AES International Inc.

LIMITED ENVIRONMENTAL SURVEY FOR LEAD BASED PAINTED (LBP) COMPONENTS IN THE BATHROOM AREAS IN CAMP SANTIAGO, SALINAS, PUERTO RICO

Prepared For:
Puerto Rico National Guard



Ocrober 2024

Analytical Environmental
Services International, Inc.
611 Monserrate Street
2nd Floor, Santurce, PR 00907
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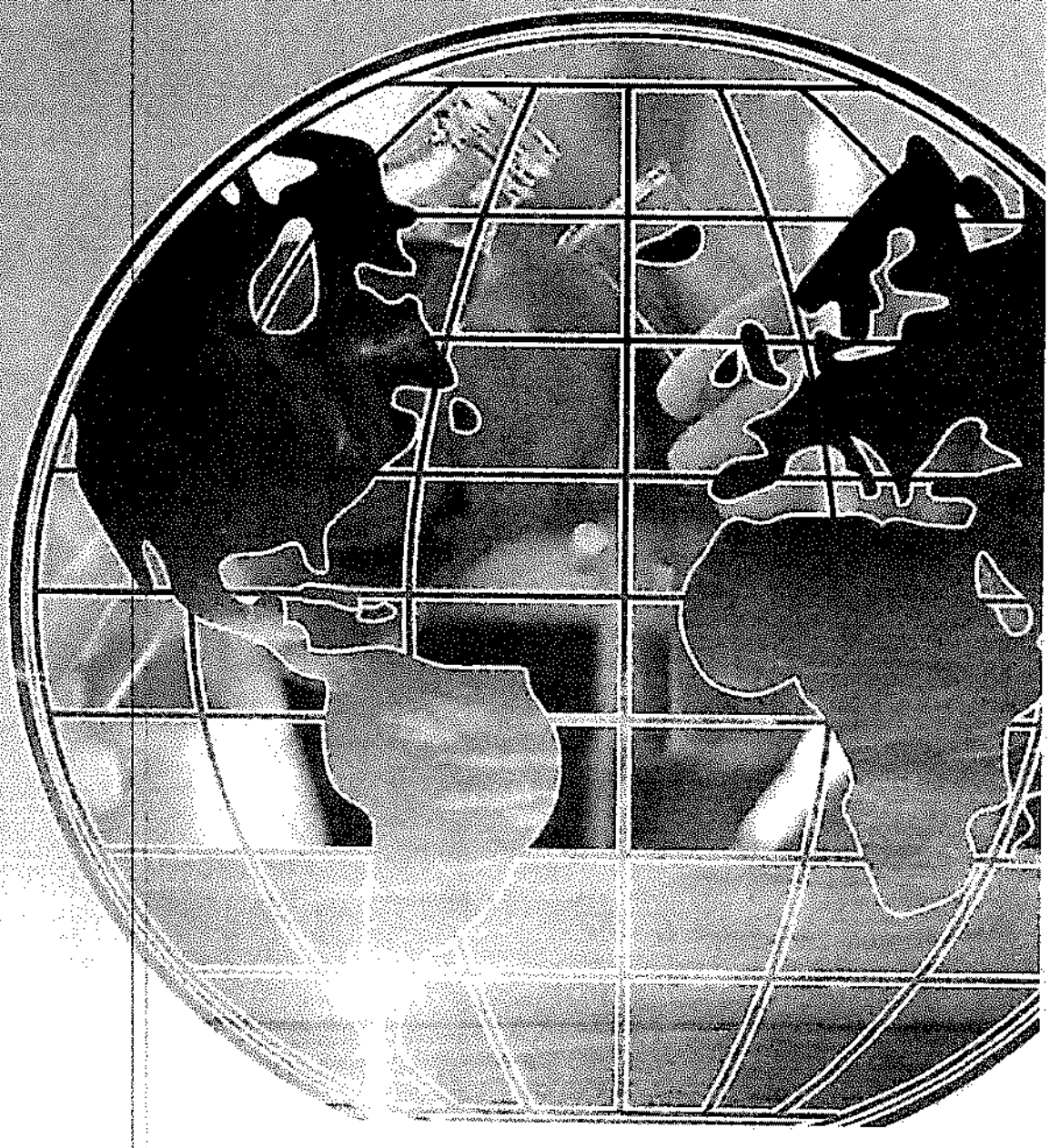
AES International Inc.

LEAD



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I. SUMMARY

AES International was contracted to perform a selective LBP survey for the bathroom areas of three (3) buildings (16, 199, 763), located in Camp Santiago, Salinas, Puerto Rico.

The LBP investigation was conducted on 09/25/2024 by Elme Rivera, DRNA/EPA Certified LBP Risk Assessor.

The following components were found to be painted with LBP:

Room	Substrate	Color	Component & Location	Quantity
Building 16				
Men's bathroom				
	Ceramic	Cream	Lower Wall A	420 sq. ft
	Ceramic	Cream	Lower Wall B	
	Ceramic	Cream	Lower Wall C	
	Ceramic	Cream	Lower Wall D	
Men's bathroom 1 - 4				
	Ceramic	Cream	Lower Wall B	

*Quantities presented are approximate estimates.

If demolition, or renovation activities, are conducted in the nearest future it is recommended to establish a lead hazard control strategy that will account for the potential LBP risks present in the site.

1.0 INTRODUCTION

AES International was contracted to perform a selective LBP survey for the bathroom areas of three (3) buildings (16, 199, 763), located in Camp Santiago, Salinas, Puerto Rico.

The LBP investigation was conducted on 09/25/2024 by Elme Rivera, DRNA/EPA Certified LBP Risk Assessor. The credentials of AESI are attached in Appendix I. The survey was performed with an XRF instrument SciAps, Model X-550 (serials 01771 and 02528) manufactured by SciAps. The survey was conducted using HUD protocol of 1997, revised in 2012.

2.0 TESTING PROCEDURES

The testing was performed with an XRF instrument manufactured by SciAps, Model X-550 (see PCS in Appendix II). The selected mode allows reference to the abatement level set at 1.0 mg/cm^2. The results are reported at 95% confidence levels.

3.0 LEAD BASED PAINT TESTING METHODOLOGY

The hazard level of lead in paint has been determined by the department of Housing & Urban development as 1.0 mg/cm^2, as measured by XRF, or AAS (Atomic Absorption Spectroscopy), or 0.5% be weight (or 5000 ppm) as measured by AAS, or Inductive Coupled Plasma (ICP). The same level was adopted by EPA regulations published in 1992, under Title X.

The only lead based paint testing protocol officially available at this time was published by HUD initially in 1990, revised in 1991 and finalized in 1995 (see above HUD reference). A revised chapter 7 was published in 1997 and 2012. In accordance with the new protocol, almost all surfaces present in the units must be tested. The above guidelines were used to perform lead based paint testing for this project.

The main steps involved in a single-family inspection are:

1. Perform inventory of all testing combinations;
2. Select painted area to be tested;
3. Perform XRF testing (including calibration checks);
4. Collect and analyze paint chip samples, for inconclusive results;
5. Classify XRF and paint chips results;
6. Review and evaluate the data;
7. Report findings.

AES International personnel classify each XRF lead reading as positive, negative, or inconclusive. This classification is based on manufacturer XRF performance characteristic sheet (PCS), for each substrate. Samples and/or additional readings are taken from inconclusive areas. Calibration

verification of the instrument was performed prior to beginning of daily task, when the instrument was turned on, and at the end of the day. The verification was conducted on a NIST standard of 1.0 mg/cm^2. Acceptance criteria used was +-0.3 mg/cm^2. The data for calibration verification is attached in Appendix III.

The structures were divided into room equivalents and labeled accordingly (see Appendix III). One testing combination of similar components and four walls were tested for each room equivalent.

The identification of tested walls is based on HUD guidelines as follows:

Wall A - Entrance wall.
Walls B, C, and D - Sequential walls, clockwise from Wall A.

4.0 RESULTS

The results of the tested components are shown in Appendix III. One hundred and forty-eight (148) XRF readings were taken. LBP components were detected and presented herein.

5.0 CONCLUSIONS

An LBP survey was conducted for the bathroom areas of three (3) buildings (16, 199, 763), located in Camp Santiago, Salinas, Puerto Rico. LBP findings are presented herein.

Some painted surfaces may contain levels of lead below 1.0 mg/cm^2, which could create lead dust, or lead contaminated soil hazards if the paint is turned into dust by abrasion, scraping, or sanding.

This report shall be kept by the owner and all future owners. A copy of the relevant report shall be given to each tenant, buyer or lessor, to comply with federal requirements for disclosure under the lead disclosure rule of 1996 (see also section 1018 of Title X). The LBP survey relates to surfaces accessible and not covered by rigid barriers. Should any hidden painted surfaces or components be present, they must be assumed as LBP. Reported results are valid for the day of testing indicated in the reports. According to DNRA the LBP study is valid for a period of five years.

