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REVISED CLOSURE PLAN FOR
HAZARDOUS WASTE STORAGE
BUILDING 121
U.S. NAVAL STATION, ROOSEVELT ROADS
CEIBA, PUERTO RICO
OCTOBER 1991

PREPARED BY:

PUBLIC WORKS DEPARTMENT

ENVIRONMENTAL ENGINEERING DIVISION

ENCLOSURE [3]

REVISED CLOSURE PLAN FOR HAZARDOUS WASTE STORAGE
BUILDING 121
U.S. NAVAL STATION, ROOSEVELT ROADS, CEIBA, PR

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ATTACHMENTS

ATTACHMENT A: HAZARDOUS WASTE CONSTITUENTS STORED AT BUILDING
121

ATTACHMENT B: SITE REMEDIATION ACTIONS

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1.0 INTRODUCTION

1.1 This closure plan conforms with the requirements of 40 CFR 265 Subpart G and identifies all steps that are necessary to close the existing storage facility. A post-closure plan is not required because this is not a disposal facility and all wastes are being removed.

1.2 This document provides a clean closure plan for the storage facility Building 121 at the U.S. Naval Station Roosevelt Roads, Ceiba, Puerto Rico. This building was used to store pesticides and pesticide containers. No additional materials were added to the building since 1980. The storage facility is approximately 15 feet by 15 feet. The floor is concrete and the building is completely enclosed by walls and a roof. There are no floor cracks or open expansion joints.

1.3 The purpose of this closure is the elimination of threats to human health and environment, if any, and the elimination of all hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

1.4 This previously used storage area is controlled by the Public Works Department.

1.5 Correspondence related to environmental management at Naval Station, Roosevelt Roads should be addressed to:

Commanding Officer
U.S. Naval Station, Roosevelt Roads
Box 3021
FPO AA 34051
Telephone: (809)865-4429

1.6 The U.S. Naval Station, Roosevelt Roads will maintain an on-site copy of the approved closure plan and all revisions to the plan until the certification of closure has been submitted and approved by the Environmental Quality Board. The Station, will complete clean closure of the facility (as outlined in this plan), within 180 days following receipt of closure plan approval from the Environmental Quality Board and the Environmental Protection Agency.

2.0 CLOSURE STANDARDS AND SUMMARY

2.1 **Closure Performance Standard.** This closure plan will:

2.1.1 Ensure that the hazardous waste storage area will require no further maintenance and control;

2.1.2 Eliminate threats to human health and the environment.

2.1.3 Avoid escape of hazardous wastes, hazardous constituents leachate, contaminated run off, and waste decomposition products to the surface, ground water or the atmosphere.

2.1.4 The general steps required to accomplish this closure standard are:

a. The floor will be washed and scrubbed with a mild detergent to remove the accumulation of dust and dirt.

b. The wash water will be collected and analyzed for the following hazardous waste. Additional information is listed in attachment (a).

<u>MATERIAL</u>	<u>ACTION LEVEL</u>
2,4 D	0.1ppm
Copper Arsenite	0.05ppm
Ethylene Bromide	4E-07ppm
Calcium Cyanide	1.0ppm
Chlordane (5%)	3E-05ppm
Zinc Phosphide	0.01ppm

NOTE: Action levels are based on the action levels given in Subpart S of RCRA published in the Federal Register of July 27, 1990 under " Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities".

c. This wash water will be disposed of as hazardous waste if the analyses show the wash water exceeds the maximum action level requirements for any of the hazardous waste listed above. However, if the concentration levels are below the maximum allowed, the wash water will be sent to the Forrestal Waste Treatment Plant at the U.S. Naval Station, Roosevelt Roads.

d. The clean surface of the floor will be flushed with potable water. All flush water will be collected and analyzed for the hazardous waste constituents listed above.

e. Inorganic chemicals will be analyzed following the methods specified in 40 CFR 141.23(f).

f. Organic chemicals will be analyzed following the methods specified in 40 CFR 141.24(f).

g. Site remediation at the facility, attachment (b), will be taken if the results of the above sample analysis does not meet the performance criteria for clean closure as

outlined in this plan.

2.1.5 Certify completion of closure per 40 CFR 265 Subpart G, Section 265.115 except as noted in closure schedule.

2.2 Description of Operation of Building 121

2.2.1 Building 121 was used to store pesticides and pesticides containers until 1980. No additional materials have been added to the building inventory since 1980. The maximum quantity of hazardous waste ever stored in the facility was 23.55 gallons.

