Midwest Environmental Consulting Services

LEAD-BASED PAINT INSPECTION

Performed For:

VILLAGE OF WAUCONDA

101 N. Main St.
Wauconda, IL 60084

Project Location:

VILLAGE OF WAUCONDA

100 N. Main St.
Wauconda, IL 60084

September 1, 2023

MEC Project #: 23-08-546-LEAD

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VILLAGE OF WAUCONDA

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100 N. Main St.
Wauconda, IL 60084

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MEC Project #: 23-08-546-LEAD

Midwest Environmental Consulting Services, Inc.
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LEAD-BASED PAINT INSPECTION SUMMARY
VILLAGE OF WAUCONDA, 100 N. Main St., Wauconda, IL 60084

This lead-based paint inspection is an investigation to identify lead based-paint hazards and potential lead-based paint hazards on a surface-by-surface basis. A non-HUD lead-based paint inspection was performed on September 1, 2023 for the Village of Wauconda located at 100 N. Main St., Wauconda, Illinois, 60084. The Non-HUD inspection was conducted prior to possible future building renovations.

In each room, the wall closest to the street address side of that particular building was always labeled side A. Then, in clockwise fashion the remaining walls were labeled side B, C, and D. Other attached painted surfaces (e.g., doors, floors) were tested but not always in order. There are instances when a wall or other painted surface could not be tested due to obstructions present during the time of this evaluation. That was not the case during this inspection. All practical efforts were made to test each surface. Every attempt was made to sample the existing remaining surfaces.

Validation of sampling was accomplished based upon adherence to the standard calibration check protocol as outlined in the Performance Characteristic Sheet for the instrument. Calibration check readings are recorded and taken at the beginning and end of the inspection also every time during the inspection the instrument is turned off and then turned back on.

Accessible Lead-based paint and lead-based containing substances found to be in a non-intact condition and therefore constitute a Lead-Based Paint Hazard are the following:

Interior:

- Ceilings - Tin- 1st & 2nd Floors
- Ceiling - Wood - Mechanical Room & Police Records Room
- Wall - Storage Room #2

Exterior:

- Wall- Stone
- Columns
- Ceiling Support
- Fascia

Accessible Lead-Based Paint and lead-based containing substances found to be in an intact condition and therefore are potential moderate risks are the following:

Interior:

- None

Exterior:

- None

Testing was performed by Stephen Merwin, an Illinois licensed and certified Lead Based Paint Risk Assessor (#L-009858), using the RMD Model LPA-1 XRF Unit. His credentials are provided in Section 5, Certifications, Licenses, and Accreditations. The XRF analyzer is designed to measure the lead content of surface coatings on a variety of building surfaces, substrates, and components. The measurement is rapid and nondestructive and, according to the manufacturer, capable of detecting concentrations that occur within numerous layers of various surface coatings.

Please refer to the XRF Testing Results Section 2, for the detailed analytical testing results for each distinct area or unit inspected. The reports provide a summary of surfaces and components identified with lead-based paint coatings (Summary Report), and a sequential report providing complete testing data in sequential order (Sequential Report).

LEAD PAINT INSPECTION REPORT

REPORT NUMBER: 09/01/23 08:30

INSPECTION FOR: Village of Wauconda
101 N. Main St.
Wauconda, IL 60084

PERFORMED AT: Vil. of Wauconda-Activity Center
100 N. Main St.
Wauconda, IL 60084

INSPECTION DATE: 09/01/23

INSTRUMENT TYPE: R M D
MODEL LPA-1
XRF TYPE ANALYZER
Serial Number: 3608

ACTION LEVEL: 1.0 mg/cm²

OPERATOR LICENSE: L-009858

MEC PROJECT # 23-08-546-LEAD

SIGNED: _____ Date: 9/5/23

SUMMARY REPORT OF LEAD PAINT INSPECTION FOR: Village of Wauconda

Inspection Date:	09/01/23
Report Date:	9/5/2023
Abatement Level:	1.0
Report No.	09/01/23 08:30
Total Readings:	106 Actionable: 9
Job Started:	09/01/23 08:30
Job Finished:	09/01/23 08:30

