Shop Drawings to allow for necessary thermal movement and structural support.
- H. Conform to composite wall panel fabricator's instructions for installation of concealed fasteners.
- <u>+</u><u>H.</u> Maintain uninterrupted air circulation from top to bottom behind the rainscreen plank system as indicated on Drawings.

^{1.} Attach supports to substrate at 24 inches or at a distance as recommended by system supplier in accordance with lateral loads and system dead load requirements.

- +..._Provide expansion joints at regular basis **in exterior rainscreen assembly**, concealed within system, where recommended by manufacturer.
- K.J. Do not fix rainscreen planks directly onto any large-surfaced substrate of any kind.
- <u>L.K.</u> Do not use adhesive to fix rainscreen cladding systems' planks in place.
- M.L._Do not install component parts that are observed to be defective, including; warped, bowed, dented, abraded, and broken members.
- N.M. Do not cut or trim component parts during erection in a manner which would damage the finish, decrease strength, or result in visual imperfection or a failure in performance. Return component parts which require alteration to shop for refabrication, if possible, or for replacement with new parts.
- O.N. Fasten rainscreen planks and interior planks to supporting substrate with fasteners approved for use with adjoining construction.
- P.O. Joint Sealers in Exterior Rainscreen Assemblies: Install gaskets, joint fillers, and sealants where indicated and where required for weathertight performance of rainscreen plank assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by panel manufacturer.
 - 1. Expansion Joints between Planks: Sealed with expansive joint sealant. Allow a minimum 5/16-inch (8 mm) expansion gap at all joints including areas around all windows and doors.
 - 2. Other Joints between Panels: Sealed with expansive joint sealant.
- Q.P. Accessory Items: Install corner profiles, gaskets, trims and flashings with fasteners appropriate for use with adjoining construction as indicated on drawings and as recommended by manufacturer.

3.4 FLASHING INSTALLATION FOR EXTERIOR RAINSCREEN ASSEMBLIES

- A. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." 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.
- B. 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 water-resistive performance.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10-feet (3 m) with no joints allowed within 24-inches (600 mm) of corner or intersection.
- D. Where lapped or bayonet-type 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 (25 mm) deep, filled with mastic sealant (concealed within joints).

3.5 FIELD QUALITY CONTROL FOR EXTERIOR RAINSCREEN ASSEMBLIES

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Water-Spray Test: After completing the installation of 75-foot- (23-m-) by-2-story minimum area of composite wall panel assembly, test assembly for water penetration according to AAMA 501.2 in a 2-bay area directed by Architect.
- C. Rainscreen planks will be considered defective if they do not pass tests and inspections.
- D. Additional tests and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- E. Prepare test and inspection reports.

3.6 CLEANING AND PROTECTION

- A. Construction Waste Management: Manage construction waste in accordance with provisions of Section 01 7419 Construction Waste Management and Disposal. Submit documentation for Credit MR 2 to satisfy the requirements of that Section.
- B. Remove and replace broken, chipped, stained, or otherwise damaged panels.
- C. Immediately after installing, wipe down work. Do not use wire brushes, metallic tools, stream-jet or high-pressure tools, or abrasives for cleaning.
- D. After rainscreen planks installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- E. Replace rainscreen glass fiber concrete panel planks that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.
- F. Any additional protection, after installation, shall be the responsibility of the General Contractor.
- G. Protect rainscreen planks from roof run-off, splashed water, mud, sealants, bitumen, and other contaminants from remaining construction activities.
- H. Without damaging completed work, provide protective boards at exposed external corners which may be damaged by construction activities.
- I. Provide final cleaning of the rainscreen system immediately prior to Final Completion.

END OF SECTION 07 4245

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Gould Evans Addendum 3 May 15, 2018

SECTION 11 2429 – FACILITY FALL PROTECTION

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 structural roof-structure -mounted anchors for attachment of fall-arrest systems.
- B. Related Requirements:
 - 1. Section 05 1200 "Structural Steel Framing" for structural steel supporting fall arrest protection systems.

1.3 PERFORMANCE STANDARDS

- A. ANSI Z359.1 Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components.
- B. ANSI/International Window Cleaning Association ANSI/IWCA I-14.1 Window Cleaning Safety Standard.
- C. 29 CFR 1910.23 Occupational Health and Safety Standards for General Industry.
- D. 29 CFR 1910, Subpart F, Appendix C Occupational Health and Safety Standards for Personal Fall Arrest Systems.
- E. 29 CFR 1926 Safety and Health Regulations for Construction, Subpart M-Fall Protection, 1926.500, 1926.501 and 1926.502.
- F. AISC S342L Load and Resistance Factor Design Specification for Structural Steel Buildings (including Supplement No. 1).

1.4 SYSTEM DESCRIPTION

A. Fall Arrest Protection System: Fall arrest protection systems shall allow user to traverse the system with secure anchorage to provide fall protection by limiting reach where a fall could occur. Provide fully-engineered system complete with all components required for support of indicated loads applied by maintenance personnel and their equipment. At accessible but unprotected elevated areas indicated on the Drawings, provide system designed to limit access to the edge at a distance point where a fall cannot occur with a fixed length lanyard.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Shop Drawings:

- 1. Include plans, elevations, sections, and mounting and attachment details.
- 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each anchor and connection.
- 3. Clearly indicate design and fabrication details, plans, elevations, components profiles and sizes, hardware and installation details.
- 4. Calculate and clearly indicate locations where concentrated, uniform, and concurrent loads will be applied to the building structure, for confirmation with building's Structural Engineer of Record.
- 5. Fully detail all anchors and connections to building's structure.
- 6. Include all necessary restrictive and non-restrictive, working, usage notes and general safety notes.
- 7. Provide Shop Drawings, systems layout, design analysis, and calculations prepared and sealed by structural engineer licensed in the state and jurisdiction in which Project is located
- C. Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation and registered in the state where the Project is located.

1.7 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Details of areas of the building supporting and interfacing with fall protection system, drawn to scale, , using input from and coordinated with installers of the items involved, including:
 - 1. Structural attachment.
 - 2. Roof flashing.
- B. Qualification Data: For Installer, manufacturer, and delegated-design Engineer.
- C. Welding certificates.
- D. Product Certificates: For the following:
 - 1. Provide manufacturer's certifications that the ultimate strength of the fall arrest system is equal to or greater than those specified.

E. Product Test Reports: For each type of fall arrest support system anchor, for tests performed by a qualified testing agency, certifying compliance with specified performance characteristics, and physical properties.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer regularly engaged in manufacturing and fabricating fall arrest systems. Manufacturer shall:
 - 1. Have been engaged full time in design and fabrication of fall arrest support systems for not less than five years.
 - 2. Demonstrate history of not less than ten successful installations in the last five years, free of litigation, injuries, or fatalities resulting from their products or design.
 - 3. Have specific liability insurance for all aspects of design and installation of all safety components against failure in the amount of \$2,000,000 per occurrence plus \$8,000,000 umbrella for products and completed operations and installations.
- B. Installer Qualifications: Fabricator of products or a contractor licensed to do work in the State where the Project is located, trained and certified in writing by the fall arrest system manufacturer to install their system. Installer shall maintain the following insurance coverage:
 - 1. Contractors Liability Insurance: \$1,000,000 / occurrence, \$ 2,000,000 aggregate.
 - 2. Excess Liability: \$5,000,000 each occurrence.
 - 3. Workers Compensation: \$1,000,000 each accident.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code – Steel."

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened packaging with identification labels intact.
- B. Store products in manufacturer's unopened packaging until ready for installation, protected from exposure to harmful weather, and at temperature conditions recommend by manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products referenced by model number later in this Section as manufactured by Pro-Bel Group of Companies or comparable product by one of the following:
 - 1. Capital Safety USA Protecta/DBI/SALA.
 - 2. Evan Fall Protection, Inc.
 - 3. Latchways Fall Protection, PLC.
- B. Source Limitations: Obtain all fall-arrest support system assemblies from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, registered in the state where the Project is located, as defined in Section 01 4000 "Quality Requirements," to design fall-arrest support systems .
 - 1. Design fall-arrest support systems to provide coverage for the areas shown on the Drawings and indicated in this Section.
 - 2. Design structural connections to roof structural steel and additional reinforcement as required. Submit load requirements to the Structural Engineer for their use in design of the primary structures.
 - 3. Design connections to supporting structural framing as required to resist pullout force and reinforce deck against damage and carry pull out force back to structural framing.
 - 4. Design system to provide fall arrest load capability in accordance with requirements of applicable requirements of the Authority Having Jurisdiction and referenced safety codes.
 - 5. Design fall arrest protection system for two (2) simultaneous users.
 - 6. Design connection to the structure to support a load on the system of two (2) times the maximum load without failure.
 - 7. System shall be designed for providing fall arrest load capability and in accordance with requirements of applicable requirements of the Authority Having Jurisdiction and referenced safety codes.
- B. Delegated design engineer shall design and verify the installed system, any modification or additional anchor requirements, devices, and equipment required to complete the fall-arrest support systems indicated, and shall include design and account for the following:
 - 1. In performing the dynamic analysis of the fall protection system, the engineer is responsible to consider that the specified number of users sustain a fall with a 400 millisecond time delay between applications of the load associated with each user; loads shall be applied at the most critical location in the cable span.
 - 2. Dynamic reactions shall be generated for all intermediate and end supports of the fall protection system. Loads to be reviewed and approved by the project structural engineer.
 - 3. Design of all fall protection systems to safely resist the dynamically applied loads while maintaining a safety factor of two against failure.
- C. System Performance Requirements: Comply with requirements of applicable local, state and Federal requirements and with the performance specifications of the OSHA and ANSI specifications cited herein.
 - 1. Design fall-arrest support systems in accordance with AISC S342L (including Supplement No. 1), ANSI/IWCA I-14.1, and as follows:
 - a. Comply with the requirements of OSHA 29 CFR 1910, Subpart F, Appendix C and 29 CFR 1926, Subpart M-Fall Protection 1926.500, 1926.501 and 1926.502.
 - b. Fall Arrest Safety Anchors:
 - 1) Fall-Arresting Force Safety Factor: 2 to 1 without permanent deformation, 1800 lbs. minimum.
 - 2) Fall Arrest Force Against Fracture or Detachment: 5400 lbs. minimum.
 - 2. Locate anchorages to accommodate fall-arrest equipment as indicated on the Drawings or, if not indicated, as directed by the Architect.