Elme Rivera
Lead Risk Assessor
DRNA Lic# LBPRA-21223-234

GOBIERNO DE PUERTO RICO
OFICINA DEL GOBERNADOR
JUNTA DE CALIDAD AMBIENTAL

OGPe
Oficina de Gerencia de Permisos

Área de Calidad de Agua

Forma PGC -010

CERTIFICACION DE NO PRESENCIA DE PINTURA CON BASE DE PLOMO EN ESTRUCTURAS A DEMOLERSE

(Deberá completarse en letra de molde o impresa)

PGC-_____
PARA USO OFICIAL

Yo, Elme Rivera (Inspector o Evaluador de Riesgos), mayor de edad, casado (Estado Civil), y vecino de Vega Baja (Municipio)

Dirección Postal Vega Baja Lakes Calle 11 L31 Vega Baja (Pueblo) 00693 (Zip Code)

Teléfonos: Residencial (939) 969 - 1311 Oficina (787) ___ - ___ Ext.___
Fax (787) 724 - 5788

Certifico que:

1. Estoy certificado por la Junta de Calidad Ambiental como (☐Inspector / ☒ Evaluador de Riesgos) con Número de Certificación LBPRA-21722-207, la cual se encuentra vigente.
2. La estructura localizada en Bathroom areas of three (3) buildings (16, 199, 763), in Camp Santiago, Salinas, Puerto Rico., la cual será objeto de una demolición se encuentra libre de pintura con base de plomo.
3. La información antes indicada es cierta y correcta.
4. Afirmo y reconozco las consecuencias de incluir y someter información falsa en este documento.
5. Para que así conste, firmo la presente certificación en San Juan (Municipio) de Puerto Rico, hoy día 25 de septiembre de 2024

* Esta certificacion es exclusivamente para las areas muestreadas.

_____
Firma del Inspector o Evaluador de Riesgos (en original)

Nota : Deberá someter evidencia de la tarjeta o certificado provista por la JCA.

Dirección Física: Ave. Ponce de León 1308, Carr. Estatal 8838, Sector el Cinco, Río Piedras, PR 00926
Dirección Postal: Apartado 11488, Santurce, PR 00910488
Tel. (787) 767-8181 • Fax (787) 7671962

PUERTO RICO VERDE

AES International Inc.

Appendix I



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Analytical Environmental Services International, Inc.

611 Monserrate St. Suite 2 Santurce, PR 00907

Laboratory ID: LAP-102702

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

☑	INDUSTRIAL HYGIENE	Accreditation Expires: July 01, 2025
☑	ENVIRONMENTAL LEAD	Accreditation Expires: July 01, 2025
☐	ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires:
☐	FOOD	Accreditation Expires:
☐	UNIQUE SCOPES	Accreditation Expires:
☐	BERYLLIUM FIELD/MOBILE	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Cheryl O. Morton

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision21: 05/15/2023

Date Issued: 07/01/2023

United States Environmental Protection Agency

This is to certify that

AES International, Inc.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint renovation, repair, and painting activities pursuant to 40 CFR Part 745.89

In the Jurisdiction of:

All EPA Administered States, Tribes, and Territories

This certification is valid from the date of issuance and expires November 15, 2025

NAT-87801-3

Certification #

September 04, 2020

Issued On

Michelle Price

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

GOBIERNO DE PUERTO RICO

Departamento de Recursos Naturales y Ambientales

Este certificado es otorgado a:

Analytical Environmental Services International (AESI)

Por haber cumplido con los requisitos establecidos en el Capítulo VI, Regla 127 del Reglamento para el Manejo Adecuado de Actividades de Pintura con Base de Plomo. Se le otorga esta certificación como Firma para llevar a cabo actividades relacionadas a Mitigación de Pintura con base de plomo en la jurisdicción de Puerto Rico.

Número de Certificado

LBPF-08024-014

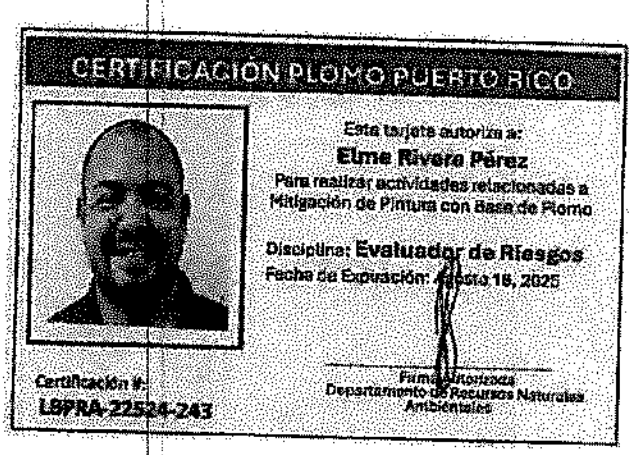
Fecha de emisión: Abril 6, 2024

Fecha de Expiración: Abril 5, 2025

DRNA

José Roque Julià
Jefe
División Desperdicios Tóxicos

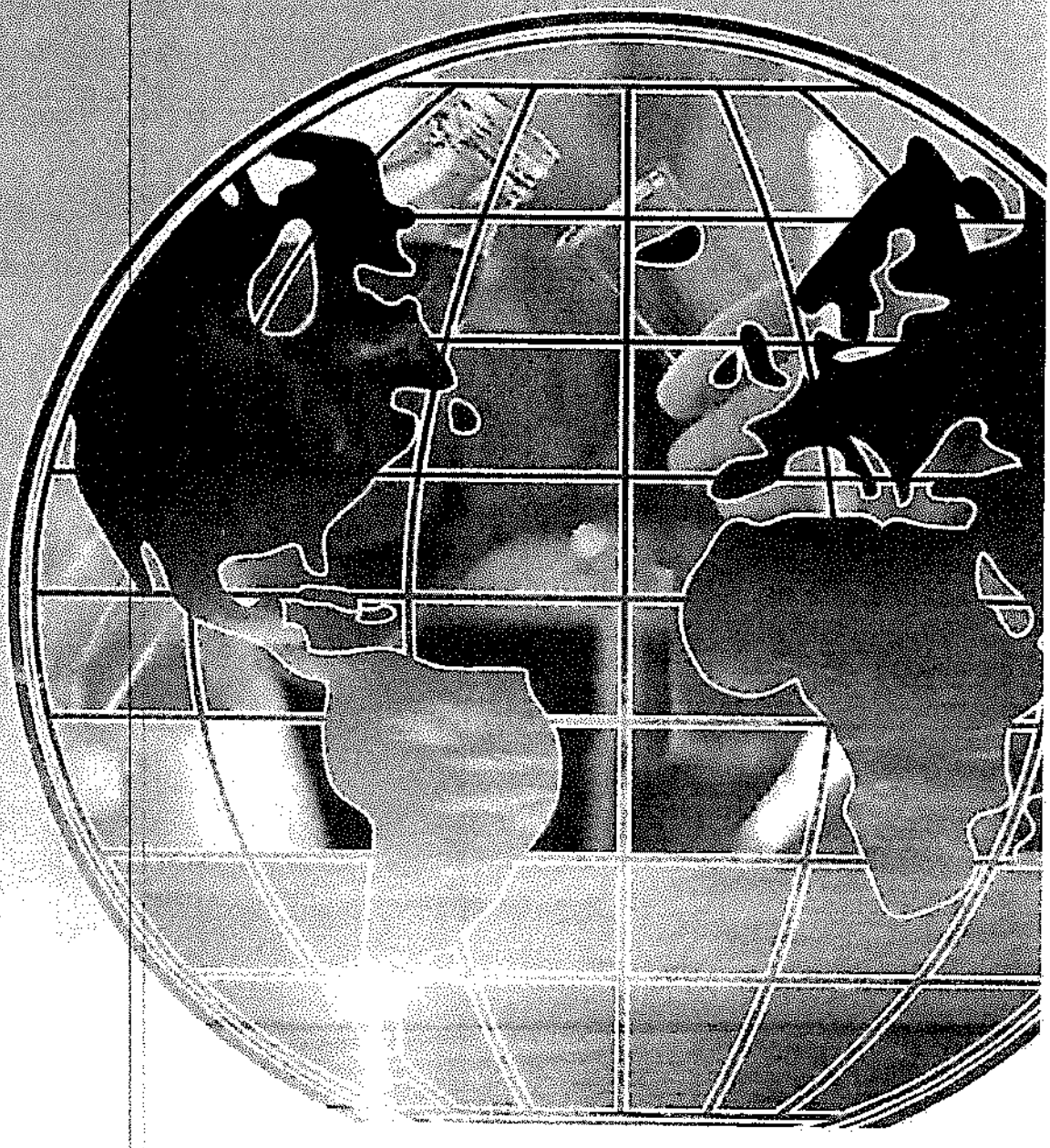
DRNA Lead Inspector Credential





AES International Inc.

Appendix II



Performance Characteristic Sheet

EFFECTIVE DATE: **February 1, 2022**

MANUFACTURER AND MODEL:

Make: ***SciAps***
Models: ***Model X-550***
X-Ray Source: ***Rhodium (Rh) or Gold (Au) Anode***

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING:

1.0 mg/cm²

OPERATING PARAMETERS:

Timed mode: fixed 10-second reading.

Quick mode: variable-time reading (approximately 2-6 seconds).