Vil. of Wauconda-Activity Center
100 N. Main St.
Wauconda, IL 60084

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
Exterior Room 001 Exterior									
081	A	column	N/A		P	Wood	white	6.7	QM
083	A	Wall	N/A		F	stone	white	1.0	QM
089	B	Ceiling	N/A	Hang Supp	P	Wood	white	8.8	QM
101	D	Facia	N/A		P	Wood	white	9.7	QM
Interior Room 003 Off. #3									
012	A	Ceiling	N/A		P	Metal	white	5.2	QM
		Flaking -Debris on Floor							
Interior Room 012 Mech Room									
054	A	Wall	Rgt		I	stone	white	1.0	QM
048	D	Ceiling	N/A		P	Wood	Gray	9.1	QM
Interior Room 013 Stor. Rm 2									
049	A	Wall	N/A		F	stone	white	1.0	QM
Interior Room 015 2nd Floor									
073	C	Ceiling	N/A		P	Metal	Gray	3.7	QM
Calibration Readings									

---- End of Readings ----

SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR: Village of Wauconda

Inspection Date:	09/01/23
Report Date:	9/5/2023
Abatement Level:	1.0
Report No.	09/01/23 08:30
Total Readings:	106
Job Started:	09/01/23 08:30
Job Finished:	09/01/23 08:30

Vil. of Wauconda-Activity Center
100 N. Main St.
Wauconda, IL 60084

Read No.	Rm No.	Room Name	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
1		CALIBRATION								1.0	TC
2		CALIBRATION								1.0	TC
3	001	Foyer	A	Door	N/A	Casing	I	Metal	white	-0.1	QM
4	001	Foyer	A	Door	N/A		I	Metal	white	-0.1	QM
5	001	Foyer	A	Wall	N/A		I	Dry wall	Beige	-0.2	QM
6	001	Foyer	B	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
7	001	Foyer	C	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
8	001	Foyer	D	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
9	002	Water Heat	A	Door	N/A	Casing	I	Metal	Tan	-0.1	QM
10	002	Water Heat	A	Floor	N/A		I	Concrete	Gray	-0.5	QM
11	002	Water Heat	A	Stairs	N/A		I	Steel	Gray	-0.2	QM
12	003	Off. #3	A	Ceiling	N/A		P	Metal	white	5.2	QM
		Flaking -Debris on Floor									
13	003	Off. #3	A	Window	N/A	Sash	I	Wood	Beige	-0.1	QM
14	003	Off. #3	A	Window	N/A	Casing	I	Wood	Beige	-0.1	QM
15	003	Off. #3	A	Wall	N/A		I	Dry wall	Beige	-0.3	QM
16	004	Off #2	A	Wall	N/A		I	Dry wall	Lt. Blue	-0.3	QM
17	004	Off #2	D	Closet	N/A	Wall	I	Dry wall	Beige	-0.1	QM
18	004	Off #2	D	Closet	N/A	Shelf	I	Wood	Beige	-0.2	QM
19	004	Off #2	B	Window	N/A	Casing	I	Wood	Beige	-0.1	QM
20	004	Off #2	B	Door	N/A		I	Metal	Brown	0.0	QM
21	004	Off #2	C	Window	N/A	Casing	I	Metal	Beige	-0.1	QM
22	005	Conference	C	Clg Tile	N/A		P	Acoustical	Beige	-0.2	QM
23	005	Conference	B	Door	N/A	Casing	P	Metal	Beige	-0.1	QM
24	005	Conference	B	column	N/A		I	Dry wall	Tan	-0.3	QM
25	005	Conference	D	Closet	N/A	Shelf	I	Wood	Tan	-0.1	QM
26	005	Conference	D	Closet	N/A	Wall	I	Concrete	Tan	-0.5	QM
27	006	Womens Rm	D	Wall	N/A		I	Dry wall	Gray	-0.4	QM
28	006	Womens Rm	D	Window	N/A	Casing	I	Wood	Gray	-0.1	QM
29	006	Womens Rm	D	Window	N/A	Sash	I	Wood	Gray	-0.2	QM
30	007	Janitor	D	Wall	N/A		I	Dry wall	Beige	-0.2	QM
31	007	Janitor	D	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
32	007	Janitor	D	Floor	N/A		I	Concrete	Gray	-0.3	QM
33	008	Mens Rm	D	Wall	N/A		I	Dry wall	Gray	-0.2	QM
34	008	Mens Rm	B	Door	N/A	Jamb	I	Metal	Tan	0.0	QM
35	009	Storage Rm	B	Facia	N/A		P	Wood	white	-0.3	QM
36	009	Storage Rm	B	Wall	N/A		I	Brick	white	-0.2	QM
37	009	Storage Rm	B	pipe	N/A		I	Steel	Gray	-0.1	QM
38	009	Storage Rm	B	Facia	N/A		P	Wood	white	-0.3	QM

SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR: Village of Wauconda

Read No.	Rm No.	Room Name	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm^2)	Mode
39	010	Hallway	B	Ceiling	N/A		P	Dry wall	white	-0.2	QM
40	010	Hallway	B	Door	N/A	Jamb	P	Cement	Tan	-0.5	QM
41	010	Hallway	B	Wall	N/A		P	Wood	Tan	-0.3	QM
42	011	Pump Rn	D	Wall	N/A		P	block	white	-0.2	QM
43	011	Pump Rn	C	Wall	N/A		P	block	white	-0.3	QM
44	009	Storage Rm	D	Window	N/A	Casing	I	Wood	Tan	-0.2	QM
45	009	Storage Rm	D	Window	N/A	Sash	I	Wood	white	-0.1	QM
46	012	Mech Room	D	Floor	N/A		P	Concrete	Gray	-0.4	QM
47	012	Mech Room	D	Wall	N/A		F	Brick	white	0.6	QM
48	012	Mech Room	D	Ceiling	N/A		P	Wood	Gray	9.1	QM
49	013	Stor. Rm 2	A	Wall	N/A		F	stone	white	1.0	QM
50	013	Stor. Rm 2	A	pipe	N/A		F	Steel	white	-0.2	QM
51	013	Stor. Rm 2	A	Duct	N/A		I	Metal	white	-0.1	QM
52	012	Mech Room	A	column	N/A		F	Metal	white	-0.2	QM
53	012	Mech Room	A	column	N/A		F	Cement	white	-0.2	QM
54	012	Mech Room	A	Wall	Rgt		I	stone	white	1.0	QM
55	013	Stor. Rm 2	A	Ceiling	N/A		I	Dry wall	white	-0.1	QM
56	013	Stor. Rm 2	A	Beam	N/A		I	Wood	white	-0.3	QM
57	013	Stor. Rm 2	C	Wall	N/A		I	Brick	white	-0.4	QM
58	013	Stor. Rm 2	B	Door	Rgt	Casing	F	Wood	white	-0.1	QM
59	013	Stor. Rm 2	B	Door	Lft	Casing	F	Wood	white	-0.2	QM
60	013	Stor. Rm 2	B	Door	Lft		I	Metal	white	-0.3	QM
61	014	Stairway	B	Stairs	N/A	Stringers	I	Wood	Aqua	-0.1	QM
62	014	Stairway	B	Stairs	N/A	Railing cap	I	Metal	Aqua	-0.1	QM
63	014	Stairway	A	Wall	N/A		I	Dry wall	white	-0.1	QM
64	014	Stairway	A	Window	N/A	Sash	I	Wood	white	-0.2	QM
65	014	Stairway	A	Window	N/A	Casing	I	Wood	white	-0.1	QM
66	015	2nd Floor	D	Window	N/A	Sash	I	Wood	white	-0.2	QM
67	015	2nd Floor	D	Window	N/A	Sill	I	Wood	white	-0.1	QM
68	015	2nd Floor	D	Window	N/A	Casing	I	Wood	white	-0.2	QM
69	015	2nd Floor	D	Wall	N/A		I	Dry wall	Tan	-0.2	QM
70	015	2nd Floor	D	Window	N/A	Sash	I	Wood	white	-0.2	QM
71	015	2nd Floor	C	Door	N/A	Casing	I	Metal	Tan	0.0	QM
72	015	2nd Floor	C	Door	N/A		I	Wood	Tan	-0.5	QM
73	015	2nd Floor	C	Ceiling	N/A		P	Metal	Gray	3.7	QM
74	016	Stairway	C	Ceiling	N/A		I	Cement	white	-0.5	QM
75	016	Stairway	C	Wall	N/A		I	Cement	white	-0.5	QM
76	016	Stairway	C	Stairs	N/A	Treads	I	Metal	Lt. Blue	0.0	QM
77	016	Stairway	C	Floor	N/A		I	Metal	Lt. Blue	-0.1	QM
78	016	Stairway	C	Railing	N/A		I	Metal	Lt. Blue	0.0	QM
79	016	Stairway	C	Floor	N/A		P	Concrete	Lt. Blue	0.0	QM
80	016	Stairway	C	Wall	N/A		I	Brick	white	-0.3	QM
81	001	Exterior	A	column	N/A		P	Wood	white	6.7	QM
82	001	Exterior	A	column	N/A	base	P	Metal	Gray	0.0	QM
83	001	Exterior	A	Wall	N/A		F	stone	white	1.0	QM
84	001	Exterior	A	Door	N/A		P	Steel	white	-0.1	QM
85	001	Exterior	A	Door	N/A	Casing	P	Cement	white	-0.3	QM

SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR: Village of Wauconda

Read No.	Rm No.	Room Name	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
86	001	Exterior Announcements	A	Door	N/A	Casing	P	Metal	white	-0.6	QM
87	001	Exterior	A	Railing	N/A		I	Metal	Gray	-0.1	QM
88	001	Exterior	B	Ceiling	N/A		P	Wood	white	-0.2	QM
89	001	Exterior	B	Ceiling	N/A	Hang Supp	P	Wood	white	8.8	QM
90	001	Exterior	B	Ceiling	Lft		P	Wood	white	0.0	QM
91	001	Exterior	B	Facia	Lft		P	Wood	white	-0.1	QM
92	001	Exterior	B	Door	Lft		I	Steel	white	-0.1	QM
93	001	Exterior	B	Threshold	N/A		I	Cement	Gray	0.0	QM
94	001	Exterior former garage	B	Door	N/A	Casing	P	Steel	white	0.0	QM
95	001	Exterior	B	Post	N/A		P	Steel	white	-0.1	QM
96	001	Exterior	B	Wall	N/A		P	Brick	white	-0.2	QM
97	001	Exterior	B	Door	N/A	Casing	P	Steel	white	-0.2	QM
98	001	Exterior	B	Door	N/A		I	Wood	white	-0.1	QM
99	001	Exterior	B	Wall	N/A		P	Brick	white	0.2	QM
100	001	Exterior	C	Wall	N/A		P	Brick	white	-0.3	QM
101	001	Exterior	D	Facia	N/A		P	Wood	white	9.7	QM
102	001	Exterior	D	Ceiling	N/A		I	Cement	white	0.0	QM
103	001	Exterior	D	Wall	N/A		I	Cement	white	-0.2	QM
104		CALIBRATION								1.0	TC
105		CALIBRATION								1.0	TC
106		CALIBRATION								1.0	TC

---- End of Readings ----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Village of Wauconda

Inspection Date:	09/01/23
Report Date:	9/5/2023
Abatement Level:	1.0
Report No.	09/01/23 08:30
Total Readings:	106
Job Started:	09/01/23 08:30
Job Finished:	09/01/23 08:30