- 3. Design anchor components for fall-arrest support systems to ensure compatibility with industry standard equipment, with all anchorage and anchorage components designed to accommodate all loading including required factors of safety.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F.

2.3 MATERIALS

- A. Stainless Steel: ASTM A 276, Type 304 with 35 ksi minimum yield strength.
- B. Steel Tubing: Type 300W with 50 ksi minimum yield strength, hot-dipped galvanized to ASTM A 123.
- C. Steel Plates, Shapes, and Bars: Type 300W with 44 ksi minimum yield strength, hot-dipped galvanized to ASTM A 123.
 - 1. Plate: Not less than 0.875-inch-diameter material with not less than 2 inches eye opening.
- D. Safety Anchor Eye Plate: Mild Steel, Type 300W with 44 ksi minimum yield strength, hotdipped galvanized to ASTM A 123.
- E. Miscellaneous Bolts, Nuts and Anchors: Stainless steel to ASTM A 276, Type 304 with 35 ksi minimum yield strength.

2.4 ROOF-MOUNTED ANCHORS

- A. Roof-Mounted Anchor: Steel pipe or tube hot-dipped galvanized pier with detachable stainless steel U-bar safety anchor and stainless steel cap flashing, for direct-weldment attachment to top flange of building structural beam or for mechanical attachment utilizing welded galvanized base plate, through anchors, and steel back plate to wrap building structural beam, as determined by Delegated Design Engineer. Provide manufacturer's standard flashing and rubber collar flashings as appropriate for roof system indicated; steel deck closure plate; and all galvanized steel bolts, lock washers, plate washers, and hex nuts.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide "Model PBE75S" as manufactured by Pro-Bel Group of Companies or comparable product of approved manufacturer.
 - 2. Locations: Refer to the Drawings.

2.5 FABRICATION

- A. Fabricate window washing and fall-arrest support system assemblies to meet system performance requirements including the structural and performance requirements indicated.
- B. Shop Assembly: Fabricate all components in the factory to the greatest extents possible.
- C. Fabricate all system components from the same material unless otherwise indicated.

- D. Exposed work shall be true to line and level with accurate angles, surfaces and with straight square edges.
- E. Coordinate anchorage system with supporting structure.
- F. Fabricate anchoring devices as recommended by the manufacturer to provide adequate support for intended use.
- G. Fabricate joints in a manner to discourage water accumulation. Provide weep holes to drain any water which could accumulate in the exposed joints.
- H. Welding to comply with AWS D1.1

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrate areas and conditions, with Installer and manufacturer's representative present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Field verify site locations and dimensions of permanent structural supports for attachment of fall-arrest support systems.
- C. Confirm building structure as constructed is adequate to support complete fall-arrest systems.
- D. Prepare written report, endorsed by Installer, listing conditions detrimental to performance.
- E. Do not begin installation until structural supports are permanently installed and properly braced.
- F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 COORDINATION

A. Coordinate with work of other trades related to the installation of fall-arrest support systems, as well as work of other trades, such as roofing and metal wall panel installation, that will be adjacent to fall arrest protection systems to ensure systems do not interfere with each other and ensure entire roof system remains watertight.

3.3 INSTALLATION

- A. Before installation, inspect all parts to insure no damaged parts are used.
- B. Ensure roof and wall securement anchors have adequate bearing on support structure, and provide adequate surface area for installation of anchors to develop full loading capacity.
- C. Install fall protection systems in accordance with the Delegated Design Shop Drawings, manufacturer's written instructions, and all pertinent standards, regulations, and codes.

- E. All attachments shall be permanent, utilizing welded connections.
- D. Accurately fit and align, securely fasten and install free from distortion or defects.
- E. Install equipment with no irregularities or projections capable of inflicting personal injury. Finished surfaces and edges of all accessible parts shall be regular and smooth.
- F. Isolate dissimilar materials as required to prevent electrolytic corrosion.
- G. After installation, check system for signs of corrosion, wear, deformation and other defects to all system components.
- H. System to remain out of service until installation is complete and Letter of Certification has been received.

3.4 FIELD QUALITY CONTROL

- A. Testing and certification shall be provided under supervision of the fall arrest support system manufacturer with the Installer present.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to review, test, and inspect components, assemblies, and equipment installations, including connections as required by manufacturer and as follows:
 - 1. Upon completion of all preparatory work, immediately prior to commencement of installation. Representative shall observe installation of not less than two support anchors of each type to verify installation methods.
 - 2. At least one time during course of installation, between 50 and 75 percent completion.
 - 3. Conduct final inspection to verify all work installed correctly and in accordance with approved drawings and that all products function properly.
- C. Repair or replace parts whenever required. Use parts produced by manufacturer of original equipment.
- D. Issue letter of certification for use of system attesting to the system's ability to withstand the tested proof loads.
- E. Prepare test and inspection reports.

3.5 PROTECTION

- A. Protect installed product throughout construction period.
- B. Touch-up, repair or replace damaged products prior to Substantial Completion.

END OF SECTION 11 2423

Gould Evans Addendum 3 May 14, 2018

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10 440 CABINE SURFAC DEFIBR 1-HOU SMOKE LATERA STRUCT 0 3 0 3 1 2 3 4 5 6 7 8 9 00 1 2 3 4 5 6 7 8 9 00 1 2 3 4 5 6 7 8 9 00 1 2 3 4 5 6 7 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 8 9 00 1 1 9 00 1 1 1 1 1 1 1 1 1 1 1 1 1	T, SEMI-RECESSED E MOUNTED ILLATOR CABINET R FIRE RATED ASSEMBLY BARRIER IL FRAME, REF TO TURE DWGS EXEVED NOTES - PLAN *NOT ALL NOTES APPEAR ON SHEETS, TYP. DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR, REFER TO DETAIL 1 AND ELECTRICAL FOR MORE INFORMATION 12 48J6 EXTERIOR ENTRANCE FLOOR GRILL, REFER TO G111 24 84D EXANTOR MORE INFORMATION EXTERIOR WALL HYDRANT, REFER TO PLUMBING DRAWINGS FIRE SPRINKLER RISER, REFER TO FIRE PROTECTION DRAWING S 1000 UTSIDE AIR INTAKE FIXED LOUVER 08 9100 UTSIDE AIR INTAKE FIXED LOUVER 13 64 SUB METER, REFER TO PLUMBING DRAWINGS FIRE SPRINKLER RISER, REFER TO FIRE PROTECTION DRAWING S 1-HOUR RATED CEILING UNDER STAIRS AHU UNIT ACCESS VIA MTL LADDER AND CATWALK, REFER TO ALARM DRAWINGS 2-HOUR RATED CEILING UNDER STAIRS AHU UNIT ACCESS VIA MITL LADDER AND CATWALK, REFER TO PLATFORM WITH MECH. & MANUFACTURER EXHAUST HOOD WITH DUCT UP TO ROOF, REFER TO MECH. DRAWINGS. 06 1053 PLYWOOD BACKBOARD PER TELECOM REQUIREMENT REFER TO FINISH LEGEND AND PLANS. PROJECTOR ADDIZE TOR MOUSE INFORMATION 06 431 SFIP WALL PROTECTION TO 4'-0" A.F.F. MOOP SINK LATERAL BRACING FRAME, 05 1213 AESS WITH HIGH PERFOI COATING, REFER TO FINISH LEGEND AND PLANS. PROJECTOR ADRE INFORMATION 06 643 SPLYWOOD BACKBOARD PER TELECOM REQUIREMENT REFEAT D FEOSIGISS. TAIR GRAPHICS THO BUSING & SCREEN, MOTORIZED. RE AV& & ELECTRICAL DRAWINGS STAIR GRAPHICS THO SALE AND AND ALTERNATE DESIGNS. STAIR GRAPHICS TO ELECTRICE AND DAVER SURFACE MOUNTER EDGINGS. COMMUNITY WALL GRAPHICS AND MARKER BOARD LAVOUT 10 A245/ A245.1 FOR BASE AND ADD ALTERNATE DESIGNS. STAIR GRAPHICS THO ELECTRICE AND DAVINER SURFACE MOUNTED DEFIBILLATOR CABINET 10 2226 OPERABLE PARTITION
10 440 CABINE SURFAC DEFIBR 1-HOU SMOKE LATERA STRUCT 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 7 8 9 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	T, SEMI-RECESSED T, SEMI-RECERTOR T, SEMI-RECERTOR T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECERTOR T, SEMI-RECERTOR T, SEMI-RECERTOR T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECESSED T, SEMI-RECERTOR T, SEMI-REC
10 440 CABINE SURFAC DEFIBR 1-HOU SMOKE LATERA STRUC 0 3 6 0 3 6 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7	T, SEMI-RECESSED T, SEMI-RES
10 440 CABINE SURFAC DEFIBR 1-HOU SMOKE LATERA STRUC STRUC 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 0 1 2 3 4 5 5 6 7 8 9 0 0 1 2 3 4 5 5 6 7 8 8 9 9 0 0 1 2 3 4	T, SEMI-RECESSED CE MOUNTED ILLATOR CABINET R FIRE RATED ASSEMBLY BARRIER L FRAME, REF TO TURE DWGS KEYED NOTES – PLAN *NOT ALL NOTES APPEAR ON SHEETS, TYP. DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED HALM FOR MORE INFORMATION 12 4816 EXTERIOR ENTRANCE FLOOR GRIIL, REFER TO BASHD EXTERIOR WALL HYDRANT, REFER TO PLUMBING DRAWINGS EXTERIOR ENTRANCE FLOOR GRIIL, REFER TO BASUD METER, REFER TO PLUMBING DRAWINGS FIRE SPRINKLER RISER, REFER TO PLUMBING DRAWINGS FIRE SPRINKLER RISER TO PLUMBING DRAWINGS FIRE SPRINKLER RIS
10 440 CABINE SURFAC DEFIBR 1-HOU SMOKE LATERA STRUC	T, SEMI-RECESSED E MOUNTED ILLATOR CABINET R FIRE RATED ASSEMBLY BARRIER ILFRAME, REF TO TURE DWGS KEYED NOTES - PLAN *NOT ALL NOTES APPEAR ON SHEETS, TYP. DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF SOFFIT/ OVERHANG ABOV DASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR BOLLARD, REFER TO BASHED LINE INDICATES EDGE OF CANOPY ABOVE 08 7100 AUTOMATIC DOOR OPERATOR, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO DETAIL 1 28 6516 WALL MOUNTED CARD READER, REFER TO PLUMBING DRAWINGS INCOR BOX LOCATION 28 2100/UTSIDE AIR INTAKE FIXED LOUVER 29 100/UTSIDE AIR INTAKE FIXED LOUVER 29 100/UTSIDE AIR INTAKE FIXED LOUVER 20 20 DUTSIDE AIR INTAKE FIXED LOUVER 20 20 NOTROL FOR NORE INFORMATION 20 20 LOCATION UNTROL PANEL AND ANNUNCLATOR, REFER TO 21 HOUR RATED CEILING UNDER STAIRS 21 HOUR RATED CEILING UNDER STAIRS 21 HOUR RATED CEILING UNDER STAIRS 21 HOUR ATED SEINCURATION 21 2226 JUPANED 21 TO A245, J245, I FOR BASE AND AD ALTENNATE DESIGNS. 21 AIR GRAPHICS THIS WALL, REFER TO A453 FOR BASE AND AD 21 FRINATE DESIGNS. 21 AIR GRAPHICS THIS WALL, REFER TO A453 FOR BASE AND AD 22 FOURTOR AND PROJECTOR MOUNT, REFER TO A453 FOR BASE AND AD 22 FOURD AND PROJECTOR MOUNT, REFER TO
10 440 CABINE SURFAC DEFIBR 1-HOU SMOKE LATERA STRUC 3 4 2 3 4 5 5 7 3 2 3 4 5 5 7 3 3 2 3 1 2 3 4 5 5 7 3 3 3 7 3 3 7 3 3 7 3 3 7 3 3 7 3 3 7 3 3 7 3 3 7 3 3 7 3 3 7 3 3 7 3 7 3 3 7 3 7 3 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 7 3 7 7 3 7	T, SEMI-RECESSED T, SEMI-REC