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

Au Anode (quick) READING DESCRIPTION	**SUBSTRATE**	**THRESHOLD (mg/cm²)**
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	1.0 1.0 1.0 1.0 1.0 1.0
Rh Anode (Timed or Quick), Au Anode (Timed) READING DESCRIPTION	**SUBSTRATE**	**THRESHOLD (mg/cm²)**
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	0.9 0.9 0.9 0.9 0.9 0.9

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Edition ("HUD Guidelines"). Performance parameters shown on this sheet are calculated using test results on building components in the HUD archive. Testing was conducted on 146 test samples in February 2022, with two separate instruments of each Anode type, operated in both Timed and Quick modes.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below. Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this

procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

The reading time in Archive tests was 10 seconds in Timed mode and from 2-6 seconds in Quick mode, for both the Rh Anode and Au Anode.

CLASSIFICATION OF RESULTS:

XRF results for the Au Anode in Quick mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and ***negative*** if they are ***less than*** *to* 1.0 mg/cm². XRF results for the Au Anode in Timed mode and for the Rh Anode in Timed or Quick mode are classified as **positive** if they are **greater than or equal** to 0.9 mg/cm² and ***negative*** if they are ***less than*** *to* 0.9 mg/cm²

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. The report may be downloaded at http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997.

AES International Inc.

Appendix III



ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate Street, 2nd Floor, Santurce, Puerto Rico 00907

LEAD BASED PAINT TESTING DATA SHEET

Client Name: **Puerto Rico National Guard**
Project Name: LBP Survey for Bathrooms of Buildings 16, 199, 763
Address: Salinas, Puerto Rico

Date: 9/25/24
Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
1					Calibration	1.1
2					Calibration	1.0
3					Calibration	0.9
4	Building No. 16	Women's Bathroom	Wood	Brown	Door Frame	0.1
5	Building No. 16	Women's Bathroom	Wood	Brown	Door	0.1
6	Building No. 16	Women's Bathroom	Concrete	Gray	Upper Wall A	0.3
7	Building No. 16	Women's Bathroom	Concrete	Gray	Upper Wall B	0.1
8	Building No. 16	Women's Bathroom	Concrete	Gray	Upper Wall C	0.2
9	Building No. 16	Women's Bathroom	Concrete	Gray	Upper Wall D	0.1
10	Building No. 16	Women's Bathroom	Concrete	Gray	Ceiling	0.2
11	Building No. 16	Women's Bathroom	Ceramic	Lt. Brown	Lower Wall A	0.1
12	Building No. 16	Women's Bathroom	Ceramic	Lt. Brown	Lower Wall B	0.1
13	Building No. 16	Women's Bathroom	Ceramic	Lt. Brown	Lower Wall C	0.2
14	Building No. 16	Women's Bathroom	Ceramic	Lt. Brown	Lower Wall D	0.1
15	Building No. 16	Women's Bathroom	Concrete	White	Floor Tiles	0.3

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

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Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
16	Building No. 16	Women's Bathroom	Ceramic	White	Sink	0.1
17	Building No. 16	Women's Bathroom	Ceramic	White	Toilet	0.2
18	Building No. 16	Women's Bathroom	Ceramic	White	Toilet Tank	0.3
19	Building No. 16	Women's Bathroom	Concrete	Gray	Window Sill	0.1
20	Building No. 16	Women's Bathroom	Metal	White	Window	0.2
21	Building No. 16	Women's Bathroom, Toilets 1-4	Wood	Brown	Door Frame	0.3
22	Building No. 16	Women's Bathroom, Toilets 1-4	Wood	Brown	Door	0.1
23	Building No. 16	Women's Bathroom, Toilets 1-4	Concrete	Gray	Upper Wall B	0.2
24	Building No. 16	Women's Bathroom, Toilets 1-4	Concrete	Gray	Upper Wall C	0.1
25	Building No. 16	Women's Bathroom, Toilets 1-4	Concrete	Gray	Upper Wall D	0.1
26	Building No. 16	Women's Bathroom, Toilets 1-4	Ceramic	Lt. Brown	Lower Wall B	0.3
27	Building No. 16	Women's Bathroom, Toilets 1-4	Ceramic	Lt. Brown	Lower Wall C	0.1
28	Building No. 16	Women's Bathroom, Toilets 1-4	Ceramic	Lt. Brown	Lower Wall D	0.2
29	Building No. 16	Women's Bathroom, Toilets 1-4	Ceramic	White	Floor Tiles	0.1
30	Building No. 16	Men's Bathroom	Wood	Brown	Door Frame	0.1

Approved By: Ady Padan Ph.D.

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Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
31	Building No. 16	Men's Bathroom	Wood	Brown	Door	0.2
32	Building No. 16	Men's Bathroom	Concrete	Gray	Upper Wall A	0.1
33	Building No. 16	Men's Bathroom	Concrete	Gray	Upper Wall B	0.2
34	Building No. 16	Men's Bathroom	Concrete	Gray	Upper Wall C	0.1
35	Building No. 16	Men's Bathroom	Concrete	Gray	Upper Wall D	0.2
36	Building No. 16	Men's Bathroom	Concrete	Gray	Ceiling	0.1
37	Building No. 16	Men's Bathroom	Ceramic	Cream	Lower Wall A	**1.3**
38	Building No. 16	Men's Bathroom	Ceramic	Cream	Lower Wall B	**1.3**
39	Building No. 16	Men's Bathroom	Ceramic	Cream	Lower Wall C	**1.4**
40	Building No. 16	Men's Bathroom	Ceramic	Cream	Lower Wall D	**1.2**
41	Building No. 16	Men's Bathroom	Ceramic	White	Floor Tiles	0.1
42	Building No. 16	Men's Bathroom	Ceramic	White	Toilet (4)	0.2
43	Building No. 16	Men's Bathroom	Ceramic	White	Toilet Tank (4)	0.1
44	Building No. 16	Men's Bathroom	Ceramic	White	Sink	0.1
45	Building No. 16	Men's Bathroom	Ceramic	White	Urinal	0.2

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

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Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
46	Building No. 16	Men's Bathroom	Concrete	Gray	Window Sill	0.1
47	Building No. 16	Men's Bathroom	Metal	White	Window	0.2
48	Building No. 16	Men's Bathroom 1-4	Wood	Cream	Door Frame	0.1
49	Building No. 16	Men's Bathroom 1-4	Wood	Cream	Door	0.1
50	Building No. 16	Men's Bathroom 1-4	Concrete	Gray	Upper Wall B	0.2
51	Building No. 16	Men's Bathroom 1-4	Concrete	Gray	Upper Wall C	0.3
52	Building No. 16	Men's Bathroom 1-4	Concrete	Gray	Upper Wall D	0.1
53	Building No. 16	Men's Bathroom 1-4	Ceramic	Cream	Lower Wall B	**1.4**
54	Building No. 16	Men's Bathroom 1-4	Ceramic	Lt. Brown	Lower Wall C	0.1
55	Building No. 16	Men's Bathroom 1-4	Ceramic	Lt. Brown	Lower Wall D	0.2
56	Building No. 16	Men's Bathroom, Toilets 1 - 4	Ceramic	Lt. Brown	Baseboard	0.3
57	Building No. 199	Women's Bathroom 1	Metal	Brown	Door Frame	0.1
58	Building No. 199	Women's Bathroom 1	Metal	Brown	Door	0.2
59	Building No. 199	Women's Bathroom 1	Concrete	Green	Upper Wall A	0.1
60	Building No. 199	Women's Bathroom 1	Concrete	Green	Upper Wall B	0.3

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Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
61	Building No. 199	Women's Bathroom 1	Concrete	Green	Upper Wall C	0.3
62	Building No. 199	Women's Bathroom 1	Concrete	Green	Upper Wall D	0.1
63	Building No. 199	Women's Bathroom 1	Concrete	White	Ceiling	0.2
64	Building No. 199	Women's Bathroom 1	Concrete	Green	Window Sill	0.1
65	Building No. 199	Women's Bathroom 1	Metal	Brown	Window Frame	0.1
66	Building No. 199	Women's Bathroom 1	Ceramic	White	Sink	0.2
67	Building No. 199	Women's Bathroom 1	Ceramic	White	Sink	0.1
68	Building No. 199	Women's Bathroom 1	Ceramic	White	Toilet	0.1
69	Building No. 199	Women's Bathroom 1	Ceramic	White	Toilet Tank	0.1
70	Building No. 199	Women's Bathroom 1	Ceramic	White	Floor Tiles	0.2
71	Building No. 199	Women's Bathroom 1, Toilets 1-2	Concrete	Green	Lower Wall B	0.3
72	Building No. 199	Women's Bathroom 1, Toilets 1-2	Concrete	Green	Lower Wall C	0.1
73	Building No. 199	Women's Bathroom 1, Toilets 1-2	Concrete	Green	Lower Wall D	0.0
74	Building No. 199	Women's Bathroom 1, Toilets 1-2	Ceramic	White	Floor Tiles	0.2
75	Building No. 199	Women's Bathroom 1, Toilets 1-2	Ceramic	White	Upper Wall B	0.1

Approved By: Ady Padan Ph.D.

