14. PRE-DESIGN CONFERENCE AGENDA

Date: 4/5/2019 (Contract Time Begins)

Project Design Days: 100

Owner/User Review Days: 50

A.F.C.: $250,000

Total Contract Days: 150

Date Contract Time Ends: 9/2/2019

Project: HVAC REPLACEMENT STATE POLICE TROOP L MANDEVILLE LA

Project No: 01-107-06B-11 WBS ~~Part No:~~ F.01003801

Site I.D. [illegible] 1-52-004 State I.D. No: S 00814

Designer: DAMMON ENGINEERING INC

Project Manager for Facility Planning: MARK E BRADLEY

Contact Person for Umbrella Agency: _____

Contact Person for the User Agency: SGT RUSSELL MAYFIELD

A Pre-Design Conference was held at 10am this date at TROOP L HQ MANDEVILLE and the following were present:

NAME	ORGANIZATION	TELEPHONE NO.
MARK E BRADLEY	FPIC	504 568 8545
mark.bradley@la.gov		

1. Correspondence, Conferences and Minutes

a. All correspondence, documents, etc. about this project shall be addressed to the Project Manager, Facility Planning and Control, with appropriate copies to the Umbrella, the User and the other agencies. **Each item of correspondence or document shall be identified by its Title and State Project & Part Number. The State I.D. Number shall also be included if the project includes work on an existing building.**

b. The Project Manager for Facility Planning and Control:

MARK E BRADLEY

c. The contact person for the User Agency:

SGT RUSSELL MATFIELD

d. The contact person for the Umbrella Agency:

_____

e. Facility Planning & Control will receive notification prior to all meetings or conferences held in connection with this project.

f. Designer shall keep minutes of all Meetings or Conferences during the course of this project and distribute them to the Owner, User, Umbrella and other agencies as directed, within seven (7) days.

2. Funding and Budget

a. Funds are appropriated to Facility Planning & Control by the State Legislature and can only be changed by the Legislature. The Project Program shall not deviate from the written intent of the Capital Outlay Bill.

b. The Funds Available for Construction (A.F.C.) are established by Facility Planning and Control and can only be changed by Facility Planning and Control.

c. Policy on Base Bid and Alternates:

(1) The Base Bid shall include all of the primary aspects required of the program to produce a fully usable, functional, and complete facility.

(2) The use of Alternate Bids must be approved by Facility Planning and Control. By state law, a maximum of three (3) alternates may be used. (Add alternates only).

(3) The Designer is responsible for designing the project so that the Base Bid plus all Alternates do not exceed the A.F.C.

d. Designer is to use the Statement of Probable Cost format provided by Facility Planning and Control in the preparation of estimates.

e. If federal funds are involved, compliance with any applicable federal regulations, **such as the Davis-Bacon Act on wage rate and payroll records, shall be required. The federal grantee, usually the user agency, will provide this information.**

3. Contract

a. The Designer's Contract consists of the Procedure Manual, the Instructions to Designers, and the written Contract including the User Program and all other attachments made a part thereof. The Contract is between Facility Planning and Control and the Designer, and can only be amended by the above two parties. Contact Facility Planning and Control for interpretations and clarifications.

b. Some of the sections of the instructions to Designers may not apply to this project. The Project Manager shall review the Instructions to Designers with the designer and delete the sections that do not apply.

c. The Instructions to Designers include a number of standard documents that are to be included in the Contract Specifications. These are listed in the Instructions for Specifications. Additional forms may be provided by the User Agency to be included in the Contract Specifications, including, but not limited to, the following:

(1) Affirmative Action Compliance

(2) Non-segregated Facilities Assurance
(3) Equal Employment Opportunity Clause
(4) For correctional center projects: Designer shall incorporate into the documents Department of Correction rules and regulation governing access to the site and conduct required while on the site.

d. The Design Time Schedule commences on the date of the Pre-Design Conference. The design time continues until delivery by the Designer of Bid Documents complete with seal, coordinated and ready to bid. Design submittals not conforming to Facility Planning and Control requirements will not be accepted for review, and design time will continue to accrue. The design time includes a specified number of days for reviews. Specific number of review days for each phase submittal shall be determined at the Pre-Design Conference.

e. Liquidated Damages will reduce the Designers fee, in accordance with the provisions of Article 5.5 of the Procedure Manual, should the design time be exceeded.