	GENERAL PARTITION PLAN NOTES
	VERIFY DIMENSIONS BEFORE COMMENCING WORK. REPORT DISCREPANCIES TO THE ARCHITECT PRIOR TO PROCEEDING WITH AFFECTED WORK.
-	ALL DIMENSIONS ON THIS SHEET ARE REFERENCED FROM STRUCTURAL GRID, FINISH FACE OF PARTITIONS OR R.O.,
-	UNLESS NOTED OTHERWISE. CASEWORK COUNTERTOPS ARE SHOW FOR REFERENCE. REFER TO CASEWORK SHEFTS FOR PARTITION BACKING AND
	ATTACHMENT REQUIREMENTS. DIMENSIONS NOTED AS "FIELD VERIFY" SHALL BE CHECKED AT
	THE SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCHITECT BEFORE INCORPORATING INTO THE WORK. DIMENSIONS NOTED AS "CLEAR" REQUIRE SPECIFIC
-	COORDINATION BETWEEN DISCIPLINES AND/OR MANUFACTURERS.
	DO NOT SCALE DRAWING. WRITTEN DIMENSIONS TAKE PRECEDENCE. IF CLARIFICATION IS REQUIRED IN ORDER TO

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DETERMINE THE INTENT OF THE CONTRACT DOCUMENTS, CONTACT THE ARCHITECT. NOTES OR DIMENSIONS LABELED "TYPICAL" SHALL APPLY TO SITUATIONS THAT ARE THE SAME OR SIMILAR.