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Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
76	Building No. 199	Women's Bathroom 1, Toilets 1-2	Ceramic	White	Upper Wall C	0.1
77	Building No. 199	Women's Bathroom 1, Toilets 1-2	Ceramic	White	Upper Wall D	0.2
78	Building No. 199	Women's Bathroom B	Concrete	Green	Lower Wall A	0.1
79	Building No. 199	Women's Bathroom B	Concrete	Green	Lower Wall B	0.1
80	Building No. 199	Women's Bathroom B	Concrete	Green	Lower Wall C	0.1
81	Building No. 199	Women's Bathroom B	Concrete	Green	Lower Wall D	0.1
82	Building No. 199	Women's Bathroom B	Concrete	White	Ceiling	0.2
83	Building No. 199	Women's Bathroom B	Metal	Green	Column	0.3
84	Building No. 199	Women's Bathroom B	Ceramic	White	Lower Wall A	0.1
85	Building No. 199	Women's Bathroom B	Ceramic	White	Lower Wall B	0.2
86	Building No. 199	Women's Bathroom B	Ceramic	White	Lower Wall C	0.1
87	Building No. 199	Women's Bathroom B	Ceramic	White	Lower Wall D	0.1
88	Building No. 199	Women's Bathroom B	Ceramic	White	Floor Tiles	0.2
89	Building No. 199	Women's Bathroom B	Ceramic	White	Dike	0.3
90	Building No. 199	Women's Bathroom B	Concrete	Green	Column Base	0.3

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate Street, 2nd Floor, Santurce, Puerto Rico 00907

LEAD BASED PAINT TESTING DATA SHEET

Client Name: **Puerto Rico National Guard**
Project Name: LBP Survey for Bathrooms of Buildings 16, 199, 763
Address: Salinas, Puerto Rico

Date: 9/25/24
Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
91	Building No. 199	Men's Bathroom A	Metal	Brown	Door Frame	0.1
92	Building No. 199	Men's Bathroom A	Metal	Brown	Door	0.1
93	Building No. 199	Men's Bathroom A	Concrete	Green	Upper Wall A	0.2
94	Building No. 199	Men's Bathroom A	Concrete	Green	Upper Wall B	0.3
95	Building No. 199	Men's Bathroom A	Concrete	Green	Upper Wall C	0.1
96	Building No. 199	Men's Bathroom A	Concrete	Green	Upper Wall D	0.2
97	Building No. 199	Men's Bathroom A	Ceramic	White	Lower Wall A	0.2
98	Building No. 199	Men's Bathroom A	Ceramic	White	Lower Wall B	0.1
99	Building No. 199	Men's Bathroom A	Ceramic	White	Lower Wall C	0.2
100	Building No. 199	Men's Bathroom A	Ceramic	White	Lower Wall D	0.1
101	Building No. 199	Men's Bathroom A	Ceramic	White	Floor Tiles	0.3
102	Building No. 199	Men's Bathroom A	Ceramic	White	Sink	0.1
103	Building No. 199	Men's Bathroom A	Ceramic	White	Sink	0.2
104	Building No. 199	Men's Bathroom A	Ceramic	White	Toilet	0.1
105	Building No. 199	Men's Bathroom A	Ceramic	White	Toilet Tank	0.1

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

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Project Name: LBP Survey for Bathrooms of Buildings 16, 199, 763
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Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
106	Building No. 199	Men's Bathroom A	Ceramic	White	Urinal	0.1
107	Building No. 199	Men's Bathroom A	Concrete	White	Ceiling	0.3
108	Building No. 199	Men's Bathroom B	Concrete	Green	Upper Wall A	0.1
109	Building No. 199	Men's Bathroom B	Concrete	Green	Upper Wall B	0.2
110	Building No. 199	Men's Bathroom B	Concrete	Green	Upper Wall C	0.3
111	Building No. 199	Men's Bathroom B	Concrete	Green	Upper Wall D	0.1
112	Building No. 199	Men's Bathroom B	Concrete	White	Ceiling	0.1
113	Building No. 199	Men's Bathroom B	Ceramic	White	Lower Wall A	0.0
114	Building No. 199	Men's Bathroom B	Ceramic	White	Lower Wall B	0.1
115	Building No. 199	Men's Bathroom B	Ceramic	White	Lower Wall C	0.2
116	Building No. 199	Men's Bathroom B	Ceramic	White	Lower Wall D	0.3
117	Building No. 199	Men's Bathroom B	Ceramic	White	Floor Tiles	0.1
118	Building No. 199	Men's Bathroom B	Ceramic	Cream	Shower Wall - Patch	0.1
119	Building No. 763	Hallway to Bathrooms	Concrete	Cream	Wall A	0.1
120	Building No. 763	Hallway to Bathrooms	Concrete	Cream	Wall B	0.2

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

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Project Name: LBP Survey for Bathrooms of Buildings 16, 199, 763
Address: Salinas, Puerto Rico

Date: 9/25/24
Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
121	Building No. 763	Hallway to Bathrooms	Concrete	Cream	Wall C	0.3
122	Building No. 763	Hallway to Bathrooms	Concrete	Brown	Wall D	0.1
123	Building No. 763	Hallway to Bathrooms	Concrete	Brown	Floor	0.2
124	Building No. 763	Hallway to Bathrooms	Concrete	Cream	Riser	0.1
125	Building No. 763	Hallway to Bathrooms	Ceramic	White	Lower Wall B	0.2
126	Building No. 763	Hallway to Bathrooms	Ceramic	White	Lower Wall C	0.1
127	Building No. 763	Hallway to Bathrooms	Ceramic	White	Lower Wall D	0.2
128	Building No. 763	Hallway to Bathrooms	Ceramic	White	Floor Tiles	0.3
129	Building No. 763	Men's Bathroom	Metal	White	Door Frame	0.1
130	Building No. 763	Men's Bathroom	Metal	White	Door	0.2
131	Building No. 763	Men's Bathroom	Ceramic	White	Wall A	0.1
132	Building No. 763	Men's Bathroom	Ceramic	White	Wall B	0.2
133	Building No. 763	Men's Bathroom	Ceramic	White	Wall C	0.1
134	Building No. 763	Men's Bathroom	Ceramic	White	Wall D	0.2
135	Building No. 763	Men's Bathroom	Ceramic	White	Floor Tiles	0.1

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
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LEAD BASED PAINT TESTING DATA SHEET

Client Name: **Puerto Rico National Guard**
Project Name: LBP Survey for Bathrooms of Buildings 16, 199, 763
Address: Salinas, Puerto Rico

Date: 9/25/24
Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
136	Building No. 763	Men's Bathroom	Ceramic	White	Sink	0.2
137	Building No. 763	Men's Bathroom	Ceramic	White	Toilet	0.1
138	Building No. 763	Men's Bathroom	Ceramic	Gray	Toilet Valve	0.2
139	Building No. 763	Men's Bathroom	Metal	White	Urinal	0.1
140	Building No. 763	Men's Bathroom	Ceramic	Cream	Divisory Wall	0.2
141	Building No. 763	Women's Bathroom	Wood	White	Door Frame	0.3
142	Building No. 763	Women's Bathroom	Metal	White	Door	0.1
143	Building No. 763	Women's Bathroom	Metal	White	Wall A	0.2
144	Building No. 763	Women's Bathroom	Ceramic	White	Wall B	0.1
145	Building No. 763	Women's Bathroom	Ceramic	White	Wall C	0.3
146	Building No. 763	Women's Bathroom	Ceramic	White	Wall D	0.1
147	Building No. 763	Women's Bathroom	Ceramic	White	Floor Tiles	0.2
148	Building No. 763	Women's Bathroom	Ceramic	White	Sink	0.1
149	Building No. 763	Women's Bathroom	Ceramic	White	Toilet	0.2
150	Building No. 763	Women's Bathroom	Metal	White	Toilet Valve	0.1

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

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Project Name: LBP Survey for Bathrooms of Buildings 16, 199, 763
Address: Salinas, Puerto Rico

Date: 9/25/24
Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
151	Building No. 763	Women's Bathroom	Wood	Cream	Divisory Wall	0.1
152					Calibration	1.0
153					Calibration	1.0
154					Calibration	1.1
155	**RE-TESTING**					
156	Building No. 763	Women's Bathroom	Metal	White	Door	0.1
157	Building No. 763	Women's Bathroom	Metal	White	Wall A	0.2
158	Building No. 763	Women's Bathroom	Ceramic	White	Wall B	0.1
159	Building No. 763	Women's Bathroom	Ceramic	White	Wall C	0.2
160	Building No. 763	Women's Bathroom	Ceramic	White	Wall D	0.1
161	Building No. 763	Women's Bathroom	Ceramic	White	Floor Tiles	0.2
162	Building No. 763	Women's Bathroom	Ceramic	White	Sink	0.1
163	Building No. 763	Women's Bathroom	Ceramic	White	Toilet	0.2
164	Building No. 763	Women's Bathroom	Metal	White	Toilet Valve	0.1
165	Building No. 763	Women's Bathroom	Wood	Cream	Divisory Wall	0.2

Approved By: Ady Padan Ph.D.