4. Fees and Billings

a. Professional Design Services Invoices are approved at satisfactory completion of design work for phases outlined in Manual.

b. All billings to be on current form(s) as provided by Facility Planning and Control.

c. The Professional Design Services Invoice shall be submitted directly to Facility Planning and Control for payment. FP&C can authorize payment from the original only. Do not submit copies to FP&C.

d. During construction Designers' invoices shall be paid only after all required documentation has been received, including all site visit reports.

5. Submittals

a. The content of each submittal during the design and bidding process is outlined in the General Instructions to Designers. **The project manager shall discuss the required contents of each phase and the intent of the requirements.** No item of a submittal may be omitted without approval of FP&C. Always include a "Design Phase Submittal/Certification of Phase Completion" form with each submittal.

b. Submittal to FP&C shall include one (1) copy of all required documentation, with one (1) additional copy of sketches or Drawings and Specifications. Copies to User and Umbrella Agencies shall be as directed at the Pre-Design Conference.

c. The Project Manager and the Designer will discuss codes and laws and determine which edition, if different from that shown in the section entitled INSTRUCTIONS ON STANDARDS FORMS AND SPECIFICATIONS, will apply to this project. When referencing codes and standards in the specifications, specific edition dates and numbers for each shall be included. The method or program used to conduct the energy analysis, if not listed in the Advertisement, will also be determined at this time.

d. Regulatory Agencies:
(1) State Fire Marshal
8181 Independence Blvd, Baton Rouge, Louisiana 70806, (225) 925-4920 or 800-256-5452.
(2) Regional Office of Public Health
For address and phone number contact:
LDH-OPH Sanitarian Services (if applicable)
Phone Number: (225) 342-7550
Physical Address: 628 North 4th Street
Baton Rouge, LA 70802.
Mailing Address: P.O. Box 4489
Baton Rouge, LA 70821-4489
(3) Division of Administration, Office of Technology Services (if applicable)
Physical Address: Information Services Building
1800 North 3rd Street
Baton Rouge, LA 70802.
Mailing address: P.O. Box 94280
Baton Rouge, LA 70804-9280
Attention: Plant & Facilities Section
(4) **Local building permits are not required for State Owned Buildings,** however, local zoning ordinances shall be checked for use compliance. It is also very important to comply with local flood zone requirements or FEMA Base Flood Elevations. See Instructions on Standard Forms and Specifications.
(5) It is important for the Designer to coordinate utility connections and provide copies of the documents to utility suppliers that request them.

This includes local fire departments, particularly with regard to fire hydrant location.

(6) The project number shall be included on the State Fire Marshal Plan Review Application on the "Project Name" line.

e. Louisiana Code for State Owned Buildings. This applies to State owned buildings only. Documents, including the Code Analysis required by the Instructions to Designers, will be reviewed by FP&C for compliance with this code. FP&C may contract with the Office of State Fire Marshal for this review. In this case all communications between the Office of State Fire Marshal and the Designer shall be through FP&C. FP&C will provide official review comments to the Designer.

f. All User's comments on Design Phase Submittals shall come to Facility Planning and Control to transmit to the Designer. This is important to prevent duplication or conflict of comments. Designer is acting on his own and without authorization if he proceeds with User comments before receiving Facility Planning and Control comments or approval. Additional design work caused by failure to follow this procedure shall not be compensated. Should User or Umbrella comments not be received by FP&C within the established review period it will be assumed there are no User comments for that phase and the submittal will be returned without his comments.