2.2.2 There has not been a reportable quantity spill in this facility. There are no cracks or open expansion joints in the floor.

2.3 Description of waste stored at the Building 121 hazardous waste storage facility.

2.3.1 All waste was stored in containers. The constituents of waste stored at the facility are listed in attachment (a). The pesticides stored at that time were considered hazardous materials in good condition. These materials were abandoned at the site after the new facilities were built. Their shelf life expired. The building has always been closed and no access allowed. About 23.55 gallons of pesticides had been stored there since 1980. After expiration of their shelf life, the materials became waste.

3.0 REMOVAL OF HAZARDOUS WASTE INVENTORY

3.1 Current Hazardous Waste Inventory

3.1.1 Building 121 is currently storing the hazardous waste materials listed in attachment (a).

3.2 Removal of Current Inventory

3.2.1 The hazardous waste stored at Building 121 will be disposed of as hazardous waste. The containers will be overpacked, marked and labeled. Then, they will be disposed of as hazardous waste.

4.0 DETAILED SAMPLING AND ANALYSIS PLAN

4.1 Surface Sampling Protocol

4.1.1 Figure 1 shows locations where surface wipe samples will be collected and analyzed for the hazardous waste materials listed in attachment (a).

4.1.2 All samples will be handled in accordance with the procedures established in EPA Publication SW-846, Volume I.

4.2 Analytical Testing Procedures

4.2.1 All wash water will be handled as described in section 2.1.4c.

4.2.2 All the debris being disposed of will be handled as hazardous waste and will be disposed of through the DRMO. Additional testing may be performed if it is considered necessary to dispose of the waste.

4.2.3 All testing will be performed as outlined in Section 2.1.4.

4.3 Evaluation of Analytical Testing Results

4.3.1 Flush water (hence the surface of the floor Building 121) will be considered contaminated if the results of the analytical analysis meet any of the maximum concentration requirements for any of the constituents identified in attachment (a).

4.3.2 Remedial actions to be taken will be based on the environmental impact concentrations and proposals submitted with completion or analytical results per the closure schedule. Maximum remedial actions will be per attachment (b).

5.0 CLOSURE SCHEDULE

5.1 The following closure schedule for Building 121 shows the milestones anticipated during closure and the schedule day for initiation of each. All actions will be initiated on completion of the preceding.

Day 0	Receipt of the approved closure plan from the Puerto Rico Environmental Quality Board.
Day 10	Notification of closure to Environmental Quality Board.
Day 30	Initiation of closure (closure procedures start).
Day 90	Completion of decontamination. Analytical results will be submitted to Puerto Rico Environmental Quality Board.
Day 120	Remediation action if required.
Day 175	Submission of Certification by owner/operator advising that closure has been completed in accordance with the plan.

5.2 An extension for completion of this plan may be required if action requires use of outside contractors to allow for

specifications development, solicitation, open bidding, contractor selection, and job completion process or any unforeseen conditions which may be encountered.

5.3 Final closure will be supervised by the Environmental Engineering Division and certified by an independent A/E contractor.