Date: 9/25/2024

ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate Street, 2nd Floor, Santurce, Puerto Rico 00907

LEAD BASED PAINT TESTING DATA SHEET

Client Name: **Puerto Rico National Guard**
Project Name: LBP Survey for Bathrooms of Buildings 16, 199, 763
Address: Salinas, Puerto Rico

Date: 9/25/24
Inspector: Elme Rivera
XRF Serial No.: 01771

Reading #	Building	Room	Substrate	Color	Component & Location	XRF Reading (mg/cm^2)
166					Calibration	1.0
167					Calibration	0.9
168					Calibration	1.0

Approved By: Ady Padan Ph.D.

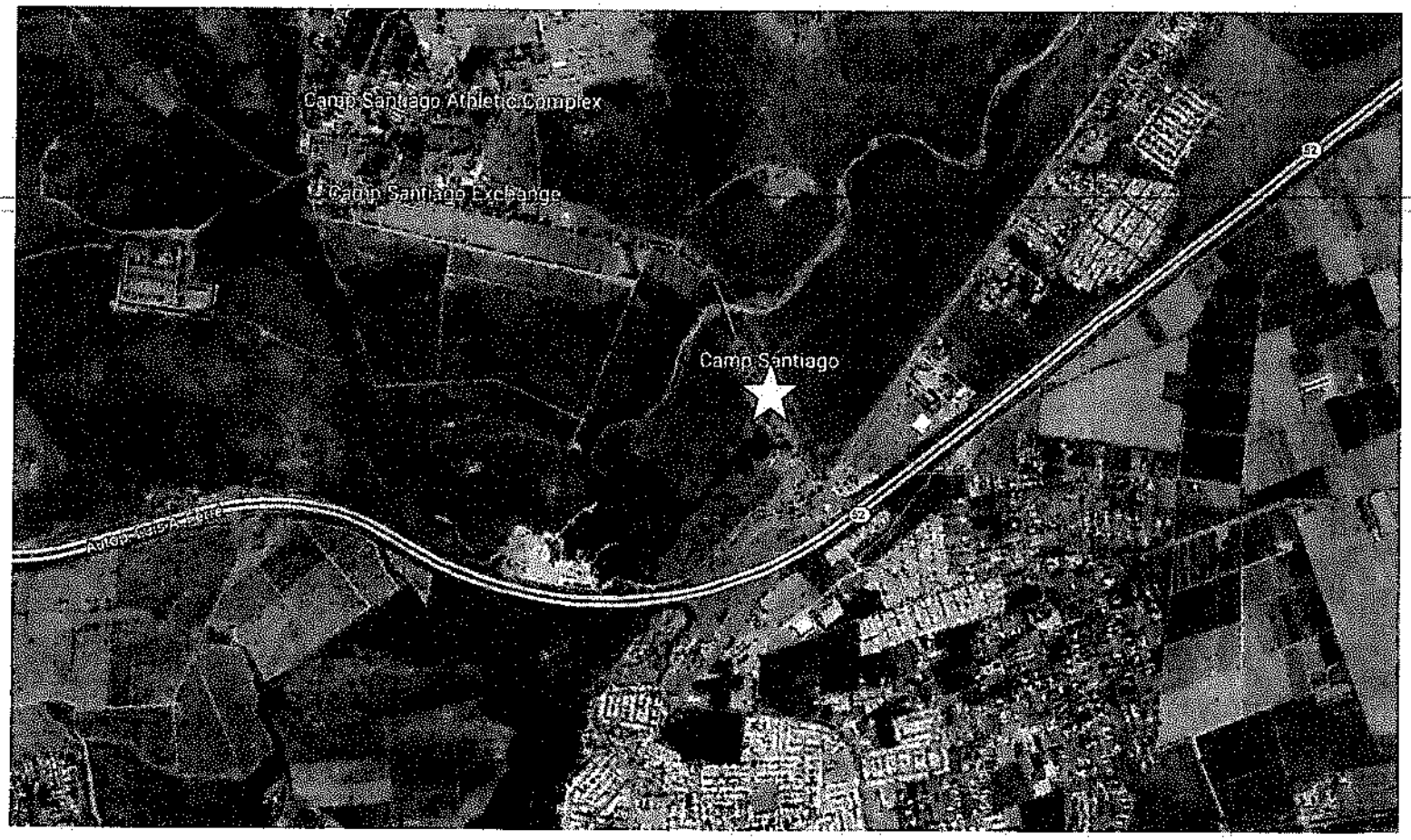
Date: 9/25/2024

AES International Inc.

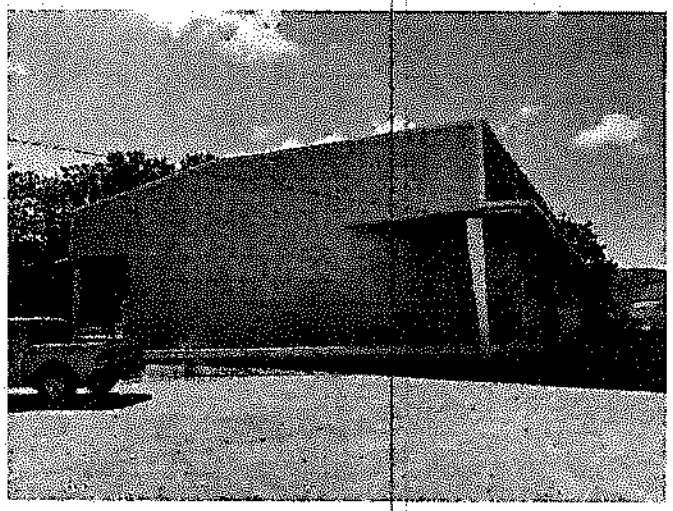
Appendix IV



Site Location: Campamento Santiago, Salinas, Puerto Rico.

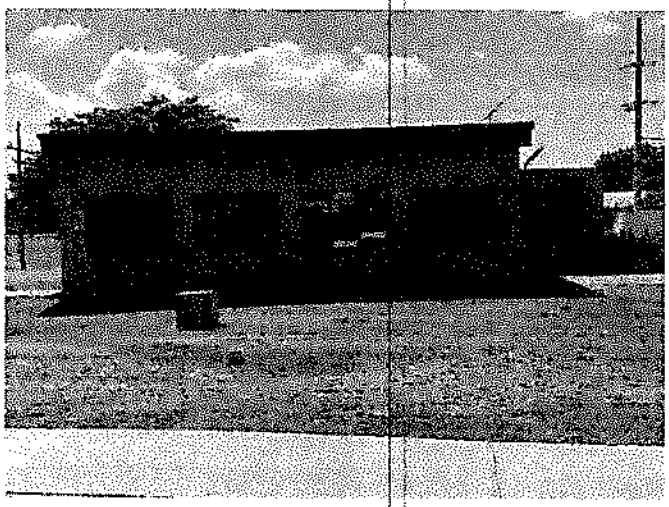


Selective Photos



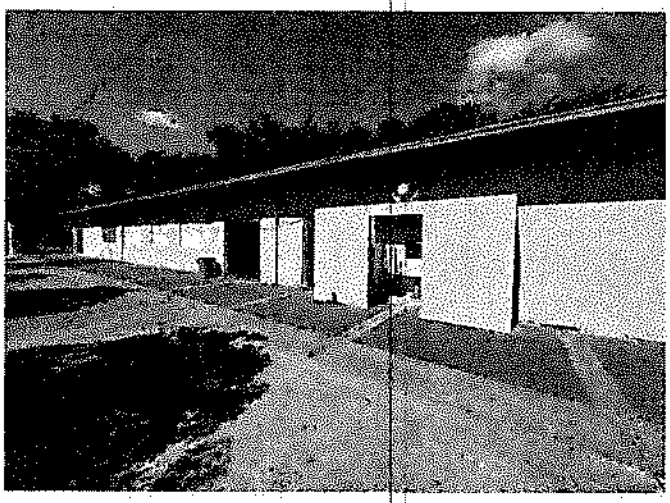
General View of the Building

Building 16. Camp Santiago, Salinas, Puerto Rico



General View of the Building

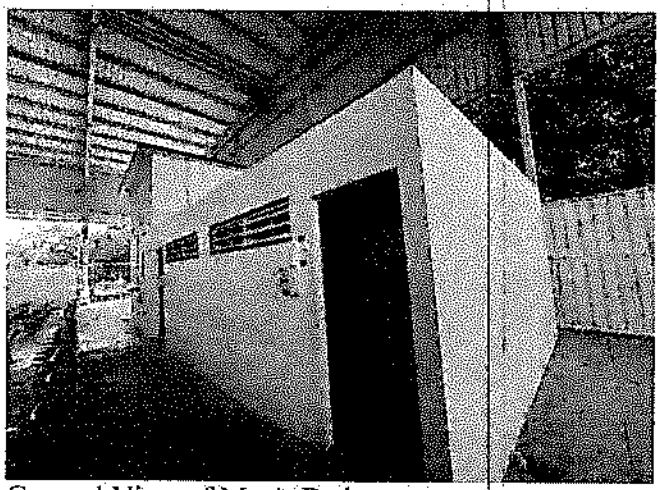
Building 199, Camp Santiago, Salinas, Puerto Rico