g. It is very important that the Designer clearly present the design, particularly during the Design Development Phase, so that the User has a clear understanding of all aspects of the project. It is equally important that the User make every effort to understand the design. User requests for changes are a major source of change orders.

h. Property/Topographic Surveys, Geotechnical Services, Moisture Surveys, Etc.:

(1) Design Professional is to prepare written criteria for approval by FP&C (scope of services) and obtain two or more proposals for each of the Services, review for adequacy and budget (consult Facility Planning and Control), and make written recommendation to Facility Planning and Control.

(2) In agreement with the Designer, Facility Planning and Control will either:

(a) Have the Designer enter into a contract for the required services and amend the Designers contract providing a reimbursable expense for the amount of the contract plus an agreed upon amount for coordination (for contracts referencing the Louisiana Capital Improvement Projects Procedure Manual for Design and Construction 2004 Edition or later, there will be no mark-up for coordination of property / topographic surveys and geotechnical services); or

(b) FP&C will issue contracts for the services required (for contracts referencing the Louisiana Capital Improvement Projects Procedure Manual for Design and Construction 2004 Edition or later, the Designer will be responsible for holding the contract for property / topographic surveys and geotechnical services).

(3) Designer shall receive the copies of the reports/documents, the signed original invoice, etc. and check for completeness and adequacy, distribute as required and forward signed original invoice with recommendation for payment or non-payment to Facility Planning and Control.

6. Additional Policies and Procedures

a. The Designer shall advise FP&C of the earliest date that the Bid Documents will be ready to issue to prospective bidders. FP&C will coordinate the bid date with the Designer then advertise the project and mail a copy of the completed "Advertisement for Bids" for the Designer to bind into the specifications. The Designer may recommend an alternative method of plan distribution for approval by the Owner.

b. FP&C shall approve all recommended changes to Contract Documents prior to the Designer issuing and including such changes by addendum. Be sure that FP&C receives copies of all prior approvals.

c. Per R.S. 38:2212(O)(2) **no addendum may be issued less than seventy-two (72) hours prior to advertised bid opening**, excluding Saturdays, Sundays and legal holidays without delaying the bid opening at least seven days, but not to exceed twenty-one (21) working days.

d. The Designer or his representative shall be present at the bid opening and shall use the Bid Tabulation Sheet which is provided. The heading

shall be completed and each prospective bidder, with their license number, shall be listed in alphabetical order. All entries shall be either typed or printed. Provide sufficient copies for all interested parties.

e. The Designer and User Agency are to recommend, by letter, whether to accept or reject bids to Facility Planning and Control.

f. If called for in the Advertisement for the Selection Board, the scope and schedule for "Per Cent for Art" shall be discussed and defined.

g. If the project is a renovation or involves any renovation the following shall be discussed:

(1) Condition of the existing roof and any repairs or re-roofing that needs to be included.
(2) Asbestos containing materials
(3) Lead based paint
(4) ADA
(5) Underground storage tanks
(6) Archaeological investigation.
(7) Certificate of Appropriateness (East Baton Rouge Parish only)
(8) Demolition

7. Quality Control

a. Discuss the need for mock-ups and testing of mock-ups. Examples of building systems to be considered shall include, but not be limited to, the following:

(1) Exterior walls, particularly masonry, pre-cast concrete and exposed concrete
(2) Interior finishes, particularly tile and terrazzo
(3) Windows and window wall systems
(4) Sealants
(5) Complete room
(6) Light Fixtures

Include a complete description of the type and size of mock-ups and tests required in appropriate specification(s).

b. Discuss the importance of using standard, commonly available components, systems and finishes. Special designs, colors, etc., are **NOT** to be used without prior written approval from Facility Planning and Control. They are costly to install, costly to add by change order and costly to maintain. Special shape masonry units, custom designed systems, non-standard profiles, and special colors for factory finishes are examples.