6.0 POST CLOSURE PLAN AND OTHER REQUIREMENTS

6.1 Post Closure Plan

6.1.1 Post closure plans are not required for storage facilities.

6.2 Notices

6.2.1 Notices in deed are not required for container storage.

6.3 Closure Cost Estimates

6.3.1 Under 40 CFR 265.140(c), the federal government is exempt from 40 CFR Subpart H, "Financial Requirements".

6.4 Financial Assurance Mechanism for Closure

6.4.1 Under 40 CFR 265.140(c), the federal government is exempt from 40 CFR Subpart H, "Financial Requirements".

6.5 Post-Closure Cost Estimate

6.5.1 Under 40 CFR 265.140(c), the federal government is exempt from 40 CFR Subpart H, "Financial Requirements".

6.6 Financial Assurance Mechanism for Post-Closure Cost

6.6.1 Under 40 CFR 265.140(c), the federal government is exempt from 40 CFR Subpart H, "Financial Requirements".

6.7 Liability Requirements

6.7.1 Under 40 CFR 265.140(c), the federal government is exempt from 40 CFR Subpart H, "Financial Requirements".

6.8 State Financial Mechanism

6.8.1 Under 40 CFR 265.140(c), the federal government is exempt from 40 CFR Subpart H, "Financial Requirements".

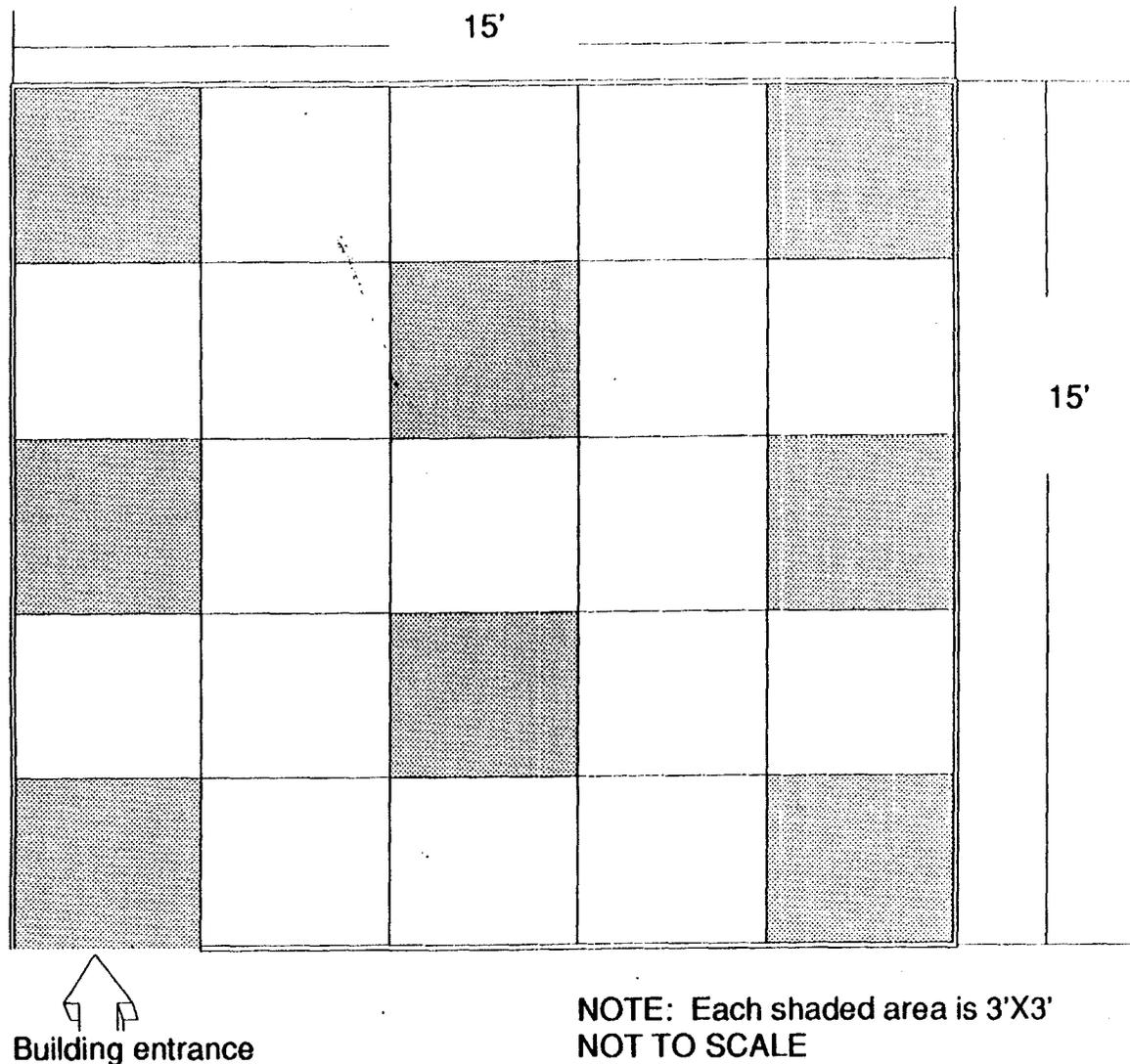


Figure 1. Wipe Sample Locations (shaded area) of Concrete Slab at Building 121

HAZARDOUS WASTE MATERIALS STORED AT BUILDING 121

Material	Qty (Gal)	Waste Class	Action Level (water)	Action Level (soil)
2,4 D	0.5	D016	0.1 ppm	800 mg/Kg
Copper Arsenite	9.0	D004	0.05 ppm	80 mg/Kg
Ethylene Bromide	5.0	U067	4E-07 ppm	0.008 mg/Kg
Calcium Cyanide	5.0	P021	1.0 ppm	300 mg/Kg
Chlordane (5%)	4.0	D020	3E-05 ppm	0.5 mg/Kg
Zinc Phosphide	0.05	P122	0.01 ppm	20 mg/Kg
TOTAL	23.55 gallons			