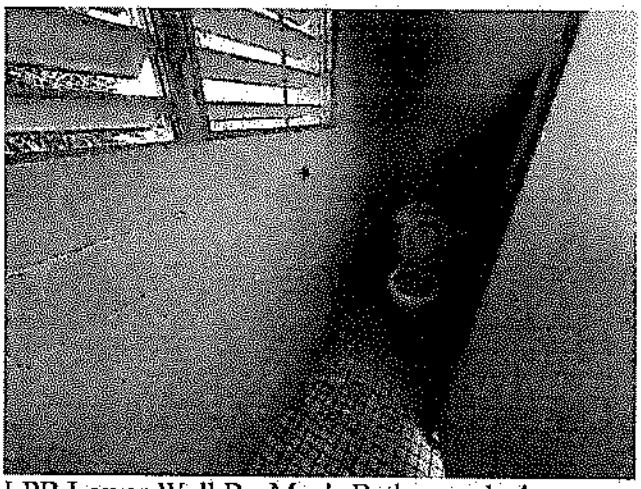
General View of the Building

Building 763, Camp Santiago, Salinas, Puerto Rico

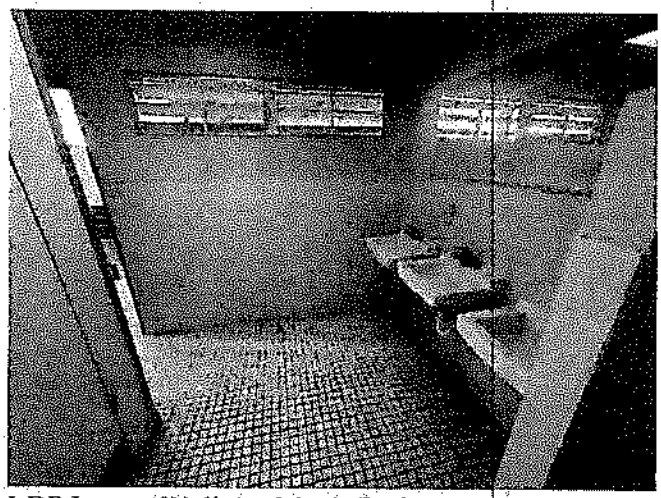
Building 16 – Bathroom area where LBP components were detected



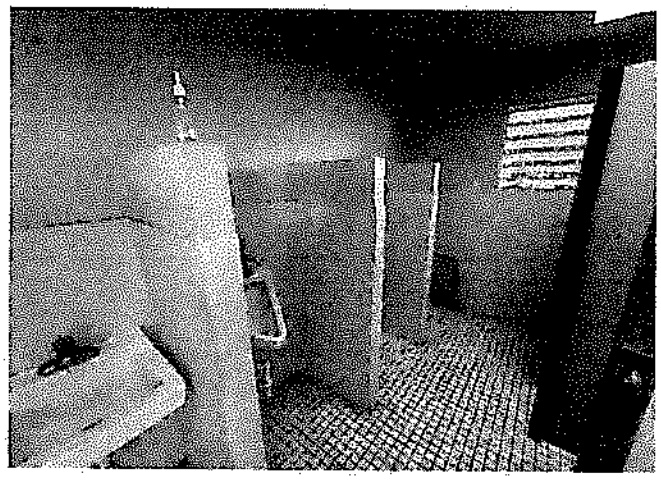
General View of Men's Bathroom



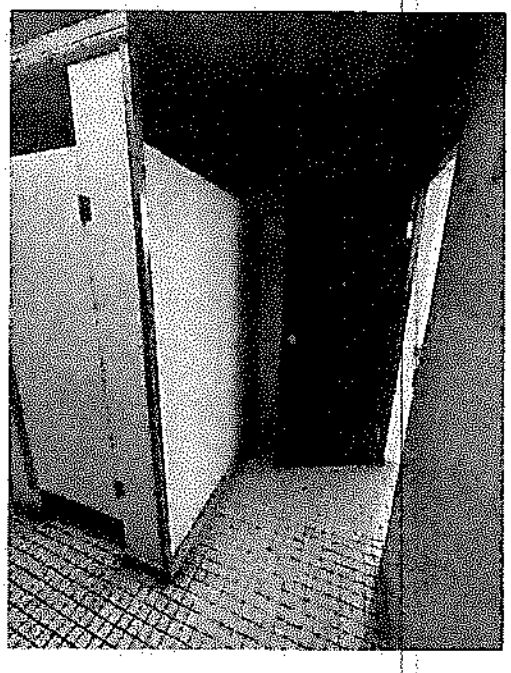
LPB Lower Wall B - Men's Bathroom 1- 4



LBP Lower Wall A - Men's Bathroom



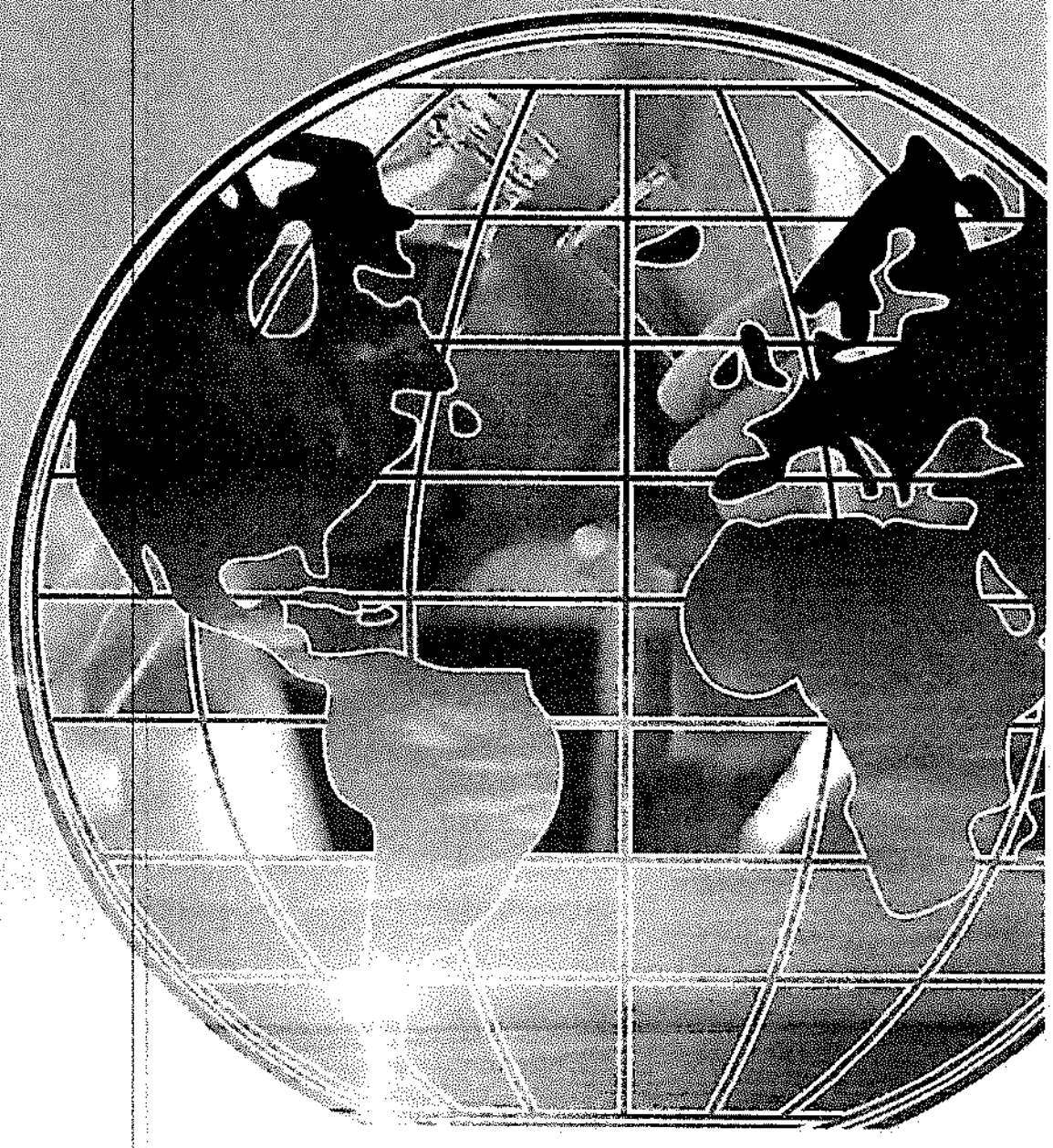
LBP Lower Wall B & C - Men's Bathroom

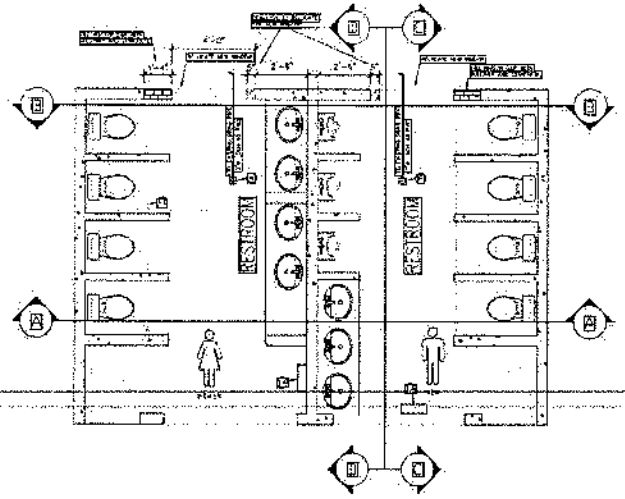


LBP Lower Wall D -
Men's Bathroom

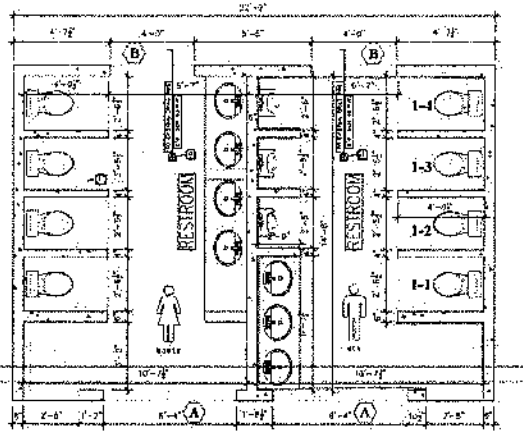
AES International Inc.