c. Discuss the planning of any office spaces. The Project Manager will provide a copy of the Facility Planning and Control Space Entitlements and General Procedures.

d. Discuss the importance of preventing conditions that may lead to mold growth, with particular attention to moisture control in the building during the installation of materials that are sensitive to moisture, such as gypsum board, millwork, paint, vinyl wall covering, etc.

e. Discuss Testing Laboratory Services. The Owner will engage and pay the testing laboratory. The Designer shall recommend the types of testing required and provide an estimate of the cost. The Designer shall ensure that the testing laboratory attends the Pre-Construction Conference.

8. The Site and Program

a. The Preliminary Program has been furnished to the Designer as a part of the Contract. The Designer is to refine the Program, verify that the refined Program can be completed within the A.F.C., and fulfill all services as required in Article 7.1.1 of the Procedure Manual, Program Completion Phase. This phase cannot be omitted and cannot be combined with any other phase of the Designer's Services.

The approved program constitutes the basis for design. Any additions or deletions to the program are to be requested by the User Agency, in writing, of FP&C. The Designer is cautioned not to perform any work on changes to the Program unless authorized, in writing, by FP&C.

b. A discussion and review of the Program is now to take place and documented to all parties and FP&C's file.

Date Prepared: 4/4/19

TIME SCHEDULE

Project Name HVAC System Replacement Troop L HQ Mandeville

User LA ST POLICE

Location Mandeville LA

Project No. 01-107-06B-11 Part No. WBS F.01003801

Date of Pre-Design Conference April 9 209

Original Contract Time ~~120~~ 150 (Per Exhibit "A")
Number of Review Days 50 (Per Exhibit "A")
Number of Design Days 100

PHASE SUBMITTAL	ORIGINAL DATE DUE	DAYS EXT.	REVISED DUE DATE	REVIEW DAYS
Program Completion	4/13/19			5
Schematic Design	5/5/19			9
Design Development	6/2/19			12
Construction Documents	7/25/19			17
Bid Documents	8/26/19			7

***NOTE**: This form is to be completed and submitted with the minutes of the Pre-Design Conference, and with each Design Submittal.*

DIRECT APPOINTMENT

SRM Cont # 4400016796

SRM PO # _____

CONTRACT BETWEEN OWNER AND DESIGNER

THIS CONTRACT, made and entered into this 27th day of March, 2019, between the STATE OF LOUISIANA, DIVISION OF ADMINISTRATION, hereinafter called the Owner, and **Dammon Engineering, Inc.**, (Architects) of **554 Old Spanish Trail, Slidell, LA 70458** hereinafter called the Designer.

WITNESSETH:

Whereas, the Owner, in the execution of a single project at the:

State Police Troop L Headquarters

contemplates the following project to-wit:

HVAC System Replacement
State Police Troop L Headquarters
Mandeville, Louisiana
Project No.: 01-107-06B-11, F.01003807
State ID: S00814 Site Code: 1-52-004

for the purposes and to the extent set forth in a Building Program attached, of the Owner, dated **February 25, 2019,** to which Program a specific reference is hereby made; and

Whereas, the Designer named above has been duly selected by the Owner to perform design duties for the project described; and,

Whereas, the relationship between the Owner and the Designer, and their rights and duties, respectively, on such projects are more particularly defined in a manual entitled "Louisiana Capital Improvement Projects Procedure Manual for Design and Construction - 2006 Edition", as prepared by the Division of Administration, hereinafter referred to as the "Manual".

Now, therefore, it is mutually agreed that the Designer will perform the services of **Architects** on the aforesaid project and that the Owner will compensate the Designer for such services in accordance with the terms and conditions hereinafter set forth.

CONDITIONS

This contract is made subject to and in accordance with all of those provisions in the "Manual" applicable to Designers, all of which provisions are hereby incorporated herein and made a part of this contract, as though herein set out in full.