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	18 17 16	15	14		13	12	11			9 DIUC		7		6 5	4	3	
					LEAVES				JK SCHE	DULE -							
	MARK FUNCT	ION NUMBER OF	TYPE IFAE 2 IFAE 2	DIMENSIONS WIDTH	HEIGHT THIC	FINISI KNESS FINISH 1	HES FINISH 2 (GLASS)		DETAILS	C11.1	FINISHE	S FINISH 2	ARDWARE SET FIRE RATIN	G	REVISION	MARK	 CARD READER ADA PUSH BUTTON ON WALL ADA PUSH BUTTON ON BOLLARD OR 1375 FOLDING METAL WALL
	100AExterior100BExterior	2 L30AL 5 L35AL	L L30AL 3'- L 3'-3 3'-3	LEAF 2 0" 3' - 0" 1/2"	8' - 0" 1 3 9' - 10 1/2" 1 3	B/4" AL-1 B/4" AL-1	GL-1 GL-3	- 6/A525 - 2/A525	JAIVIB 10/A525 9/A525, 5/A525	9/A534 1/A525	- AL-1 AL-1		01A 0 09A 0	1,3 5		100A 100B	 4. 08 1376 FOLDING METAL WALL 5. 08 3213 ALUMINUM-FRAMED SLIDING GLASS DOORS 6. NOMINAL SIZES LISTED IN SCHEDULE, VERIFY HEIGHT AND WIDTH IN SHOP DRAWINGS
P	101AInterior101BInterior103Interior	5 L37AL 1 L30AL 2 L32AL	L 2' - 8 L 3' - L 3' - 2	- 3/4" - 0" - 5/8"	9' - 1 7/8" 1 3 8' - 0" 1 3 7' - 10 1/2" 1 3	3/4" AL-1 3/4" AL-1 3/4" AL-1	GL-3 GL-3 GL-3	- 3/A527 - 3/A526 - 15/A526	1/A527, 5/A527 5/A527, 8/A526 1/A526	2/A527 2/A526 15/A526	AL-1 AL-1 AL-1		07 0 08 0 09 0	4 6		101A 101B 103	 7. SWING DOOR, REFER TO CASEWORK SHEETS 8. MEN'S RESTROOM, SEE SHEET A1000, DETAIL ST-B2_FOR CODE REQUIRED SIGNAGE
	104Interior105AInterior105BInterior	2 L32AL 1 L30AL 2 I32AL	L 3' - 2 L 3' - 3' - 2	5/8" - 0" 5/8"	7' - 10 5/8" 1 3 8' - 0" 1 3 7' - 10 1/2" 1 3	8/4" AL-1 8/4" AL-1 8/4" AL-1	GL-3 GL-3 GL-3	- 15/A526 - 3/A526 - 15/A526	10/A526 8/A526, 12/A52 11/A526	15/A526 6 2/A526 15/A526	AL-1 AL-1 AI-1		09 0 08 0 09 0	6 6		104 105A 105B	 9. WOMEN'S RESTROOM, SEE SHEET A1000, DETAIL ST-C2 FOR CODE REQUIRED SIGNAGE 10. DOOR INTO ELECTRICAL CONTROL PANEL ROOMS TO
	1052Interior106AInterior106BInterior	1 L21WD 1 L21WD	D 3'- D 3'-	- 0" - 0"	7'-0" 13 7'-0" 13 7'-0" 13	8/4" WD 8/4" WD	GL-4 F001 GL-4 F001 GL-4 F001	Im 2/A511 Im 2/A511 Im 2/A511	1/A511 1/A511	6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1		10 0 10 0 10 0			106A 106B	HAVE EXTERIOR SIGNAGE. REFER TO SHEET A1000 AND A1001 FOR SIGNAGE INFORMATION. REFER TO SPEC SECTION 260553 FOR SWITCHBOARD LABELING.
	107AInterior107BInterior108AInterior	1 L21WD 1 L21WD 1 L21WD 1 L21WD	D 3'- D 3'- D 3'-	- 0" - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" WD 3/4" WD	GL-4 F001 GL-4 F001 GL-4 F001 GL-4 F001	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		10 0 10 0 10 0			107A 107B 108A	 FIRE DOOR LABELING REQUIREMENTS SHALL CONFORM WITH CBC 716.5.7.1 REFER TO SPEC SECTION 08 1116 FOR RATED FRAMES
N	108BInterior109AInterior109BExterior	1 L21WD 2 L00WD 2 L30AL	D 3'- D LOOWD 3'-	- 0" - 0" 3' - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 9" 1 3	8/4" WD 8/4" WD 8/4" ΔΙ-2	GL-4 F001	IM 2/A511 IM 2/A511 IM 10/A534	1/A511 1/A511 9/A534	6/A511 6/A511 3/A535	Finishes - Interior - PT-1 Finishes - Interior - PT-1		10 0 11 60 02 0			108B 109A 109B	AND SECTION 08 8100 FOR RATED GLAZING. 13. MAGNETIC HOLD OPEN 14. PROVIDE 180 DEGREE HINGE FOR MAGNETIC HOLD
	1000Exterior110AExterior110BExterior	1 LOOHN 2 LOOHN	M 3'- M LOOHM 3'-	- 0" - 0" - 0" - 3' - 0"	7' - 10" 1 3 7' - 10" 1 3 7' - 10" 1 3	8/4" Finishes - Exterior - PT-7 8/4" Finishes - Exterior - PT-7	Finishes - Exterior - PT-7 F001 F001	IO//034 IM 14/A534 IM 14/A534	1/A538 1/A538	13/A534 13/A534	Finishes - Exterior - PT-7 Finishes - Exterior - PT-7		30 0 31 0	1 1, 10		110A 110B	OPEN.
	111Exterior112AInterior112BExterior	2 L30AL 1 L00HM 2 L00HM	L L30AL 3'- M 3'- M L00HM 3'-	- 3" 3' - 3" - 0" 3' - 0"	7' - 9" 1 3 7' - 0" 1 3 7' - 10" 1 3	8/4" AL-2 8/4" Finishes - Interior - PT-1 8/4" Finishes - Exterior - PT-7	GL-1 F001 F001	- 6/A525 HM 2/A511 HM 14/A534	10/A525 1/A511 1/A538	9/A534 6/A511 13/A534	AL-2 Finishes - Interior - PT-1 Finishes - Exterior - PT-7		01 0 12 0 05 0	1, 2 1 1	3	111 112A 112B	
	113AInterior113BInterior114AInterior	1 L21WC 1 L30AL	D 3'- L 3'- D 3'-	· 0" · 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" AL-1 3/4" WD	GL-4 F001 GL-6 F001 GL-4 F001	HM 2/A511 HM 11/A527 HM 10/A511	1/A511 10, 13/A527 9/A511	6/A511 9/A527 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		10 0 13 45 10 45			113A 113B 114A	
	114BExterior114CInterior1150Interior	2 L30AL 1 L21WD	L L30AL 3' - D 3' -	- 0" 3' - 0" - 0"	7' - 9" 1 3 7' - 0" 1 3 7' - 0" 1 3	Al-2 3/4" AL-2 3/4" WD	GL-1 GL-4 F001	- 10/A534 HM 10/A511	2/A538 9/A511	9/A534 6/A511	AL-2 Finishes - Interior - PT-1		03 0 13 45	2		114B 114C	
<u>M</u>	115AInterior115BInterior115CExterior	1 L21WL 2 L21WL 2 L30AL	D 10 3'- D LOOWD 3'- L L30AL 3'-	- 0" - 0" 1' - 6" - 0" 3' - 0"	7'-0" 13 7'-0" 13 7'-9" 13	3/4" WD 3/4" WD 3/4" AL-2	GL-4 F001 GL-4 F001 GL-1	III III IM 2/A511 IM 2/A531 III 10/A534	9/A511 1/A511 2/A538	6/A511 6/A511 3/A535	Finishes - Interior - PT-1 Finishes - Interior - PT-1 AL-2		14 45 15 45 03 0	2		115A 115B 115C	AL-1 ANODIZED CLEAR ALUMINUM
	116Interior118Interior118AInterior	1 LOOWD 1 LO5WD 1 LOOWD	D 3'- D 3'- D 3'-	- 0" - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" WD 3/4" WD	F001 F001 F001	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		16 0 17 0 12 20	1 8	3	116 118 118A	AL-2 DARK BRONZE ALUMINUM WD WOOD HM HOLLOW METAL
	119Interior120Interior121D5 +	1 L05WD 1 L00HM	D 3'- M 3'-	- 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	WD 3/4" WD 3/4" Finishes - Interior - PT-3	F001 F001	HM 2/A511 HM 2/A511	1/A511 1/A511	6/A511 	Finishes - Interior - PT-1 Finishes - Interior - PT-3		17 0 16 0	9		119 120	NF NO FRAME (CASEWORK SWING DOOR) GL-1 INSULATING GLASS GL-2 INSULATING GLASS WITH FRIT
	121BExterior122Exterior123Interior	1 LOOHN 2 L30AL 2 L32AL	L L30AL 3' - L 33' - 2	- 0" 3' - 0" - 5/8"	7' - 10" 1 3 7' - 9" 1 3 6' - 10 5/8" 1 3	3/4" Finisnes - Exterior - PT-7 3/4" AL-2 3/4" AL-1	Finishes - Exterior - P1-7 FOOI GL-1 GL-3	- 10/A534 - 10/A534 - 15/A526	9/A534 9/A526	13/A534 10/A525 15/A526	AL-2 AL-1	Finisnes - Exterior - P1-7	06 60 01 0 09 0	1 1, 2 6		121B 122 123	GL-3INTERIOR 3/8" LAMINATED GLASSGL-4INTERIOR 1/4" HEAT TREATED GLASSGL-5INTERIOR 3/8" HEAT TREATED GLASS
L	124Interior125Interior126Interior	2 L32AL 2 L32AL 2 L32AL 2 L32AI	L 3' - 2 L 3' - 2 L 3' - 2	5/8" 5/8" 5/8"	6' - 10 5/8" 1 3 6' - 10 5/8" 1 3 6' - 10 5/8" 1 3 6' - 10 5/8" 1 3	3/4" AL-1 3/4" AL-1 3/4" AL-1	GL-3 GL-3 GL-3	- 15/A526 - 15/A526 - 15/A526	9/A526 9/A526 9/A526	15/A526 15/A526 15/A526	AL-1 AL-1 AL-1		09 0 09 0 09 0 09 0	6 6 6		124 125 126	GL-6 IN LERIOR 1-1/8" FIRE-RATED GLASS PT-1 INTERIOR PAINT, REFER TO FINISH LEGEND PT-3 INTERIOR PAINT, REFER TO FINISH LEGEND
	123Interior127Interior128Interior	2 L32AL 2 L32AL 2 L32AL	L 3'-2 L 3'-2	5/8" 5/8" 5/8"	6' - 10 5/8" 1 3 6' - 10 5/8" 1 3 6' - 10 5/8" 1 3 6' - 10 5/8" 1 3	β/4" AL-1 β/4" AL-1 β/4" ΔL-1	GL-3 GL-3	- 15/A526 - 15/A526	9/A526 9/A526	15/A526 15/A526	AL-1 AL-1		09 0 09 0 09 0	6 6 6		127 128 120	FI-7 REFER IU FINISH LEGEND
	129Interior130Interior131Interior	2 L32AL 2 L32AL 2 L32AL 2 L32AL	L 3'-2 L 3'-2 L 3'-2	5/8" 5/8"	6' - 10 5/8" 1 3 6' - 10 5/8" 1 3	AL-1 8/4" AL-1 8/4" AL-1	GL-3 GL-3	- 15/A526 - 15/A526	9/A526 9/A526	15/A526 15/A526 15/A526	AL-1 AL-1		09 0 09 0 09 0	6 6		129 130 131	
	132Interior133Exterior134Interior	2 L32AL 2 L30AL 1 L21WF	L 3' - 2 L L30AL 3' - D 3' -	5/8" • 0" 3' - 0" • 0"	6' - 10 5/8" 1 3 8' - 0" 1 3 7' - 0" 1 3	3/4" AL-1 3/4" AL-1 3/4" WD	GL-3 GL-1 GL-4 F001	- 15/A526 - 6/A525 - 2/A511	9/A526 10/A525 1/A511	15/A526 9/A534 6/A511	AL-1 AL-1 Finishes - Interior - PT-1		09 0 01 0 19 0	6 1, 2	3	132 133 134	
к	135AInterior135BExterior136AInterior	1 LOOWD 2 L30AL	D 3' - L L30AL 3' -	· 0" · 0" 3' - 0"	7' - 0" 1 3 8' - 0" 1 3 7' - 0" 1 3	8/4" WD 8/4" AL-1	F001 GL-1	HM 2/A511 - 6/A525	1/A511 5/A539	6/A511 9/A534	Finishes - Interior - PT-1		32 60 02 0 10 0	13		135A 135B	-
	136AInterior136BExterior	2 L30AL	D 3'- L L30AL 3'-	- 0" 3' - 0"	7'-0" 13	3/4" WD 3/4" AL-2	GL-4 F00	- 10/A534	1/AS11 10/A525	9/A534	AL-2		04 0	1		136A 136B	
								DOC	OR SCHE	DULE -	LEVEL 02						
		NUMBER		DIMENSIONS	LEAVES	FINISI	HES		DETAILS	FI	RAMES	S F	ARDWARE				
<u> </u>	MARK FUNCT	OF LEAVES LEAF :	TYPE 1 LEAF 2 LEA	WIDTH AF 1 LEAF 2		KNESS FINISH 1	FINISH 2 (GLASS)	ETYPE HEAD) JAMB	SILL	FINISH 1	FINISH 2	SET FIRE RATIN MINUTES	G	REVISION	MARK	
	202AInterior202BInterior202CInterior	1 L21WC 1 L30AL 1 L21WC	D 3'- L 3'- D 3'-	- 0" - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" AL-1 3/4" WD	GL-4 F00I GL-3 GL-4 F00I	HM 2/A511 - 7/A526 HM 2/A511	1/A511 8/A526 1/A511	6/A511 2/A526 6/A511	Finishes - Interior - PT-1 AL-1 Finishes - Interior - PT-1		10 0 23 0 19 0			202A 202B 202C	-
	203Interior205Interior206Interior	1 LOOWD 1 LOOWD	D 3' - D 3' -	- 0" - 0"	2'-6" 13 7'-0" 13	8/4" WD 8/4" WD	N F211	 HM 2/A511, 3/A5	 511 3/A511, 4/A511	 5/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1	 GL-4	22 0 24 0	7		203 205	-
	200Interior207AInterior207BInterior	1 L21WC	D 3'- D 3'-	- 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	8/4" WD 8/4" WD	GL-4 FOOI GL-4 FOOI	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1		10 0 10 0 10 0			207A 207B	
H	208Interior209Interior210Interior	1 LOOWD 1 LOOWD 1 LOOHN	D 3' - D 3' - M 3' -	- 0" - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" WD 3/4" WD	F21I F00I GL-4 F00I	IM 2/A511, 3/A5 IM 2/A511 IM 2/A511	511 3/A511, 4/A511 1/A511 1/A511	5/A511 	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1	GL-4 	21 0 25 0 25 0			208 209 210	-
	211AInterior211BInterior212Interior	1 L21WD 1 L21WD 2 L00WD	D 3'- D 3'- D 100WD 3'-	- 0" - 0" - 0" 3' - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" WD 3/4" WD	GL-4 F001 GL-4 F001 F001	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		10A 0 10 0 20 60			211A 211B 212	-
	214Interior215Interior	2 LOOWD 1 L21WD	D LOOWD 3' - D 3' -	- 0" 3' - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" WD	F001 GL-4 F001	HM 2/A511 HM 2/A511 HM 2/A511	1/A511 1/A511	6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1		26 0 19 0	1		214 215	-
	216Interior217Interior218Interior	1 L21WL 1 L21WC 1 L21WC	D 3 - D 3' - D 3' -	- 0" - 0"	7 - 0 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4 WD 3/4" WD 3/4" WD	GL-4 FOOI GL-4 FOOI GL-4 FOOI GL-4 FOOI	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		19 0 19 0 19 0 19 0			216 217 218	
G	219Interior221Interior222Interior	1 LOOWD 1 LO5WD 1 LO5WD	D 3' - D 3' - D 3' -	- 0" - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	8/4" WD 8/4" WD 8/4" WD	F001 F001 F001	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		27 0 17 0 17 0	1 8 9		219 221 222	-
	223Interior224Interior225Interior	1 LOOHN 1 L21WE	M 3'- D 3'-	- 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	8/4" Finishes - Interior - PT-3 8/4" WD 8/4" WD	F001 GL-4 F001	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	 6/A511 6/A511	Finishes - Interior - PT-3 Finishes - Interior - PT-1 Finishes - Interior - PT-1		16 0 28 0 16 0	1		223 224 225	-