Appendix V



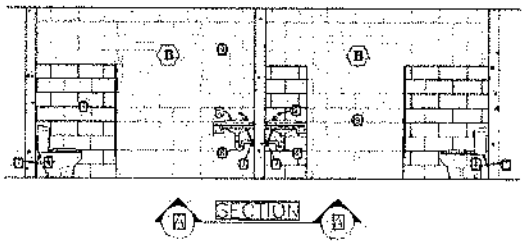


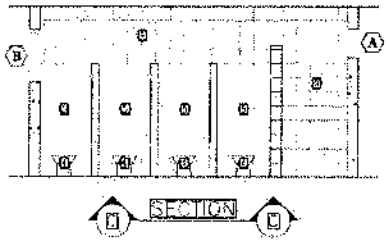
RESTROOM PLAN
BUILDING 016
ESCALA:3/5"=1'-0"

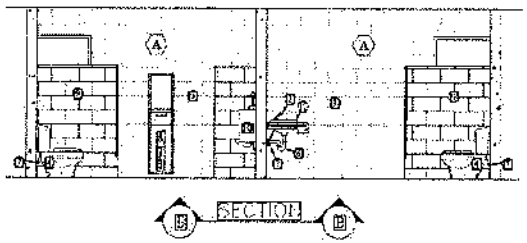


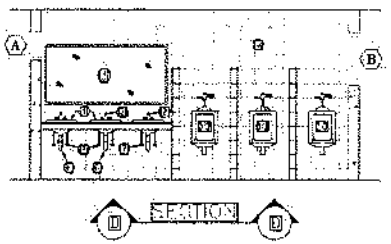
RESTROOM PLAN WITH DIMENSIONS
BUILDING 016
ESCALA:3/8"=1'-0"

Ceramic wall-tile with LBP









LEYEND

1. Hand Hole Countertop Bathroom Sink with 4 in. Faucet Holes in White (Made in USA).
2. 4 in. Centerset 2-Handle Bathroom Faucet in Brushed Nickel Industrial application (Made in USA).
3. Mirror B-165 Series B-165 4836: (20"W x 36"H) & (132"W x 36"H) Channel-Frame by Bobrick.
4. Rough-In 2-Piece, 1.6 GPF Single Flush Elongated Toilet in White, Seat Included (Made in USA).
5. Bobrick Toilet Door Partition System Solid Color Reinforced Composite SermSeries® 1090 Overhead-Braces 1092
6. 1-1/2 in. P-Trap with Drain Plug for Tubular Drain Applications, 200A Chrome Plated Brass (Made in USA).
7. 1/2 in. Push-to-Connect x 3/8 in. O.D. Compression Chrome-Plated Brass Quarter-Turn Angle Stop Valve with 3/8 in. O.D. Copper Faucet Riser in Rough Copper. (Made in USA)
8. Steel heavy duty Cast Iron body with Strainer 5-1/2" Round Tile-Floor Drain with P Trap (Made in USA).
9. Multitude Urban Grey (MU18) Wall Tile, Rectangle 12x24 Wave include finishing pieces (bullnose, trim, corner tile, shift, etc.).
10. Pintbrook Urinal American Standard 0.125 GPF valve (FOR MALE RESTROOM).
11. Paper Holder BOBRICK B-2855 for toilet paper.
12. Cattle Hosanna Calgary Armor Grey (CU42), Square 24x24, Slopwise Mate.
13. Change Switch, Switch Cover & Ceiling Lamps in Both Restroom.
14. Bobrick B-3947 ClassicSeries® Paper Towel Dispenser and Waste Receptacle

WINDOWS SCHEDULE

MAG	QTY	WIDTH	HIGH	DESCRIPTION
A	4	1'-2"	1'-4"	SECURITY COVER SLATS 3" ALUMINUM WINDOW
B	4	2'-0"	2'-5.5"	SECURITY COVER SLATS 3" ALUMINUM WINDOW

NOTE:
REMOVE EXISTING WINDOWS TO INSTALL NEW SECURITY ALUMINUM WINDOWS.

FORTE RICO ARMY NATIONAL GUARD
BUILDING 016 BATHROOMS MODIFICATION
CAMP SANTIAGO, SALINAS PORTO RICO
A-1 PLAN

O. ALVARADO
O. ALVARADO
20240802
3/8=1'
2
4
A-1

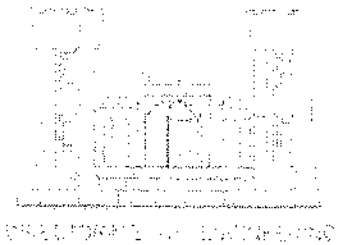
BUILDING 016 BATHROOMS REMODELATION

NUM.	DESCRIPTION	PAGE
1	TITLE	T-1
2	FLOOR PLAN	A-1
3	DETAILS & NOTES	A-2
4	TILE SPECIFICATIONS	A-3

DEPARTMENT OF THE ARMY
PUERTO RICO ARMY NATIONAL GUARD

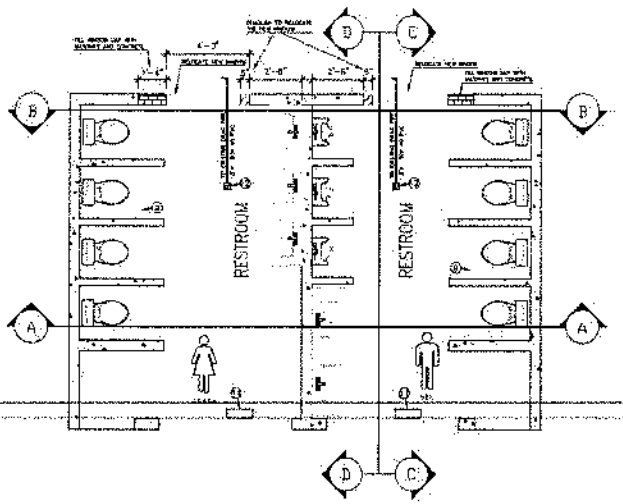
COL CARLOS J RIVERA
ADJUTANT GENERAL

COL ARNOLD RIVERA
GARRISON COMMANDER



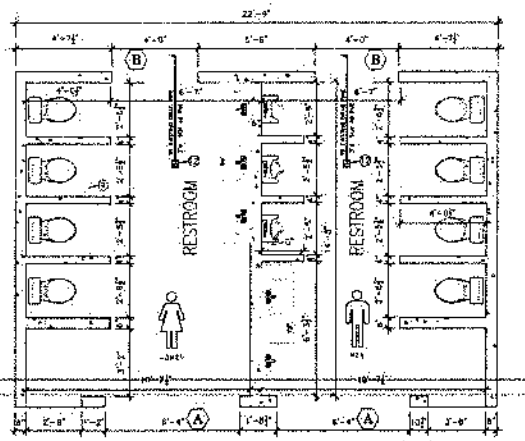
DIRECTORATE OF PUBLIC WORKS
CAMP SANTIAGO JOINT TRAINING CENTER

CPT ARMANDO CRUZ
STATE ROAD PR 1 INT. 154 KM 89.5
TEL. (787) 289-1400 EXT. 7050



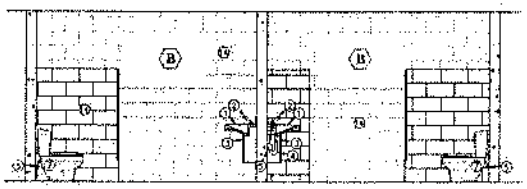
RESTROOM PLAN

ESCALA:3/8"=1'-0"