This contract shall become effective on the date of the predesign conference and shall terminate upon notification by the Owner that all punch list and warranty items have been completed satisfactorily.

The Designer agrees that should the scope of the project as established by Exhibit A, The Building Program, or Exhibit B, Available for Construction Budget, both attached and made a part of this contract, be exceeded, any revision in the plans and specifications necessary to bring the construction of the project within the Available for Construction Budget will be made at no additional cost to the State of Louisiana.

The Designer also agrees that the professional consultants named in Exhibit C attached hereto and made a part hereof, will, if approved by the Owner, be retained on this project and will affix their professional seal on any documents prepared by them. If other professional consultants are retained during the term of this contract, their names will be submitted to the Owner for approval and their professional seals affixed to any documents prepared by them.

The Fee for Basic Services, which is described in and may be modified in accordance with Article 5 of the "Manual" to be paid the Designer for the services required by the is **TWENTY-FOUR THOUSAND SIX HUNDRED FIFTY-THREE AND NO/100 DOLLARS ($24,653.00)**, which is based on the amount Available for Construction, **TWO HUNDRED FIFTY THOUSAND AND NO/100 DOLLARS ($250,000.00)**.

The Fee for Basic Services for this project is as outlined in Exhibit "B" attached.

Designer hereby agrees that the responsibility for payment of taxes from the funds thus received under this Contract and/or legislative appropriation shall be Designer's obligation and identified under Federal tax identification number 72-1075648.

The State may terminate this Contract for cause based upon the failure of the Designer to comply with the terms and/or conditions of the Contract; provided that the State shall give the Designer written notice specifying the Designer's failure. If within thirty (30) days after receipt of such notice, the Designer shall not have either corrected such failure or, in the case of failure which cannot be corrected in thirty (30) days, begun in good faith to correct said failure and thereafter proceeded diligently to complete such correction, then the State may, at its option, place the Designer in default and the Contract shall terminate on the date specified in such notice. The Designer may exercise any rights available to it under Louisiana law to terminate for cause upon the failure of the State to comply with the terms and conditions of this contract; provided that the Designer shall give the State written notice specifying the State's failure and a reasonable opportunity for the state to cure the defect.

The State may terminate the Contract at any time by giving thirty (30) days written notice to the Designer. The Designer shall be entitled to payment for deliverables in progress, to the extent work has been performed satisfactorily.

Any claim or controversy arising out of this contract shall be resolved by the provisions of LSA - R.S. 39:1672.2 - 1672.4.

No Designer shall assign any interest in this contract by assignment, transfer, or novation, without prior written consent of the State. This provision shall not be construed to prohibit the Designer from assigning his bank, trust company, or other financial institution any money due or to become due from approved contracts without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the State.

It is hereby agreed that the Legislative Auditor of the State of Louisiana and/or the Office of the Governor, Division of Administration auditors shall have the option of auditing all accounts of Designer which relate to this contract.

The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the legislature. If the legislature fails to appropriate sufficient monies to provide for the continuation of the contract, or if such appropriation is reduced by the veto of the Governor or by any means provided in the appropriations act to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

The Designer agrees to abide by the requirements of the following as applicable: Title VI of the Civil Rights Act of 1964 and Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972, Federal Executive Order 11246 as amended, the Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975, the Fair Housing Act of 1968 as amended, and Designer agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

Designer agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, religion, sex, sexual orientation, national origin, veteran status, political affiliation, disability, or age in any matter relating to employment. Any act of discrimination committed by Designer, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this contract.

Designer has a continuing obligation to disclose any suspensions or debarment by any government entity, including but not limited to General Services Administration (GSA). Failure to disclosed may constitute grounds for suspension and/or termination of the Contract and debarment from future Contracts.