	225Interior226Interior227Interior	2 L30AL 1 L30AL	L L30AL 3'- L 3'-	- 0" 3' - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	8/4" AL-2 8/4" AL-1	GL-3 GL-3	- 3/A526 - 3/A526	2/A563, 6/A563 8/A526	 1/A526, 2/A	AL-2 AL-1		29 0 24 0	13		226 227	
	228Interior229Interior230Interior	2 L32AL 2 L32AL 1 L00WD	L 3'-2 L 3'-2 D 3'-	- 0"	6' - 10 5/8" 1 3 6' - 10 5/8" 1 3 2' - 6" 1 3	3/4" AL-1 3/4" AL-1 3/4" WD	GL-3 GL-3 N	- 15/A526 - 15/A526 	9/A526 9/A526	15/A526 15/A526 	AL-1 AL-1 Finishes - Interior - PT-1		09 0 09 0 22 0	6 6 7		228 229 230	
F	231Interior232Interior233Interior	1 L30AL 2 L32AL 2 L32AL	L 3' - L 3' - 2 L 3' - 2	- 0" - 5/8" - 5/8"	7' - 0" 1 3 6' - 10 5/8" 1 3 6' - 10 5/8" 1 3	8/4" AL-1 8/4" AL-1 8/4" AL-1	GL-3 GL-3 Gl-3	- 3/A526 - 15/A526 - 15/A526	8/A526 9/A526 9/A526	1/A526, 2/A 15/A526 15/A526	AL-1 AL-1 AL-1		24 0 09 0 09 0	6		231 232 233	-
	234Interior235Interior237Interior	2 L32AL 2 L32AL	L 3' - 2 L 3' - 2	2 5/8" 2 5/8"	6' - 10 5/8" 1 3 6' - 10 5/8" 1 3	Al-1 3/4" Al-1 3/4" Al-1	GL-3 GL-3	- 15/A526 - 15/A526	9/A526 9/A526	15/A526 15/A526	AL-1 AL-1 Finisher Interior DT 1		09 0 09 0	6		234 235	-
	237Interior238Interior239Interior	1 L21WD 2 L00WD 1 L21WD	D 3' - D LOOWD 3' - D 3' -	- 0" - 0" 3' - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" WD 3/4" WD	GL-4 F00I F00I GL-4 F00I	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		19 0 20A 60 19 0	13, 14	1	237 238 239	
E																	-
					LEAVES						RAMES						
	MARK FUNCT	TON NUMBER OF	TYPE IEAE 2 IEAE	DIMENSIONS WIDTH		FINISI KNESS FINISH 1	FINISH 2 (GLASS)	ТҮРЕ		SILL	FINISHE	FINISH 2	ARDWARE SET FIRE RATIN	G	REVISION	MARK	
	301AInterior301BInterior	1 LEAF 1 L30AL 1 L30AL	L LAF 2 LEA 3'- 3'-	LEAF 2 .0"	7' - 0" 1 3 7' - 0" 1 3	8/4" AL-1 8/4" AL-1	GL-3 GL-3	леар 7/А526 7/А526	8/A526 8/A526	2/A526 2/A526	AL-1 AL-1		23 0 23 0			301A 301B	
	302Interior303Interior304AInterior	1 L21WD 1 L00WD 1 I21WD	D 3'- D 3'- D 3'-	· 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	3/4" WD 3/4" WD 3/4" WD	GL-4 F00! F21! GL-4 F00!	IM 2/A511 IM 2/A511, 3/A5 IM 2/A511	1/A511 511 3/A511, 4/A511 1/A511	6/A511 5/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1	GL-4	28 0 24 0 10 0			302 303 304A	
<u>D</u>	304BInterior305AInterior	1 L21WD 1 L21WD	D 3'- D 3'-	- 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	8/4" WD 8/4" WD 2/4" WD	GL-4 FOOI GL-4 FOOI GL-4 FOOI	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511	6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Einishes - Interior - PT-1		10 0 10 0			304B 305A	
	305BInterior306AInterior306BInterior	I L21WD 1 L21WD 1 L21WD 1 L21WD	D 3'- D 3'- D 3'-	· 0"	7 - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	WD 3/4" WD 3/4" WD	GL-4 F001 GL-4 F001 GL-4 F001	IVI 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		10 0 10 0 10 0			305B 306A 306B	
	307Interior309Interior310Interior	2 LOOWD 2 LOOWD 1 I 21WD	D LOOWD 3'- D LOOWD 3'- D 2'-	- 0" 3' - 0" - 0" 3' - 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	8/4" WD 8/4" WD 8/4" WD	F001 F001 GL-4 F001	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		20 60 26 0 16 0	1		307 309 310	
	311 Interior 312 Interior	1 L21WD 1 L21WD	D 3'- D 3'-	· 0" · 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	B/4" WD B/4" WD R/4" WD	GL-4 FOOI GL-4 FOOI GL-4 FOOI	IM 2/A511 IM 2/A511	1/A511 1/A511	6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		19 0 19 0 19 0			311 312	
с	313Interior314Interior317Interior	1 L21WD 1 L00WD 1 L05WD	D 3'- D 3'- D 3'-	· 0"	/ - 0 1 3 7' - 0" 1 3 7' - 0" 1 3	WD 3/4" WD 8/4" WD	SL-4 F001 F001 F001	Z/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		15 0 16 0 17 0	8		313 314 317	
	318Interior319Interior320Interior	1 L05WD 1 L00HM 1 I 00WD	D 3'- M 3'- D 2'-	- 0" - 0"	7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3 7' - 0" 1 3	8/4" WD 8/4" Finishes - Interior - PT-3 8/4" WD	F00! F00! F00!	IM 2/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-3 Finishes - Interior - PT-1		17 0 16 0 16 0	9		318 319 320	
	320Interior321Interior322Interior	2 L30AL 2 L32AL	L L30AL 3'-2	0" 3'-0" 5/8"	7' - 0" 1 3 6' - 10 5/8" 1 3	3/4" AL-2 3/4" AL-1	GL-3 GL-3	- 3/A526 - 15/A526	2/A563, 6/A563 9/A526	 15/A526	AL-2 AL-1		29 0 09 0	13 6		321 322	-
	323Interior324Interior325Interior	I L30AL 2 L32AL 2 L32AL	L 3'- L 3'-2 L 3'-2	5/8" 5/8"	/ - 0" 1 3 6' - 9 3/4" 1 3 6' - 9 3/4" 1 3	AL-1 3/4" AL-1 3/4" AL-1	GL-3 GL-3	- 3/A526 - 15/A526 - 15/A526	8/A526 9/A526 9/A526	1/A526, 2/A 15/A526 15/A526	AL-1 AL-1 AL-1		24 0 09 0 09 0	6 6		323 324 325	
в	326Interior327Interior328Interior	2 L32AL 1 L30AL 2 132AL	L 3' - 2 L 3' - L 3' - 2	5/8" - 0" 5/8"	6' - 9 3/4" 1 3 7' - 0" 1 3 6' - 10 5/8" 1 2	AL-1 3/4" AL-1 3/4" AL-1	GL-3 GL-3 GL-3	15/A526 3/A526 15/A526	9/A526 8/A526 9/A526	15/A526 1/A526, 2/A 15/A526	AL-1 A526 AL-1 AL-1		09 0 24 0 09 0	6		326 327 328	
	329 Interior 330 Interior	2 L32AL 2 L32AL 2 L32AL	L 3'-2 L 3'-2	5/8" 5/8"	6' - 10 5/8" 1 3 6' - 10 5/8" 1 3	3/4" AL-1 3/4" AL-1	GL-3 GL-3	15/A526	9/A526 9/A526	15/A526 15/A526	AL-1 AL-1 Einichea Interio DT 1		09 0 09 0	6 6		329 330	
	332Interior333Interior334Interior	I L21WD 2 L00WD 1 L21WD	3' - D L00WD 3' - D 3' - 3' -	· 0" 3' - 0"	/ - 0 1 3 7' - 0" 1 3 7' - 0" 1 3	wb 3/4" WD 3/4" WD	GL-4 F001 F001 GL-4 F001	Z/A511 IM 2/A511 IM 2/A511	1/A511 1/A511 1/A511	6/A511 6/A511 6/A511	Finishes - Interior - PT-1 Finishes - Interior - PT-1 Finishes - Interior - PT-1		15 0 20A 60 19 0	13, 14	1	332 333 334	
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EXTERIOR REFER TO S/A535 FOR EXTERIOR DETAILING				
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D STEEL TUBE POST- AVED TO STRUCTURE TP JS/16						(05 5213) 1-1/2" X 1-1/2" x 1/8" PAINT STEEL TU (05 5213) 1 1/2" SQUARE X 1/8" PAINT
D 11% 15 14						STEEL TUBE POST - WELD TO STI
C PAINTED STEE STRINGER, REFE TO STRUCTURAL DETAIL & 8/5/06 B DETAIL AT 18 17 16 15 14	D					(05 5100) LANDING - CONC FILLED PAN ((
c PANTED STEL STRINGER, REFE B DETAIL AT A 18 17 16 15 14						METAL DECK, REPER TO STRUC
C PAINTED STEEL STRINGER, REFE B DETAIL AT A 18 17 16 15 14						
B B A 18 17 16 15 14	С					
B A 18 17 16 15 14						PAINTED STEEL STRINGER, REFER TO STRUCTURAL DETAIL 8/S706
B DETAIL AT A 18 17 16 15 14						
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A 18 17 16 15 14						DETAIL AT
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ROOM				FINISH			
NUMBER EVEL 01	ROOM NAME	FLOOR	BASE	WALL	CEILING	COMMENTS	RE
100	GATHERING SPACE	LVT-1, LVT-2***	MB-1	PT-1 (EXCEPT WEST WALL)*	PFT-1, PAPC-1	*WEST WALL OF COMMUNITY GATHERING SPACE PER BASE BID AND ALTERNATE NO. 2, REFER TO SHEETS A245 AND A245.1 FOR MORE INFORMATION. ***SEE ENLARGED LVT ELOOR PATTERN ON A901	
101	MESA- COLLABORATION ZONE	LVT-1, LVT-2	RB-1	PT-1	APC-1		
102	MESA RECEPTION	CPT-2	RB-1, RB-2	PT-1, PT-3	APC-1		
103	MESA OFFICE	CPT-2	RB-1, RB-2	PT-1, PT-3	APC-1		
104 105	MESA MEETING ROOM MESA-QUIET COMPUTER ROOM	CPT-2 CPT-2	RB-1 RB-1	PT-1, PT-3 PT-1	APC-1 APC-1		
106	PHYSICS LAB#1	LVT-2	RB-1, RB-2	PT-1, PT-2	APC-1		
107	PHYSICS LAB#2	LVT-2	RB-1, RB-2	PT-1, PT-2	APC-1		
108	PHYSICS LAB#3	LVT-2	RB-1, RB-2	PT-1, PT-2	APC-1		
109	STAIR 1	LVT-1, CONC**	MB-1	PT-1 (EXCEPT EAST WALL)*	GB-1, PFT-1	*EAST WALL OF STAIR PER BASE BID AND ALTERNATE NO. 2, REFER TO SHEET A453 FOR MORE INFORMATION. **FLOORING MATERIAL UNDER STAIRS TO BE LVT-1. EXPOSED CONCRETE FINISH @ ALL STAIR TREADS AND INTERMEDIATE LANDINGS TO RECEIVE SLIP RESISTIVE CONCRETE FINISH.	3
110A 110B	FIRE RISER RM. ELECTRICAL RM.	CONC CONC	RB-1 RB-1	PT-1 PT-1	GB-2, PFT-1 GB-2, PFT-1		1
111		LVT-1	MB-1	PT-1, PT-3	APC-1, GB-1, PFT-	1	·
113	ENGINEERING LEARNING SPACE	LVT-2	RB-1,	PT-1, PT-2	- APC-1		
114	ENGINEERING SHOP	CONC	RB-1,	PT-1, PT-2	APC-1		
115	P&E STOCKROOM	LVT-2	КВ-2 RB-1, ВВ-2	PT-1, PT-2	APC-1		
116		CONC	RB-1	PT-1	-		
117 118	ELEV. MEN'S RESTROOM	LVT-2 FT-1	MB-1 TB-1	LAM-1 WT-1, PT-1, PT-2	- PFT-1		
118A 119	ELEVATOR CONTROL ROOM WOMEN'S RESTROOM	CONC FT-1	RB-1 TB-1	PT-1 WT-1, PT-1, PT-2	- PFT-1		
120	JANITOR'S CLOSET	CONC	RB-1	PT-1, FRP-1	-	FRP WALL PROTECTION TO 4'-0" A.F.F. LENGTH SHOWN IN FINISH PLANS	
121 122	ELECTRICAL CORRIDOR	CONC LVT-1, LVT-2***	RB-1 MB-1	PT-1 PT-1	- Gb-2, PFT-1	***SEE ENLARGED LVT FLOOR PATTERN ON A901	1
123 124	OFFICE OFFICE	CPT-1 CPT-1	RB-1 RB-1	PT-1, PT-3 PT-1, PT-3	APC-1 APC-1		
125 126	OFFICE OFFICE	CPT-1 CPT-1	RB-1 RB-1	PT-1, PT-3 PT-1, PT-3	APC-1 APC-1		
127	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		
120	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		
130 131	OFFICE OFFICE	CPT-1 CPT-1	RB-1 RB-1	PT-1, PT-3 PT-1, PT-3	APC-1 APC-1		
132 133	OFFICE CENTRAL CORRIDOR	CPT-1 LVT-1	RB-1 MB-1	PT-1, PT-3 CP-1, CP-2, PT-1	APC-1 APC-1, PAPC-1,		1
134	BCS LEARNING SPACE #1	LVT-1	RB-1	PT-1. PT-2	PFT-1 APC-1		
135	STAIR 2	LVT-1, CONC**	MB-1	PT-1 (EXCEPT WEST WALL)*	GB-1, PFT-1	*WEST WALL OF STAIR PER BASE BID AND ALTERNATE NO. 2, REFER TO SHEE A453 FOR MORE INFORMATION. **FLOORING MATERIAL UNDER STAIRS TO BE LVT-1. EXPOSED CONCRETE FINISH @ ALL STAIR TREADS AND INTERMEDIATE LANDINGS TO RECEIVE SLIP RESISTIVE CONCRETE FINISH.	3
136	BUSINESS CENTER COMPUTER	LVT-1	RB-1	PT-1, PT-2	APC-1		
VEL 02 200	CENTRAL CORRIDOR CIRCULATION	LVT-1, LVT-2***	MB-1	PT-1 (EXCEPT WEST WALL)*	PFT-1, PAPC-1	*WEST WALL OF COMMUNITY GATHERING SPACE PER BASE BID AND ALTERNATE NO. 2, REFER TO SHEETS A245 AND A245.1 FOR MORE INFORMATION. ***SEE ENLARGED LVT FLOOR PATTERN ON A901	
201		CPT-1	RB-1	PT-1 PT_1 PT3	APC-1		
202							
204	MMLC GRADING	CPT-2	RB-1	PT-1	APC-1		
205 206	STEM TESTING COMPUTER	CPT-2 CPT-1, CPT-2	кв-1 RB-1	PT-1, PT-3 PT-1	APC-1 APC-1		
207	BCS COMPUTER ROOM #1	LVT-2	RB-1	PT-1, PT-2	APC-1		
208 209	BCS FACULTY CONF. RM BCS #1 STORAGE	CPT-2 LVT-2	RB-1 RB-1	PT-1, PT-3 PT-1	APC-1 APC-1		
210 211	BCS #2 STORAGE BCS COMPUTER ROOM #2	LVT-2 LVT-2	RB-1 RB-1	PT-1 PT-1, PT-2	APC-1 APC-1		
212	STAIR 1	LVT-1, CONC**	MB-1	PT-1 (EXCEPT EAST WALL)*	GB-1, PFT-1	*EAST WALL OF STAIR PER BASE BID AND ALTERNATE NO. 2, REFER TO SHEET A453 FOR MORE INFORMATION. **LVT-1 @ MAIN STAIR LANDING ONLY. EXPOSED CONCRETE FINISH @ ALL STAIR TREADS AND INTERMEDIATE LANDINGS TO RECEIVE SLIP RESISTIVE CONCRETE FINISH.	3
213 214	CENTRAL CORRIDOR MECHANICAL ROOM	LVT-1 CONC	MB-1 RB-1	PT-1, PT-3 PT-1	APC-1, GB-1, PFT-	1	
215	MATH LEARNING SPACE #4	LVT-2	RB-1	PT-1, PT-2	APC-1		
210 217	MATH LEARNING SPACE #3 MATH LEARNING SPACE #2	LV 1-2 LVT-2	RB-1	PT-1, PT-2 PT-1, PT-2	APC-1 APC-1		
218 219	MATH LEARNING SPACE #1	LVT-2 CONC	RB-1 RB-1	PT-1, PT-2 PT-1	APC-1 -		
220 221	ELEV MEN'S RESTROOM	LVT-2 FT-1	MB-1 TB-1	LAM-1 WT-1, PT-2	- PFT-1		
222	WOMEN'S RESTROOM JANITOR'S CLOSET	FT-1 CONC	TB-1 RB-1	WT-1, PT-2 PT-1_FRP-1	PFT-1 -	FRP WALL PROTECTION TO 4'-0" A F F	
222		00110	ı - ص . ا	· · ·, · · · ·		I ENGTH SHOWN IN FINISH PLANS	
223 223	MAIL ROOM	CPT_1	RR_1	PT_1 PT_3			