Vil. of Wauconda-Activity Center
100 N. Main St.
Wauconda, IL 60084

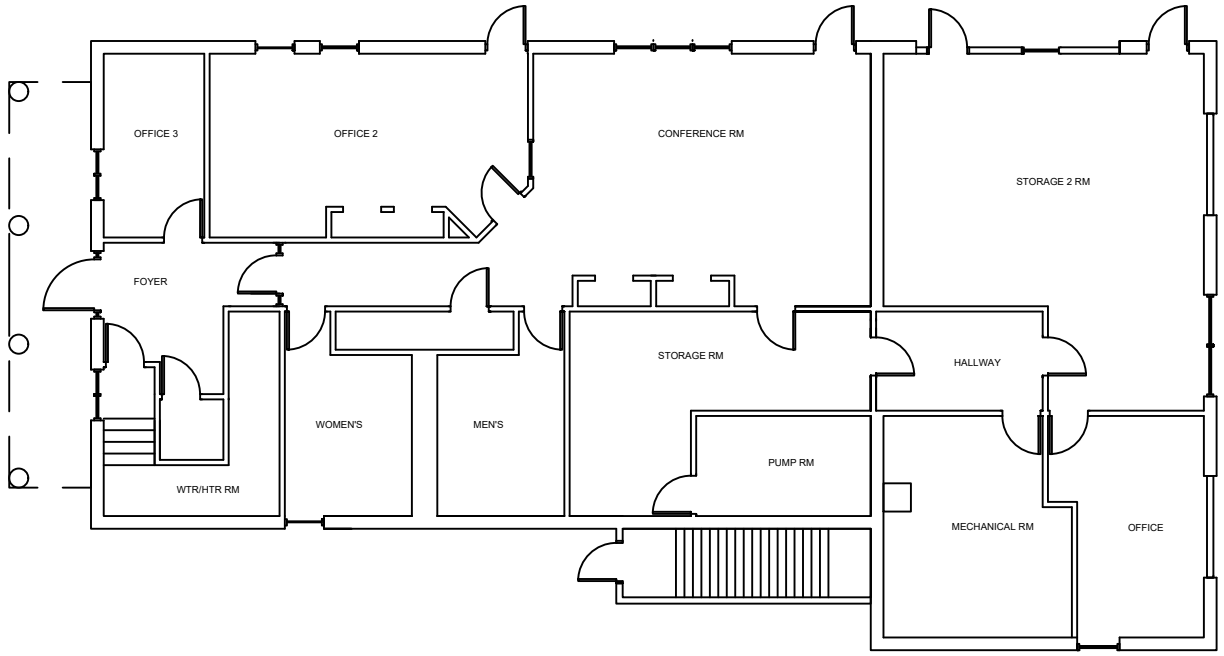
Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
Exterior Room 001 Exterior									
081	A	column	N/A		P	Wood	white	6.7	QM
082	A	column	N/A	base	P	Metal	Gray	0.0	QM
083	A	Wall	N/A		F	stone	white	1.0	QM
084	A	Door	N/A		P	Steel	white	-0.1	QM
085	A	Door	N/A	Casing	P	Cement	white	-0.3	QM
086	A	Door	N/A	Casing	P	Metal	white	-0.6	QM
		Announcements							
087	A	Railing	N/A		I	Metal	Gray	-0.1	QM
093	B	Threshold	N/A		I	Cement	Gray	0.0	QM
095	B	Post	N/A		P	Steel	white	-0.1	QM
088	B	Ceiling	N/A		P	Wood	white	-0.2	QM
089	B	Ceiling	N/A	Hang Supp	P	Wood	white	8.8	QM
090	B	Ceiling	Lft		P	Wood	white	0.0	QM
096	B	Wall	N/A		P	Brick	white	-0.2	QM
099	B	Wall	N/A		P	Brick	white	0.2	QM
091	B	Facia	Lft		P	Wood	white	-0.1	QM
094	B	Door	N/A	Casing	P	Steel	white	0.0	QM
		former garage							
097	B	Door	N/A	Casing	P	Steel	white	-0.2	QM
098	B	Door	N/A		I	Wood	white	-0.1	QM
092	B	Door	Lft		I	Steel	white	-0.1	QM
100	C	Wall	N/A		P	Brick	white	-0.3	QM
102	D	Ceiling	N/A		I	Cement	white	0.0	QM
103	D	Wall	N/A		I	Cement	white	-0.2	QM
101	D	Facia	N/A		P	Wood	white	9.7	QM
Interior Room 001 Foyer									
005	A	Wall	N/A		I	Dry wall	Beige	-0.2	QM
003	A	Door	N/A	Casing	I	Metal	white	-0.1	QM
004	A	Door	N/A		I	Metal	white	-0.1	QM
006	B	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
007	C	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
008	D	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
Interior Room 002 Water Heat									
010	A	Floor	N/A		I	Concrete	Gray	-0.5	QM
009	A	Door	N/A	Casing	I	Metal	Tan	-0.1	QM
011	A	Stairs	N/A		I	Steel	Gray	-0.2	QM
Interior Room 003 Off. #3									
015	A	Wall	N/A		I	Dry wall	Beige	-0.3	QM