SITE REMEDIATION ACTIONS

The following actions will be taken only if the results of floor flush water sample analysis in Building 121 prove to be unsatisfactory per the evaluation criteria and some other lesser remedial action can not be agreed upon based on the specific analysis results.

CONDITION 1: Flush water sample unsatisfactory

- Action:
- a. The floor will be cleaned using high pressure washer. All wash water will be collected and analyzed for constituents and action levels listed in attachment (a).
 - b. The floor will be flushed with potable water and the flushed water sampled and analyzed for the hazardous waste constituents listed in attachment (a).
 - c. Wipe samples of the concrete slab will be collected and analyzed for constituents and action levels listed in attachment (a). The results will be compared to determine if further cleaning is required or if the cleaning has had a positive reduction in contaminant levels. Actions (a), (b), and (c) will be repeated as many as three (3) times if appropriate.

CONDITION 2: Wipe Samples Unsatisfactory

- a. We are confident that after the high pressure washing the results from wipe sampling of the concrete slab will be below the action levels. However, if this is not the case additional remedial action will be determined and agreed upon at that time.
- b. Personal protective and safety equipment for sampling and removal shall be as a minimum as indicated in attachment (c).

PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

1. The minimum personnel protective equipment required as follows:

- a. Rubber boots
- b. Rubber gloves
- c. Chemical goggles
- d. Coveralls
- e. Respirators with approved cartridge for use in atmosphere contaminated with organic vapors

2. The above requirements for personnel protective and safety equipment are the minimum required. Changes to the above may be made by the Safety Office based on the actual analytical analysis results.

ADDITIONAL SAMPLING FOR CLOSURE OF BUILDING 121

The following statements are part of the Closure Plan for Building 121.

2.1 Closure Performance Standard. This closure plan will:

2.1.4. The general steps to accomplish this closure standards are:

h. Soil samples will be collected as indicated in Figure 2.

i. Soil samples will be analyzed as indicated in 2.1.4.e and 2.1.4.f, accordingly.

j. Soil samples will be analyzed for hazardous waste listed in 2.1.4.b.