Designer, and each tier of Subcontractors, shall certify that it is not on the List of Parties Excluded from Federal Procurement or Nonprocurement Programs promulgated in accordance with E.O.s 12549 and 12689, "Debarment and Suspension," as set forth at 24 CFR part 24.

THUS DONE AND SIGNED at Baton Rouge, Louisiana, on the day, month, and year first written above.

WITNESSES:

FP&C Witness #1 Sign Here

FP&C Witness #2 Sign Here

Designer Witness #1 Sign Here

Designer Witness #2 Sign Here

STATE OF LOUISIANA
DIVISION OF ADMINISTRATION
OWNER

BY: _____
MARK A. MOSES, FP&C DIRECTOR

BY: _____
DAMMON ENGINEERING, INC.

EXHIBIT "A"

THE BUILDING PROGRAM

PROJECT NO. 01-107-06B-11, F.01003807

AS PREPARED BY:

Facility Planning and Control

FOR:

HVAC System Replacement
State Police Troop L Headquarters
Mandeville, Louisiana

DATED:

February 25, 2019

is hereby made part of this contract. The Designer shall refine and complete the program for approval of the User Agency and Owner. Construction documents are to be completed within **150** consecutive calendar days from the date of the pre-design conference. The number of consecutive calendar days shall include **50** days for review by the Owner and User. In accordance with Article 5.7 of the 2006 Procedure Manual, when the Designer exceeds the established time schedule, liquidated damages in the amount of **$75.00** per day will be assessed for each working day past the original or extended date that the Designer has not delivered all Construction Documents to the Owner complete, coordinated and ready to bid.

February 25, 2019

PRELIMINARY PROGRAM
HVAC SYSTEM REPLACEMENT
STATE POLICE TROOP L HEADQUARTERS
Mandeville
State Project No. 01-107-06B-11, F.01003807

This project consists of the removal and replacement of the existing HVAC system including ductwork, associated mold remediation, and any required wall and ceiling finishes replacement within the approximately 10,000 sq ft Troop L Headquarters. The designer shall be responsible for determining the extent of environmental remediation associated with the removal of the existing hvac system and confirming the hvac design loads and programming needs for the replacement equipment. Record drawings of the building floor plan will be made available to the designer. The existing hvac installation will require field verification.

Design services shall include all phases of basic services (Program Completion thru One-Year Warranty / Project Closeout).

HVAC REPLACEMENT - TROOP LHQ

STATE POLICE TROOP L MANDEVILLE

SGT RUSSELL Mayfield
russell.mayfield@la.gov
985-966-2919

Building Information

Site Code	1-52-004	**State ID**	00814
Facility Name	TROOP L HEADQUARTERS		
Building Name	TROOP L HEADQUARTERS		
Address	2600 NORTH CAUSEWAY BLVD. MANDEVILLE, LA		
Contact Person	SHERMAN PHARES		
Contact Phone	985-893-6250		
Description	ONE STORY BRICK ON BLOCK BUILDING, ON SLAB. 10% METAL SIDING. STEELFRAME ROOF WITH SHINGLE COVER. PAINTED BLOCK INTERIOR WALLS. VCT,CARPET, & TILE FLOORS. CENTRAL HVAC. POLICE HQ, BUT NO DETENTION ARE		
General Use	COMMERCIAL	**Energy Contact**	
Specific Use	COM - Office	**Name**	Save
Dimensions	Irreg.	**Phone**	
		Email	
Longitude	-90.087207		
Latitude	30.402825		

Replacement Cost	$1,230,957.00	**Actual Cost**	$305,525.00
Valuation Date	2017-01-18	**Cost Index**	$0.00
Move In Date	1977	**Floor Area**	10,192.00
Stories	1	**Flood Zone**	A3
Construction Class	4	**Elevators**	N

ADA Building Comments

[Add/Edit]