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Village of Wauconda

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
012	A	Ceiling	N/A		P	Metal	white	5.2	QM
	Flaking -Debris on Floor								
014	A	Window	N/A	Casing	I	Wood	Beige	-0.1	QM
013	A	Window	N/A	Sash	I	Wood	Beige	-0.1	QM
Interior Room 004 Off #2									
016	A	Wall	N/A		I	Dry wall	Lt. Blue	-0.3	QM
019	B	Window	N/A	Casing	I	Wood	Beige	-0.1	QM
020	B	Door	N/A		I	Metal	Brown	0.0	QM
021	C	Window	N/A	Casing	I	Metal	Beige	-0.1	QM
017	D	Closet	N/A	Wall	I	Dry wall	Beige	-0.1	QM
018	D	Closet	N/A	Shelf	I	Wood	Beige	-0.2	QM
Interior Room 005 Conference									
024	B	column	N/A		I	Dry wall	Tan	-0.3	QM
023	B	Door	N/A	Casing	P	Metal	Beige	-0.1	QM
022	C	Clg Tile	N/A		P	Acoustical	Beige	-0.2	QM
026	D	Closet	N/A	Wall	I	Concrete	Tan	-0.5	QM
025	D	Closet	N/A	Shelf	I	Wood	Tan	-0.1	QM
Interior Room 006 Womens Rm									
027	D	Wall	N/A		I	Dry wall	Gray	-0.4	QM
028	D	Window	N/A	Casing	I	Wood	Gray	-0.1	QM
029	D	Window	N/A	Sash	I	Wood	Gray	-0.2	QM
Comment:									
1st Fl									
Interior Room 007 Janitor									
030	D	Wall	N/A		I	Dry wall	Beige	-0.2	QM
032	D	Floor	N/A		I	Concrete	Gray	-0.3	QM
031	D	Door	N/A	Casing	I	Metal	Beige	-0.1	QM
Interior Room 008 Mens Rm									
034	B	Door	N/A	Jamb	I	Metal	Tan	0.0	QM
033	D	Wall	N/A		I	Dry wall	Gray	-0.2	QM
Comment:									
1st fl									
Interior Room 009 Storage Rm									
037	B	pipe	N/A		I	Steel	Gray	-0.1	QM
036	B	Wall	N/A		I	Brick	white	-0.2	QM
035	B	Facia	N/A		P	Wood	white	-0.3	QM
038	B	Facia	N/A		P	Wood	white	-0.3	QM
044	D	Window	N/A	Casing	I	Wood	Tan	-0.2	QM
045	D	Window	N/A	Sash	I	Wood	white	-0.1	QM
Interior Room 010 Hallway									
041	B	Wall	N/A		P	Wood	Tan	-0.3	QM
039	B	Ceiling	N/A		P	Dry wall	white	-0.2	QM