	10 9	8			0	5 4 5	
ROOM NUMBER	ROOM NAME	FLOOR	BASE		CEILING	COMMENTS	ALL FINISH MATERIALS MOST MEET THE FLAME SPREAD RATINGS PER THE BUILDING CODE. PEEEP TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL
226	STEM LOUNGE	CPT-1, CPT-2	RB-1	PT-1	GB-2, PFT-1		2. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL LOCATIONS.
227	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		2. PAINT ALL EXPOSED DUCT WORK, CONDUTT, ELECTRICAL EQUIPMENT, ETC TO MATCH ADJACENT SURFACES.
228	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		 FAINT ALE NON-FACTOR FINISHED EXTOSED METAL. REFER TO TYPICAL FLOORING TRANSITION DETAILS FOR ALL FLOORING MATERIALS.
230	FACULTY OFFICE RECEPTION	CPT-1	RB-1	PT-1, PT-3	APC-1		 FLOORING TRANSITIONS AT DOORS SHOULD BE LOCATED UNDER THE DOOR IN THE CLOSED POSITION, UNLESS NOTED
231	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		OTHERWISE. 7. CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING
232	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL
233	OFFICE	CPT-1	RB-1 RB-1	PT-1, PT-3 PT-1, PT-3	APC-1 APC-1		 PROVIDE BULLNOSE TRIM AT TRANSITIONS FROM CERAMIC WALL THE TO OTHER MATERIAL, UNLESS NOTED OTHERWISE
235	DEAN'S OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		 9. REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS. 10. ALL ELECTRICAL DEVICE COVERS ARE TO BE WHITE UNLESS
236	CENTRAL CORRIDOR	LVT-1	MB-1	CP-1, CP-2, PT-1	APC-1, PAPC-1, PFT-1	1	NOTED OTHERWISE. 11. CARPET PATTERNS TO RUN PARALLEL TO CORRIDOR, UNLESS
237	BCS LEARNING SPACE #2	LVT-1	RB-1	PT-1, PT-2, WC-2	APC-1		NOTED OTHERWISE. 12. ALL HOLLOW METAL DOOR FRAMES TO BE PAINTED TO
238	STAIR 2	LVT-1, CONC**	MB-1	PT-1 (EXCEPT WEST WALL)*	GB-1, PFT-1	*WEST WALL OF STAIR PER BASE BID 3	MATCH ADJACENT WALL COLOR. 13. ALL VERTICAL DRYWALL SURFACES TO BE PAINTED PT-1,
						AND ALTERNATE NO. 2, REFER TO SHEET A453 FOR MORE	UNLESS OTHERWISE SPECIFIED ON PLAN. 14. U.N.O. ALL FLOOR TRANSITIONS VERTICAL.
						INFORMATION. **LVT-1@	15. RB-2 TO BE USED AS A BASE AT ALL CASEWORK, UNLESS NOTED OTHERWISE.
						CONCRETE FINISH @ ALL STAIR	
						TREADS AND INTERMEDIATE	
						RESISTIVE CONCRETE FINISH.	
239	PHYSIC AND ENGINEERING	LVT-1	RB-1,	PT-1, PT-2, WC-2	APC-1		
	LEARNING SPACE #1		RB-2				
300	CENTRAL CORRIDOR	LVT-1, LVT-2***	MB-1	PT-1 (EXCEPT WEST WALL)*	PFT-1, PAPC-1	*WEST WALL OF COMMUNITY	
	CIRCULATION					GATHERING SPACE PER BASE BID	
						SHEETS A245 AND A245.1 FOR MORE	
						INFORMATION. ***SEE ENLARGED LVT FLOOR PATTERN ON A901	
301	OPEN BCS COMPUTER ROOM	CPT-1	RB-1	PT-1, PT-3	APC-1		FINISH LEGEND(KEY):
302	BCS WORKROOM	CPT-2	RB-1	PT-1, PT-3	APC-1		FLOOR TRANSITION
303	BCS OFFICE	CPT-1	RB-1	PT-1	APC-1		DTL. NO./SHEET NO.
304	BCS COMPUTER ROOM #3	LVT-2 LVT-2	RB-1	PT-1, PT-2 PT-1, PT-2	APC-1 APC-1		
306	MATH & STATS COMPUTER	LVT-2	RB-1	PT-1, PT-2	APC-1		FINISH TAG
207	ROOM #5						WALL FINISH
307	STAIR T	LVI-I, CONC ^{***}	IVIB-1	PT-1 (EXCEPT EAST WALL)"	GB-1, PF1-1	AND ALTERNATE NO. 2, REFER TO	FLOOR FINISH FIXX-X
							REFER TO A901 FOR SPECIFIC FINISHES IN THE FINISH LEGEND
						MAIN STAIR LANDING ONLY. EXPOSED	
						CONCRETE FINISH @ ALL STAIR TREADS AND INTERMEDIATE	
						LANDINGS TO RECEIVE SLIP	
200						RESISTIVE CONCRETE	
308	MECHANICAL ROOM	CONC	RB-1	PT-1, PT3	APC-1, GB-1, PF1-1		
310	MATH LEARNING SPACE #8	LVT-2	RB-1	PT-1, PT-2	APC-1		
311	MATH LEARNING SPACE #7	LVT-2	RB-1	PT-1, PT-2	APC-1		
312	MATH LEARNING SPACE #6	LVT-2	RB-1	PT-1, PT-2	APC-1		
313	IT	CONC	RB-1	PT-1	-		
315	ELEV	LVT-2	MB-1	LAM-1	-		
317	MEN'S RESTROOM	FT-1	TB-1	WT-1, PT-2	PFT-1		
318	JANITOR'S CLOSET	CONC	 RB-1	PT-1, FRP-1	-	FRP WALL PROTECTION TO 4'-0" A.F.F.	
						LENGTH SHOWN IN FINISH PLANS	
320		CONC	RB-1	PT-1		1	
321	BREAK ROOM	LVT-2	RB-1.	PT-1 PT-1, PT-3	GB-2, PF1-1 GB-1, PFT-1	<u> </u>	
			RB-2	,		· · · · · · · · · · · · · · · · · · ·	
323	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		
324	OFFICE	CPT-1	RB-1	PT-1, PT-3 PT-1, PT-3	APC-1 APC-1		
326	SHARED OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		
327	OFFICE	CPT-1	RB-1	PT-1, PT-3	APC-1		
328	OFFICE	CPT-1	RB-1 RB-1	PT-1, PT-3 PT-1, PT-3	APC-1 APC-1		
330	SHARED OFFICE	CPT-2	RB-1	PT-1, PT-3	APC-1		
331	CENTRAL CORRIDOR	LVT-1	MB-1	CP-1, CP-2, PT-1	APC-1, PAPC-1,	1	
332	BCS LEARNING SPACE #3	LVT-1	RB-1	PT-1. PT-2	APC-1		
333	STAIR 2	LVT-1**	MB-1	PT-1 (EXCEPT WEST WALL)*	GB-1, PFT-1	*WEST WALL OF STAIR PER BASE BID 1, 3	
						AND ALTERNATE NO. 2, REFER TO SHEET A453 FOR MORE	
						INFORMATION. **LVT-1@	
						CONCRETE FINISH @ ALL STAIR	
						TREADS AND INTERMEDIATE	
						RESISTIVE CONCRETE	
334	BCS LEARNING SPACE #4	LVT-1	RB-1	PT-1, PT-2	APC-1		
						REFER TO REVISION COLUMN FOR ANY CHANGES	
	10 9			7	6		