Attachment Information TROOP L HEADQUARTERS

State ID 00814

Title TROOP L HEADQUARTERS

Description FRONT VIEW

Attachment Type Photo

Attachment Date 6/26/2002

Sequence No. 4

FM Program | Home

Attachment Information TROOP L HEADQUARTERS

State ID	00814
Title	Front of Building
Description	Front
Attachment Type	Photo
Attachment Date	1/1/1995
Sequence No.	2

Attachment Information TROOP L HEADQUARTERS

State ID	00814
Title	Rear of Building
Description	Rear
Attachment Type	Photo
Attachment Date	1/1/1995
Sequence No.	3

FM Program | Home

Attachment Information TROOP L HEADQUARTERS

State ID	00814
Title	Troop L Headquarters
Description	front view
Attachment Type	Photo
Attachment Date	5/22/2006
Sequence No.	6

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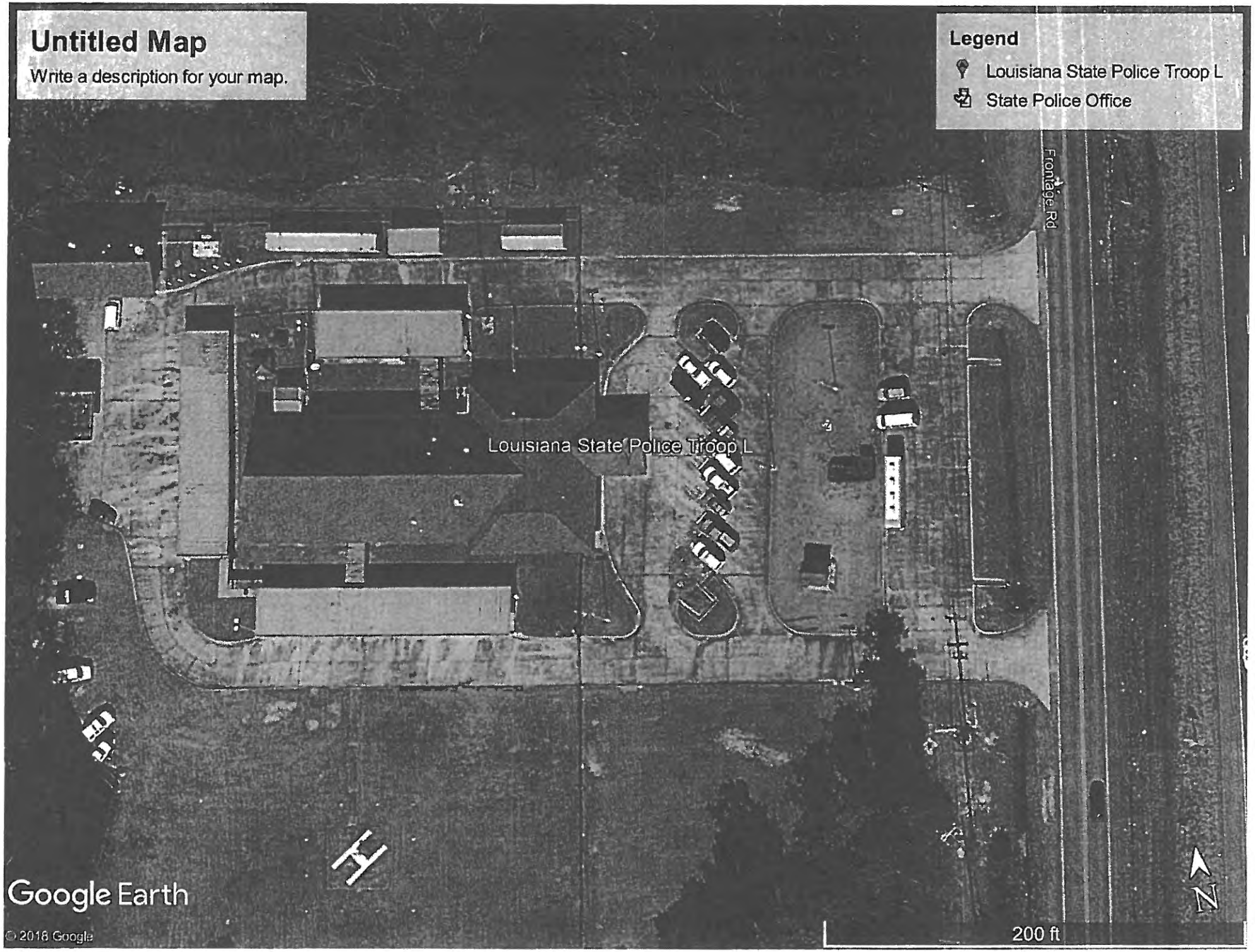
Attachment Information TROOP L HEADQUARTERS