B

A



C

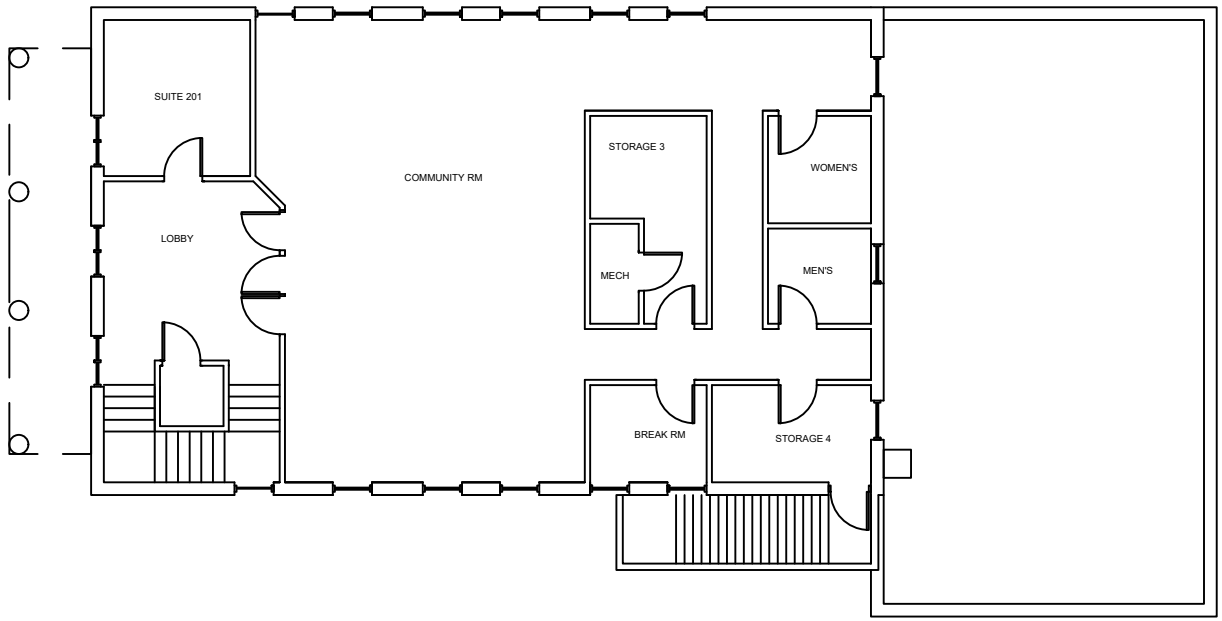
D

FIRST FLOOR

Consultant:	Client:	Project Location:	REVISIONS			LEAD SURVEY	
Midwest Environmental Consulting Services, Inc. Consultants Engineers Scientists	VILLAGE OF WAUCONDA 101 N. MAIN STREET WAUCONDA, IL 60084	VILLAGE OF WAUCONDA ACTIVITY CENTER 100 N. MAIN STREET WAUCONDA, IL 60084	REV. NO.	DATE	REV. BY:	Project No.	23-08-546-LEAD
						Drawing Date:	09/07/23
						Inspector:	STEVE MERWIN
						Scale: NTS	Drawn By: DWM

B

A



C

D

N

SECOND FLOOR

Consultant:	Client:	Project Location:	REVISIONS			LEAD SURVEY	
Midwest Environmental Consulting Services, Inc. Consultants Engineers Scientists	VILLAGE OF WAUCONDA 101 N. MAIN STREET WAUCONDA, IL 60084	VILLAGE OF WAUCONDA ACTIVITY CENTER 100 N. MAIN STREET WAUCONDA, IL 60084	REV. NO.	DATE	REV. BY:	Project No.	23-08-546-LEAD
						Drawing Date:	09/07/23
						Inspector:	STEVE MERWIN
						Scale: NTS	Drawn By: DWM

Performance Characteristic Sheet

EFFECTIVE DATE: **October 25, 2006** **EDITION NO.: 5**

MANUFACTURER AND MODEL:

Make: ***Radiation Monitoring Devices***
Model: ***LPA-1***
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above ***for instruments sold or serviced after June 26, 1995. For other instruments, see prior editions.***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Quick mode or 30-second equivalent standard (Time Corrected) mode readings.

XRF CALIBRATION CHECK LIMITS:

0.7 to 1.3 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

For XRF results below 4.0 mg/cm^2, substrate correction is recommended for:

Metal using 30-second equivalent standard (Time Corrected) mode readings.
None using quick mode readings.

Substrate correction is not needed for:

Brick, Concrete, Drywall, Plaster, and Wood using 30-second equivalent standard (Time Corrected) mode readings
Brick, Concrete, Drywall, Metal, Plaster, and Wood using quick mode readings

THRESHOLDS:

30-SECOND EQUIVALENT STANDARD MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results corrected for substrate bias on metal substrate only	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	0.9
	Plaster	1.0
	Wood	1.0

QUICK MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Readings not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

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* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations in July 1995. The instrument that performed testing in September had a new source installed in June 1995 with 12 mCi initial strength.