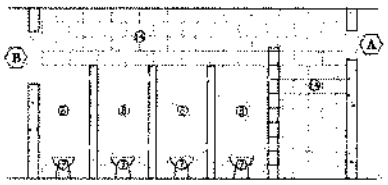


RESTROOM PLAN WITH DIMENSIONS

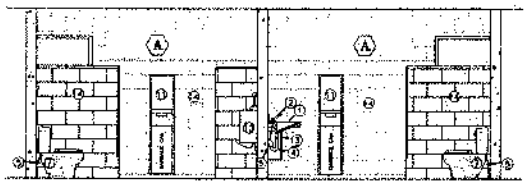
ESCALA:3/8"=1'-0"



SECTION A A



SECTION C C



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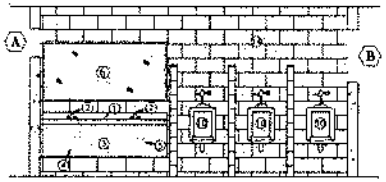


SECTION D D

LEYEND:

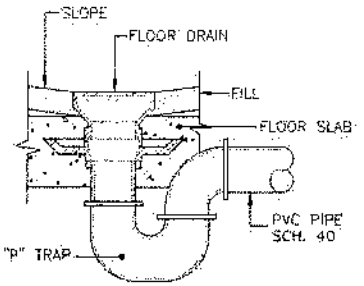
1. 72" CONTEMPO CONCRETE DOUBLE SINK & 90" CONTEMPO CONCRETE TRIPLE RAMP SINK, FINISH FOUNDRY CONCRETE COLOR TO BE SELECTED BY PROJECT MANAGER. BACKSPLASH ROUNDED HEIGHT: 4" (MADE IN USA).
2. 4" CENTERSET 2-HANDLE BATHROOM FAUCET IN BRUSHED NICKEL INDUSTRIAL APPLICATION (MADE IN USA).
3. ADA PLUMBING SHIELD (MADE IN USA).
4. 1-½" P-TRAP WITH DRAIN PLUG FOR TUBULAR DRAIN APPLICATIONS, ZOGA CHROME PLATED BRASS (MADE IN USA).
5. ½" PUSH-TO-CONNECT X ⅜" O.D. COMPRESSION CHROME-PLATED BRASS QUARTER-TURN ANGLE STOP VALVE WITH ⅜" O.D. COPPER FAUCET RISER IN ROUGH COPPER (MADE IN USA).
6. MIRROR B-165 SERIES B-165 4836: (72"W x 36"H) & (96"W x 36"H) & (48"W x 36"H) CHANNEL-FRAME BY BOBRICK. (MADE IN USA).
7. ROUGH-IN 2-PIECE 1.6 GPF SINGLE FLUSH ELONGATED TOILET IN WHITE. SEAT INCLUDED (MADE IN USA).
8. TOILET PARTITION DOOR PHENOLIC STAINLESS STEEL HARDWARE OCCUPANCY INDICATOR LATCH (MADE IN USA).
9. PAPER HOLDER BOBRICK B-2888 FOR TOILET PAPER (MADE IN USA).
10. PINTBROOK URINAL AMERICAN STANDARD 0.125 GPF VALVE. (BAA/BABAA COMPLIANT).
11. BOBRICK B-3947 ClassicSeries® PAPER TOWEL DISPENSER AND WASTE RECEPTACLE (MADE IN USA).
12. STEEL HEAVY DUTY CAST IRON BODY WITH STRAINER 5" ROUND TILE-FLOOR DRAIN WITH P TRAP (MADE IN USA).
13. DALTILE FLOORING CALGARY ARMOR GREY (CG42), SQUARE 24"x24", STEPWISE MATE.
14. MULTITUDE URBAN GREY (MU18) WALL TILE, RECTANGLE 12"x24" WAVE, INCLUDE FINISHING PIECES (BULLNOSE, TRIM, CORNER TILE, SKIRT, ETC.).
15. CHANGE SWITCH, SWITCH COVER & CEILING LAMPS IN BOTH RESTROOM (MADE IN USA).

WINDOWS SCHEDULE

MARK	QTY.	WIDTH	SIDE	DESCRIPTION
A	4	3'-2"	1'-4"	SECURITY LOUVER SLATS 3" ALUMINUM WINDOW
B	4	2'-0"	2'-5.5"	SECURITY LOUVER SLATS 3" ALUMINUM WINDOW

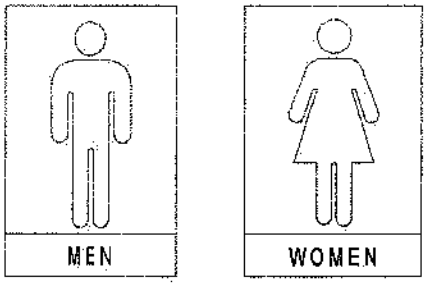
NOTE:
REMOVE EXISTING WINDOWS TO INSTALL NEW SECURITY ALUMINUM WINDOWS.

DESIGN: OMAR ALVARADO
SUPERVISOR: CPT ARMANDO CRUZ
DATE: 20250904
SCALE: 3/8"=1'
SHEET: 2
TOTAL SHEETS: 4
SHEET NAME: A-1



FLOOR DRAIN DETAIL (TYP.)

N.T.S.

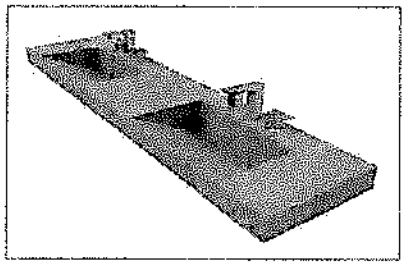


NOTE:
9"x6"x1/8"t. PLASTIC SIGNS LOCATED AT 5'-6" FROM CENTER OF SIGN TO F.F.E.

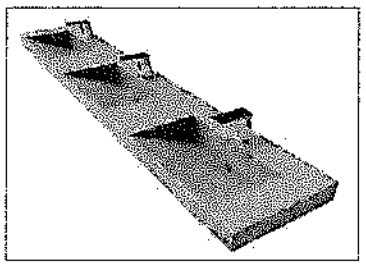
RESTROOMS SIGNS DETAIL

N.T.S.

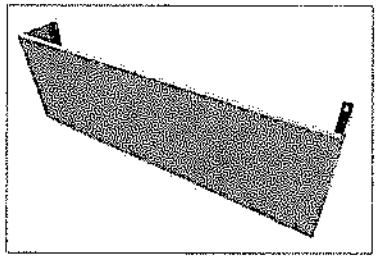
GENERAL NOTES:



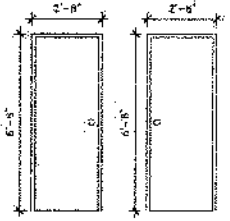
CONCRETE DOUBLE RAMP SINK



CONCRETE TRIPLE RAMP SINK



PLUMBING SHIELD



Type 1

1 3/4" Thick stiffened
Flushed Metal door Gauge 16
Honey Comb Core
Gauge 14 Steel Frame.
ASTM Approved
7th Line Series Sargent
1331 Series Door Closer Sargent

DRAWN: OMAR ALVARADO
SUPERVISOR: CPT ARMANDO CRUZ
DATE: 20250904 SCALE: N.T.S.
SHEET: 3 TOTAL SHEETS: 4
SHEET NAME: A-2

FLOOR EXAMINATION

- Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
- Verify that concrete substrates for tile floors installed with thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
- Verify that surfaces that received a steel trowel finish have been mechanically scarified.
- Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
- Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
- Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- Proceed with installation only after unsatisfactory conditions have been corrected.

PREPARATION

- Remove all existing tiles, grout, mortar using mechanical tools until get the original building floor. Floor must be fully clean and out of external materials that can affect new tiles installation.
- Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

INSTALLATION OF CERAMIC TILE

- Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
- For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage.
- Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight, aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
- Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.

INSTALLATION OF CERAMIC TILE (Continue)

- Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
- For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
- Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
- Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
- Joint Widths: Unless otherwise indicated, install tile with the following joint widths; 1mm.
- Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.
- Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
- Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.

ADJUSTING AND CLEANING

- Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
- Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
- Remove grout residue from tile as soon as possible.
- Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

PROTECTION

- Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

MATERIALS SPECIFICATIONS

TILES

- Full Body Porcelain Tile (Integral) 24" x 24"
- Contractor must provide at least 3 tiles examples before installation
- ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated
- Contractor must provide Tiles Certificates
- Color: Grey
- Thickness: 4mm minimum
- Finish: Matte

Grout:

- Standard Cement Grout: ANSI A118.6
- ANSI A118.6 – flexural strength 400 psi (2,76 MPa) at 7 days
- ANSI A118.6 – compressive strength 3,000 psi (20,7 MPa) at 28 days
- ANSI A118.6 – shrinkage < 0.03% (1 day) < 0.10% (7 days)
- ANSI A118.6 – water absorption <.18% (50% relative humidity to immersion) < 20% (immersion to dry)
- Color: Beige

Tile Mortar:

- Standard Dry-Set Mortar (Thinset): ANSI A118.1.
- > 150 psi (1,03 MPa) at 28 days

DESIGN: OMAR ALVARADO
SUPERVISOR: CPT ARMANDO CRUZ
DATE: 20250904 SCALE: N.T.S.
SHEET 4 TOTAL SHEETS 4
SHEET NAME: A-3