4.0 DETAILED SAMPLING AND ANALYSIS PLAN

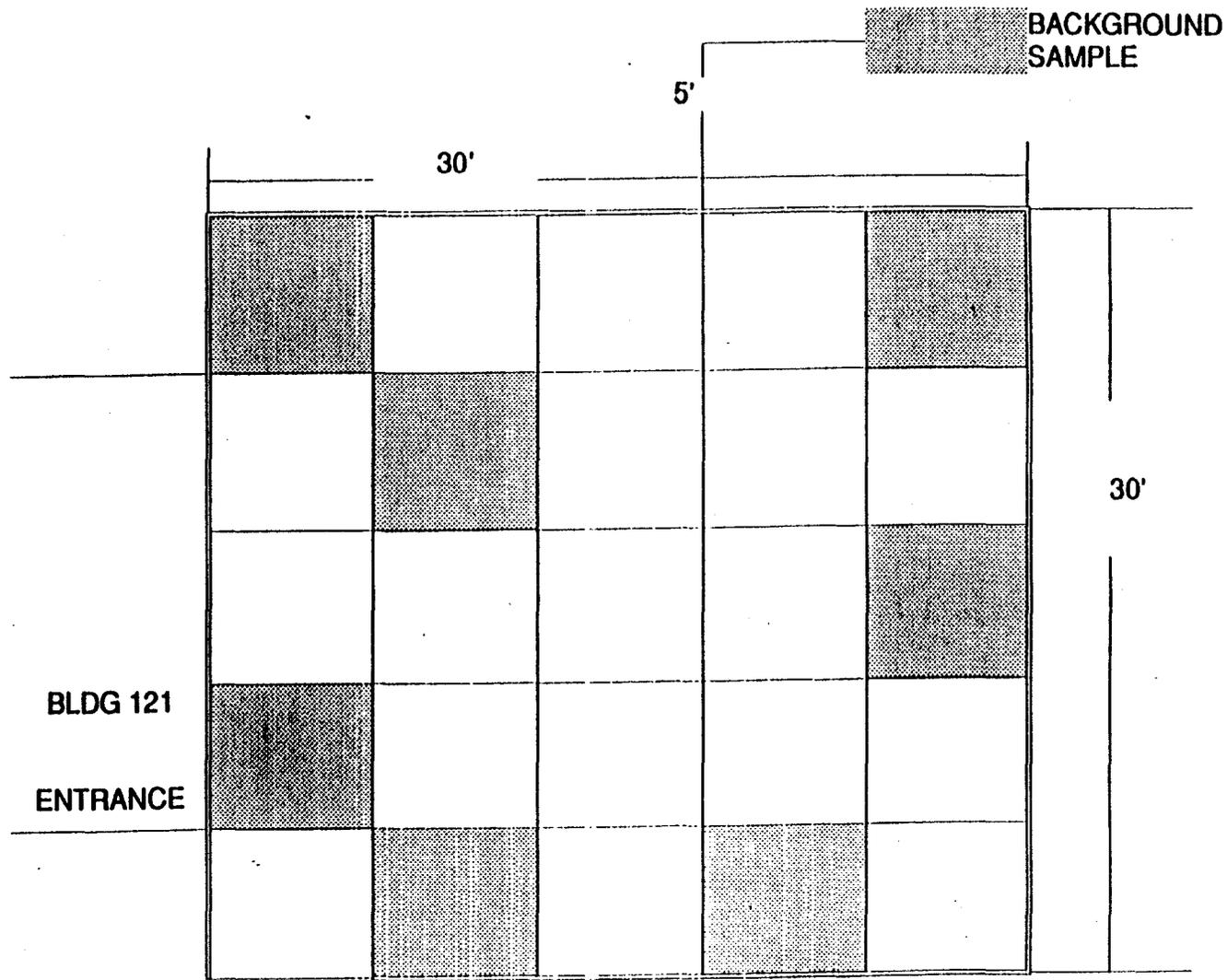
4.1 Surface Sampling Protocol

4.1.1 Figure 1 shows locations where surface wipe samples will be collected and analyzed for the hazardous waste materials listed in attachment (a). Figure 2 shows location where soil samples will be collected and analyzed for hazardous waste materials listed in attachment (a).

4.3.1 Flush water will be considered contaminated if the results of the analytical analysis meet any of the maximum concentration requirements for any of the constituents identified in attachment (a).

4.3.2 Soil samples will be considered contaminated if the results of the analytical analysis meet any of the maximum concentration requirements for any of the constituents identified in attachment (a).

4.3.3 Remedial actions to be taken will be based on the environmental impact concentrations and proposals submitted with completion or analytical results per the closure schedule. Maximum remedial actions will be per attachment (b).



NOTE: Each shaded area is approx. 5'X5'
NOT TO SCALE

Figure 2. Soil Sample Locations (shaded area) in front of Building 121

ADDITIONAL INFORMATION TO CLOSURE PLAN (CP) FOR BUILDING 121

EPA Comment Regarding Paragraph 4.3.2 The CP must state the additional remedial action steps to be take if clean-up action level concentrations are not achieved.

RESPONSE Remedial action to be taken if the analytical data exceeds the action level is outlined in Attachment (B) of CP.

EPA Comment Regarding Enclosure (2), Paragraph 3) If after repeated flushing, wipe or other contact samples fail to confirm acceptable clean-up levels, the CP must spell out what further steps will be undertaken.

RESPONSE If after the third pressure wash swipe samples are not below the action levels outlined in Attachment (A), the floor of building 121 will be scabbled to a depth of 2 inches (2"). All the scabbled material will be drummed up and disposed of in accordance with 40 CFR 260-268. Additional swipe samples will then be taken of the scabbled surface to confirm that the action levels have been met. Soil samples will be analyzed for the constituents in Attachment (A). Should the results reveal that the soil background levels have been exceeded then the soil will be excavated using handheld excavating equipment (shovels, picks, etc.) and a backhoe, to a depth of one foot (1 ft) in the 30'x30' area in front of the building. The excavated soil will be disposed of in accordance with 40 CFR 260-268. Additional samples of the soil will then be taken to determine at this point the background has been met. Figures (1) and (2) show location where samples will be collected and analyzed from the floor and the soil mentioned above, respectively. If it is determined at this point that this unit has not met the action levels then the unit will be deferred to EPA for corrective action.