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/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.02 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

> Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.
>
> Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.
>
> For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):
>
> $$\text{Correction value} = (1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \textit{Reading}) / 6 - 1.02\ \text{mg/cm}^2$$
>
> Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

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. Use either the Quick Mode or 30-second equivalent standard (Time Corrected) Mode readings.

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. Do not correct the original or retest results for substrate bias. 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 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 results.

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

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.

BIAS AND PRECISION:

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with reported laboratory results less than 4.0 mg/cm^2 lead. The data which were used to determine the bias and precision estimates given in the table below have the following properties. During the July 1995 testing, there were 15 test locations with a laboratory-reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, one 30-second standard mode reading was less than 1.0 mg/cm^2 and none of the quick mode readings were less than 1.0 mg/cm^2. The instrument that tested in July is representative of instruments sold or serviced after June 26, 1995. These data are for illustrative purposes only. Actual bias must be determined on the site. Results provided above already account for bias and precision. Bias and precision ranges are provided to show the variability found between machines of the same model.

30-SECOND STANDARD MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	Brick	0.0	0.1
	Concrete	0.0	0.1
	Drywall	0.1	0.1
	Metal	0.3	0.1
	Plaster	0.1	0.1
	Wood	0.0	0.1
0.5 mg/cm^2	Brick	0.0	0.2
	Concrete	0.0	0.2
	Drywall	0.0	0.2
	Metal	0.2	0.2
	Plaster	0.0	0.2
	Wood	0.0	0.2
1.0 mg/cm^2	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.0	0.3
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.0	0.3
2.0 mg/cm^2	Brick	-0.1	0.4
	Concrete	-0.1	0.4
	Drywall	-0.1	0.4
	Metal	0.1	0.4
	Plaster	-0.1	0.4
	Wood	-0.1	0.4

*Precision at 1 standard deviation.

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION:

An EPA document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD. A HUD document titled *A Nonparametric Method for Estimating the 5th and 95th Percentile Curves of Variable-Time XRF Readings Based on Monotone Regression* provides supplemental information on the methodology for variable-time XRF instruments. A copy of this document can be obtained from the HUD lead web site, www.hud.gov/offices/lead.

This XRF Performance Characteristic Sheet was developed by QuanTech, Inc., under a contract from the U.S. Department of Housing and Urban Development (HUD). HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

IDPH

LEAD RISK ASSESSOR LICENSE

LEAD ID	ISSUED	EXPIRES
009858	2/1/2023	1/31/2024

Stephen D Merwin
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ILLINOIS LEAD PROGRAM
Environmental Health

Stephen Merwin

2020

OCCUPATIONAL TRAINING & SUPPLY, INC.
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Lead Risk Assessor Refresher

Occupational Training & Supply, Inc. certifies that

Stephen Merwin

has successfully completed the Lead Risk Assessor Refresher course and has passed the competency exam with a minimum score of 70%. This course is accredited by the Illinois Department of Public Health (TCP ID No. 25) in accordance with the Illinois Lead Poisoning Prevention Code.

Course Date: 9/28/2020

Exam Date: 9/28/2020

Expiration Date: 9/28/2023

Certificate Number: LRAR2009282097

Kristina Miczek

Kristina Miczek, Training Manager

CERTIFICATE OF ACHIEVEMENT

Lead Risk Assessment Recertification

Accredited by Illinois Department of Public Health

This is to certify that STEPHEN MERWIN has completed the 8-HOUR LEAD RISK ASSESSMENT RECERTIFICATION course and successfully passed the examination on 11/21/2022 with a minimum score of 70%. Training was in accordance with Title X, U.S. EPA Model Training Course Curriculum, 1995, the HUD Guidelines, 1995, and the Illinois Dept. of Public Health, 1998.

PHS Environmental & Occupational Services

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11/21/2022
Course Dates:

11/21/2025
Expires:

2211RAR03
Certificate Number:

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Doctor of Public Health

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