REFER TO INTERIOR ELEVATIONS FOR SPECIFIC	C MATERIAL
PAINT ALL EXPOSED DUCTWORK, CONDUIT, E EQUIPMENT, ETC TO MATCH ADJACENT SURF	LECTRICAL ACES.
PAINT ALL NON-FACTORY FINISHED EXPOSED REFER TO TYPICAL FLOORING TRANSITION DE FLOORING MATERIALS.	METAL. TAILS FOR ALL
LOORING TRANSITIONS AT DOORS SHOULD I JNDER THE DOOR IN THE CLOSED POSITION, DTHERWISE.	BE LOCATED UNLESS NOTED
CONTRACTOR WILL BE RESPONSIBLE FOR PRC FINISHED FLOORING SURFACES FROM DAMAG	DTECTING GE DURING ALL
PROVIDE BULLNOSE TRIM AT TRANSITIONS FF WALL TILE TO OTHER MATERIAL, UNLESS NOT REFER TO REFLECTED CEILING PLANS FOR CEIL ALL ELECTRICAL DEVICE COVERS ARE TO BE W	ROM CERAMIC ED OTHERWISE LING HEIGHTS. 'HITE UNLESS
NOTED OTHERWISE. CARPET PATTERNS TO RUN PARALLEL TO COR NOTED OTHERWISE	RIDOR, UNLESS
ALL HOLLOW METAL DOOR FRAMES TO BE PA	AINTED TO
ALL VERTICAL DRYWALL SURFACES TO BE PAII JNLESS OTHERWISE SPECIFIED ON PLAN. J.N.O. ALL FLOOR TRANSITIONS VERTICAL.	NTED PT-1,
RB-2 TO BE USED AS A BASE AT ALL CASEWOR NOTED OTHERWISE.	K, UNLESS
FINISH LEGEND(KE	Y):
OOR TRANSITION	
	DIE. NO./SHEET N
	\//·XX_X
CEILING FINISH	
BASEBOARD FINISH FER TO A901 FOR SPECIFIC FINISHES IN THE F	B:XX-X
FINISH MATERIAL LEG	END:
LVT-1	
LVT-2	
CPT-1	
CPT-2	
ET_1	
CONC	