Equipment used during any of the excavation and scabbling will be steam cleaned on the decontamination area designed to contain all wash water. The wash water will then drummed up and sampled for the parameters in Attachment (A). If the results indicate that the action levels have not been met then the wash water will be disposed of in accordance with 40 CFR 260-268, otherwise the wash water will be sent to the Forrestal Waste Water Treatment Plant. All Personnel Protective Equipment (PPE) used during excavating and scabbling that can not be decontaminated will be drummed up and disposed of in accordance with 40 CFR 260-268.

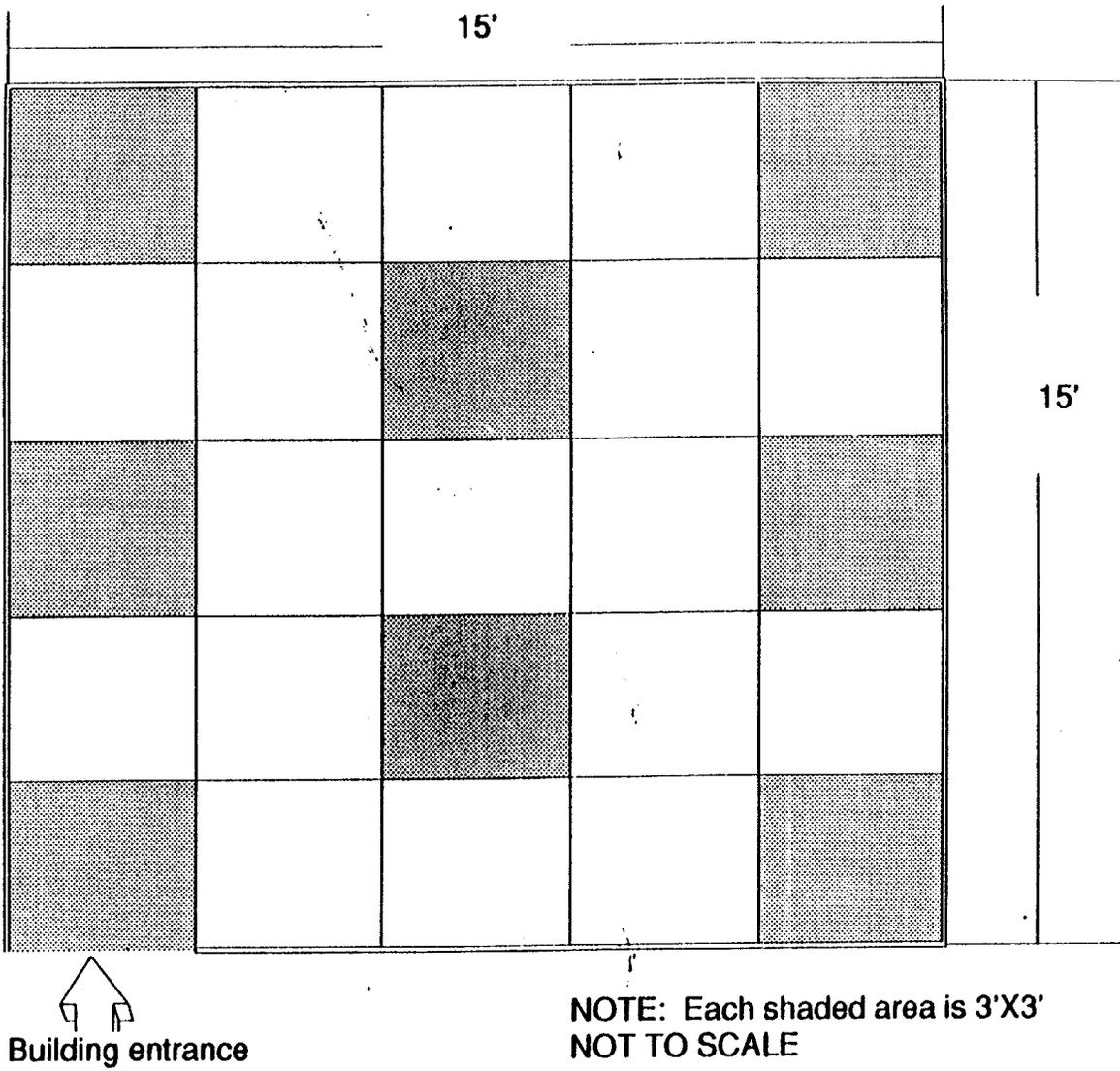
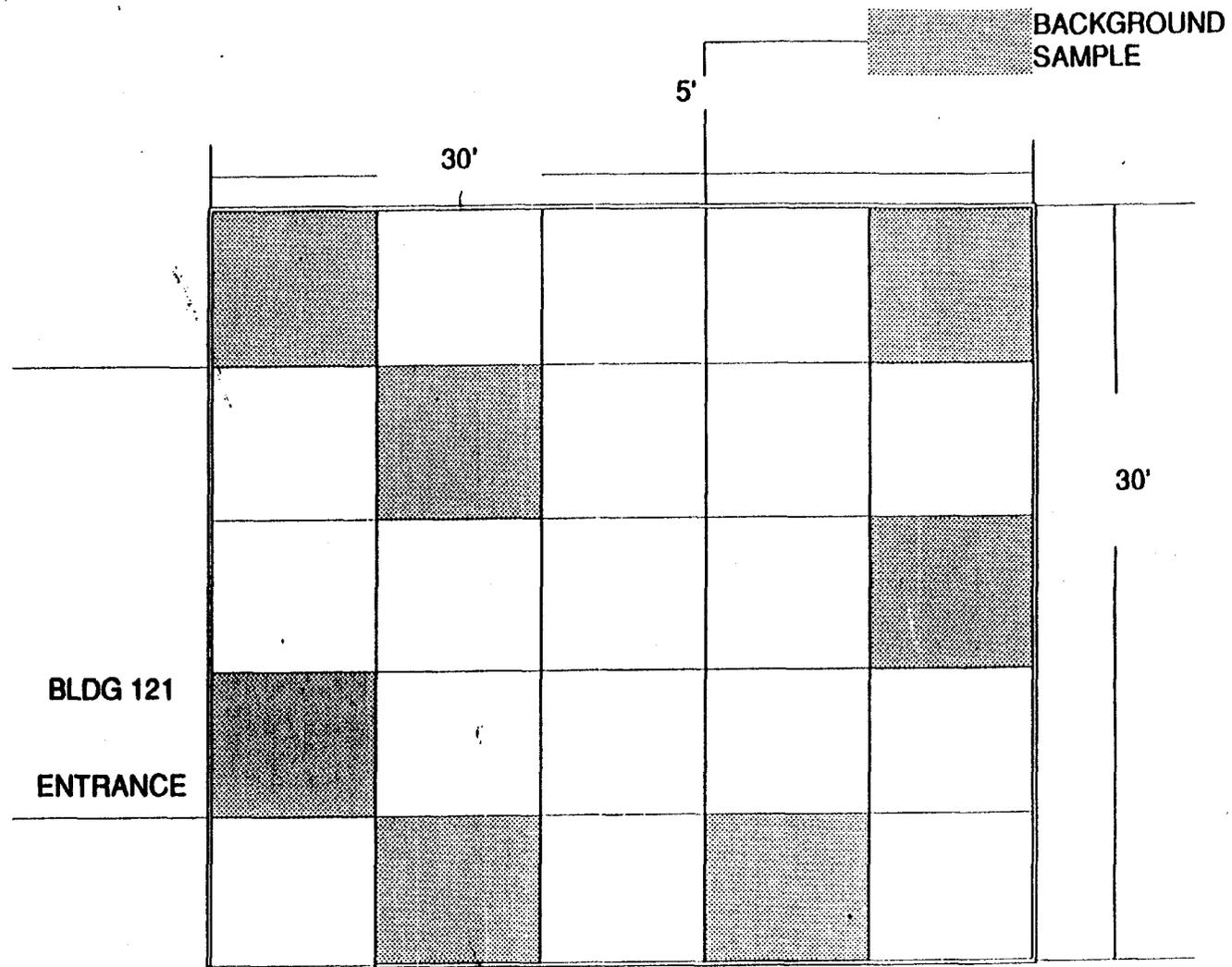


Figure 1. Wipe Sample Locations (shaded area) of Concrete Slab at Building 121



NOTE: Each shaded area is approx. 5'X5'
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Figure 2. Soil Sample Locations (shaded area) in front of Building 121