FINISH NOTES:

—X—

DTL. NO./SHEET NO.

W:XX-X

C:XX-X

F:XX-X

B:XX-X

18 17 16 15	14 13	12 11 10	9 8	7 6 5	4 3 2
			SPLIT SYSTEM	AC UNIT SCHEDULE	
	LOCATI	ON INDOOR UNIT CFM AMP- UNIT UNIT FLA FAN MOTOR OUT- PLIT	INDOOR IN- UNIT DOOR "DAIKIN" CO WT. MTG. UNIT CA	TAL DOL. MIN. FAN AP. ACITY FLA FAN DUT. RLA LRA MOCP VOLT/ PLIT RLA LRA BOCP VOLT/ PHASE RL RS	OUTDOOR OUT- UNIT DOOR SEER WT. MTG. NOTES
P	1ST FLC IT ROC	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	(LBS.) DTL. OTH BT 40 4 RKS36LVJU SCU 36,	TUH 19.7 200 WATTS 18.9 20 208V, 1 PH. 3/8" 5/8"	(LBS.) DTL. 17.9 180 3 M501 1, 2, 3, 4, 5, 6
	2ND FLC IT ROC	$\begin{array}{c c} OOR\\ M \end{array} FTXS36LVJU \overbrace{2.1}^{SAC} 770 0.37 \overbrace{WATTS}^{64} 24V \end{array}$	40 4 RKS36LVJU SCU 2.1 36,	5,000 19.5 0.39 200 18.9 20 208V, 1 PH. 3/8" 5/8"	17.9 180 <u>3</u> M501 1, 2, 3, 4, 5, 6
Ν	3RD FLC IT ROC	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	40 4 RKS36LVJU SCU 3.1 36,	5,000 19.5 0.39 200 18.9 20 208V, 1 PH. 3/8" 5/8"	17.9 180 <u>3</u> M501 1, 2, 3, 4, 5, 6
	NOTES	 PROVIDE ALL INDOOR UNITS WITH THERMOSTAT, HARD WIRED, WALL MOUNTE COOLING CAPACITY RATED AT 80 DEGREES F DB / 67 DEGREES F WB NDOOD AND AND 05 DECREES F DB / 75 DECREES F WB OUTDOOD AND 	ED. 4. PROVIDE WITH 'GOBI' CONDENSAT 16 WATTS, 120V, 1 PH., 60 HZ., AL SECURE PUMP BACK PLATE TO B	TE PUMP, 2 GPM @ 20 FT./HD WITH GRAVITY HORIZONTAL, 6. TH _ARM RELAY 5 AMPS, 30 VDC, 250 VAC BREAK ON FAULT. A BLOCKING IN WALL WITH (3) - 3/16" DIA. TEK SCREWS	ERMOSTAT SHALL BE SET TO 80 DEG. F. SPLIT SYSTEMS OPERATE S A BACKUP TO THE BUILDING AHU SYSTEMS.
		 FOR CONTROL DIAGRAM SEE 4 4	AND PLACE PUMP ON THE MOUN 5. PROVIDE 208V, 1 PH. TO THE OUT PROVIDE SEPARATE 120V TO IND	NTING POSTS. TDOOR UNIT, FROM OUTDOOR UNIT PROVIDE 24V TO INDOOR UNIT, DOOR UNIT FOR CONDENSATE PUMP.	
M					
	DIFFUSER, REGI SYMBOL DESCRIPTION	STER & GRILLE SCHEDULE METALAIRE NAILOR TITUS TUTTLE & BAILEY	"GREENHECK"	EXHAUST FAN SCHEDULE	OPER
	CD MODULAR CORE SURFACE MOUNT CEILING DIFFUSER 1240 ERAME 21 - 1-1/4"	9000-2 7500-S MCD SQD-SB	UNIT LOCATION MODEL NO.	CFM (IN. W.G.) DUTY STYLE RPM HP VOLT/PH SONES	WT. (LBS.) DETAIL CONTROL DIAGRAM NOTES
	CDL MODULAR CORE LAY-IN CEILING DIFFUSER FOR 1240		RESTROOMS G-143-VG	1650 0.50" E RE 1180 0.5 120V, 1 PH. 9.8 250 0.50" E RE 1120 0.25 120V, 1 PH. 5.3	50 M501 M602 1, 2 35 2 1 1, 3
	T-BAR CEILING 24x24 FRAME 23 PANEL FRAME 23	BORDER TYPE 3	1.2 ELEC. ROOM REF ENGINEERING 1.3 SHOP G-103-VG	500 0.75" E RE 1390 0.25 120V, 1 PH. 6.2	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
	EXHAUST WITH 1/2" EGG CRATE CORE SURFACE MOUNT	CC5D 61 EC-S MODEL 50 F CRE500-SF BORDER TYPE 1	REF 1.4 ENGINEERING SHOP G-103-VG	500 0.75" E RE 1390 0.25 120V, 1 PH. 6.2	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
K	CRL CEILING RETURN WITH 1/2" EGG CRATE CORE IN 24x24 PANEL FOR EGC-5TB	CC5D-TBD 61 EC-L MODEL 50 F BORDER TYPE 3 CRE500-LT	REF 2.12ND FLOOR RESTROOMS & J.C.G-133-VG	1200 0.50" E RE 1140 0.25 120V, 1 PH. 8.7	45 2 1, 2 M501 1, 2
	T-BAR CEILING S * DOUBLE DEFLECTION S		REF 2ND FLOOR G-098-VG	250 0.50" E RE 1120 0.25 120V, 1 PH. 5.3	35 2 M501 1 M603 1, 3
L	VERTICAL FRONT BARS, 3/4" SPACING	V 4004 S 61 DV 300 RS T54	REF 3RD FLOOR RESTROON & J.C. G-143-VG	1350 0.50" E RE 1030 0.5 120V, 1 PH. 7.8	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
	R & E RETURN OR EXHAUST GRILLE WITH 35 DEGREE OR 45 S 80 H DEGREE HORIZONTAL BARS.	SRH 7145 H 350 RL T70D	G-095-VG	250 0.375" E RE 1150 0.167 120V, 1 PH. 5.4	50 2 1, 3 M501 M603 1, 3
	NOTES: 1. ALL SYMBOLS NOTED MAY NOT BE USED. REFER TO PLANS FOR SIZE AND QUANTITY. 2. ALL SUPPLY AIR DIFFUSERS ARE 4 WAY BLOW	 COORDINATE DIFFUSER TYPE WITH REFLECTED CEILING PLAN. OPPOSED BLADE DAMPERS ARE NOT 	DUTY: S-SUPPLY, R-RETURN, E-EXHAUST, C-CIRCI STYLE: RE-ROOF EXHAUST, WE-WALL EXHAUST, CE-C	CULATION CEILING	
н	3. FURNISH ALL PRODUCTS OF A SINGLE	REQUIRED AT DIFFUSERS, REGISTERS OR GRILLES.	NOTES: 1. PROVIDE WITH BACKDRAFT DAMPER & MFR'S 2. INTERLOCK W/ AHU SERVING FLOOR. 3. CONTROL FAN W/ ROOM TEMPERATURE SENS	S MIN. 14" TALL ROOF CURB.	
	ALUMINUM REGISTERS * FOR SHOWERS AND DAMP AREAS	BRANCH DUCT TO A SINGLE DIFFUSER, REGISTER OR GRILLE.	4. CONTROL W/ WALL SWITCH.		
G		AIR SEPARATOR			
		AS MECH. RM. VDN-500-FA 19.8	(GPM) WT. DETAIL NOTES	UNIT LOCATION MODEL GPM FT. HD. HP	RPM VOLT / PHASE OFFIC: WT (LBS) MOUNTING DETAIL CONTROL DIAGRAM NOTES
F		1 112 AS MECH. RM. VDN-400-FA 6.6 2 112 VDN-400-FA 6.6	225 240 (7 M502) 1	CHWP 1ST FLOOR E-1510 290 GPM 70 FT.HD. 10 1 MECH. RM. 2.5BB 290 GPM 70 FT.HD. 10 CHWP 1ST FLOOR E-1510 290 GPM 70 FT.HD. 10	1750 460V, 3 PH. 390 7 1 1, 2
		NOTES:		2 MECH. RM. 2.5BB 290 GPM 70 FT.HD. 10 HHWP 1ST FLOOR E-1510 90 GPM 90 FT.HD. 5	1750 460V, 3 PH. 390 M501 M605 1, 2 1750 460V, 3 PH. 230 7 2 1, 3
		1. PROVIDE W/ FLANGED PIPING CONNECTIONS & MOUNTING BRACKE	T ASSEMBLY.	1 MECH. RM. 1.5BC 000000000000000000000000000000000000	M501 M605 1750 460V, 3 PH. 230 7 2 1, 3
<u>E</u>				NOTES:	
				 PROVIDE PUMPS WITH VFD. CHW DESIGN SYSTEM FLOW RATE = 435 GPM. PUMPS SELECTED AT 2/3 FULL FLOW = 290 BOTH PUMPS SERVE 1/2 FULL CAPACITY DURING 100% LOAD = 217.5 GPM.) GPM.
				3. HHW DESIGN SYSTEM FLOW RATE = 135 GPM. PUMPS SELECTED AT 2/3 FULL FLOW = 90 BOTH PUMPS SERVE 1/2 FULL CAPACITY DURING 100% LOAD = 67.5 GPM.	GPM.
<u>D</u>					
<u>c</u>					
B					
Α					

	SPLIT SYSTEM AC UNIT SCHEDULE																								
LOCATION	"DAIKIN" INDOOR UNIT	UNIT	CFM	MIN. AMP- ACITY	FAN MOTOR FLA	FAN MOTOR OUT- PUT	VOLT	INDOOR UNIT WT. (LBS.)	IN- DOOR MTG. DTL.	"DAIKIN" OUTDOOR UNIT	UNIT	TOTAL COOL. CAP. BTUH	MIN. AMP- ACITY	FAN MOTOR FLA	FAN MOTOR OUT- PUT	COMPR RLA	LRA	MOCP	VOLT/ PHASE	PIPI RL	ING RS	SEER	OUTDOOR UNIT WT. (LBS.)	OUT- DOOR MTG. DTL.	NOTES
1ST FLOOR IT ROOM	FTXS36LVJU	SAC 1.1	770		0.37	64 WATTS	24V	40	4 M501	RKS36LVJU	SCU 1.1	36,000	19.5	0.39	200 WATTS	18.9		20	208V, 1 PH.	3/8"	5/8"	17.9	180	3 M501	1, 2, 3, 4, 5, 6
2ND FLOOR IT ROOM	FTXS36LVJU	SAC 2.1	770		0.37	64 WATTS	24V	40	4 M501	RKS36LVJU	SCU 2.1	36,000	19.5	0.39	200 WATTS	18.9		20	208V, 1 PH.	3/8"	5/8"	17.9	180	3 M501	1, 2, 3, 4, 5, 6
3RD FLOOR IT ROOM	FTXS36LVJU	SAC 3.1	770		0.37	64 WATTS	24V	40	4 M501	RKS36LVJU	SCU 3.1	36,000	19.5	0.39	200 WATTS	18.9		20	208V, 1 PH.	3/8"	5/8"	17.9	180	3 M501	1, 2, 3, 4, 5, 6
									·																

UNIT	LOCATION SERVED	"GREENHECK" MODEL NO.	CFM	SP (IN. W.G.)	DUTY	STYLE	RPM	HP	VOLT/PH	SONES	OPER. WT. (LBS.)	MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
REF 1.1	1ST FLOOR RESTROOMS & J.C.	G-143-VG	1650	0.50"	E	RE {	1180	0.5		9.8	50	2 M501	1 M602	1, 2
REF 1.2	1ST FLOOR ELEC. ROOM	G-098-VG	250	0.50"	E	RE	1120	0.25	120V, 1 PH.	5.3	35	2 M501	1 M603	1, 3
REF 1.3	ENGINEERING SHOP	G-103-VG	500	0.75"	E	RE	1390	0.25	120V, 1 PH.	6.2	35	2 M501	1 M603	1, 4
REF 1.4	ENGINEERING SHOP	G-103-VG	500	0.75"	E	RE	1390	0.25	120V, 1 PH.	6.2	35	2 M501	1 M603	1, 4
REF 2.1	2ND FLOOR RESTROOMS & J.C.	G-133-VG	1200	0.50"	E	RE	1140	0.25	120V, 1 PH.	8.7	45	2 M501	1 M602	1, 2
REF 2.2	2ND FLOOR ELEC. ROOM	G-098-VG	250	0.50"	E	RE	1120	0.25	120V, 1 PH.	5.3	35	2 M501	1 M603	1, 3
REF 3.1	3RD FLOOR RESTROON & J.C.	G-143-VG	1350	0.50"	E	RE	1030	0.5	120V, 1 PH.	7.8	45	2 M501	1 M602	1, 2
REF 3.2	3RD FLOOR ELEC. ROOM	G-095-VG	250	0.375"	E	RE	1150	0.167	120V, 1 PH.	5.4	50	2 M501	1 M603	1, 3
LEGEND														