State ID	00814
Title	TROOP L HEADQUARTERS
Description	REAR VIEW
Attachment Type	Photo
Attachment Date	5/22/2006
Sequence No.	7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State Police Office
Frontage Rd
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Google Earth
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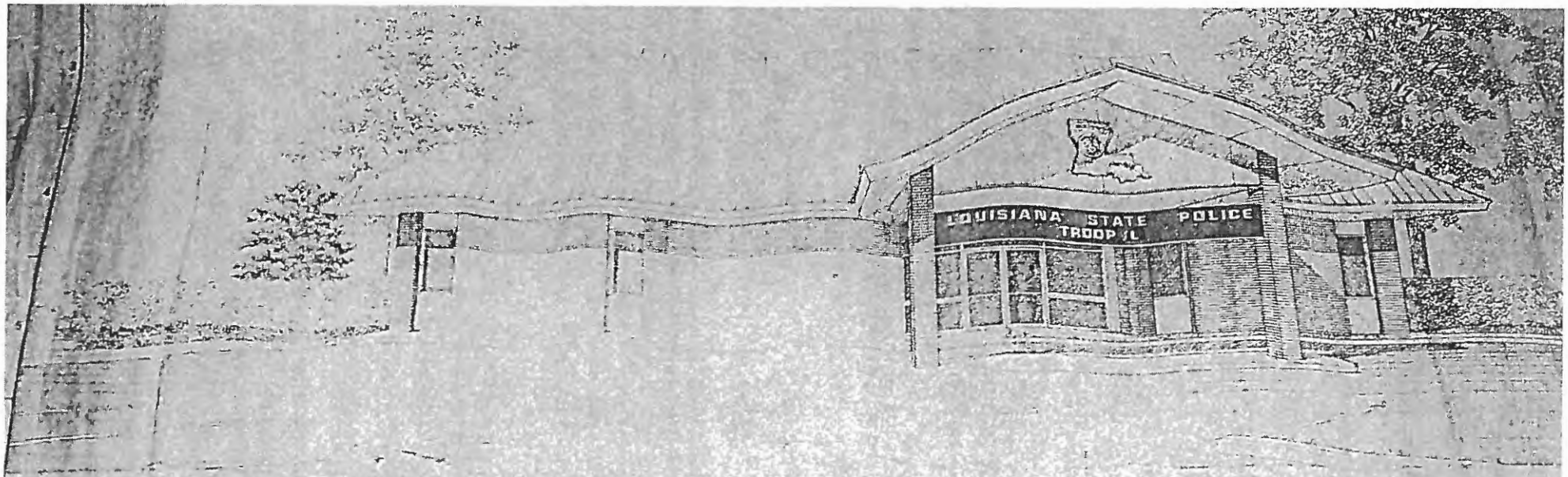


LOUISIANA DEPARTMENT OF PUBLIC SAFETY
DIVISION OF STATE POLICE

TROOP L HEADQUARTERS — COVINGTON, LOUISIANA
PROJECT NO. 08-01-75-IL

EDWIN EDWARDS - GOVERNOR

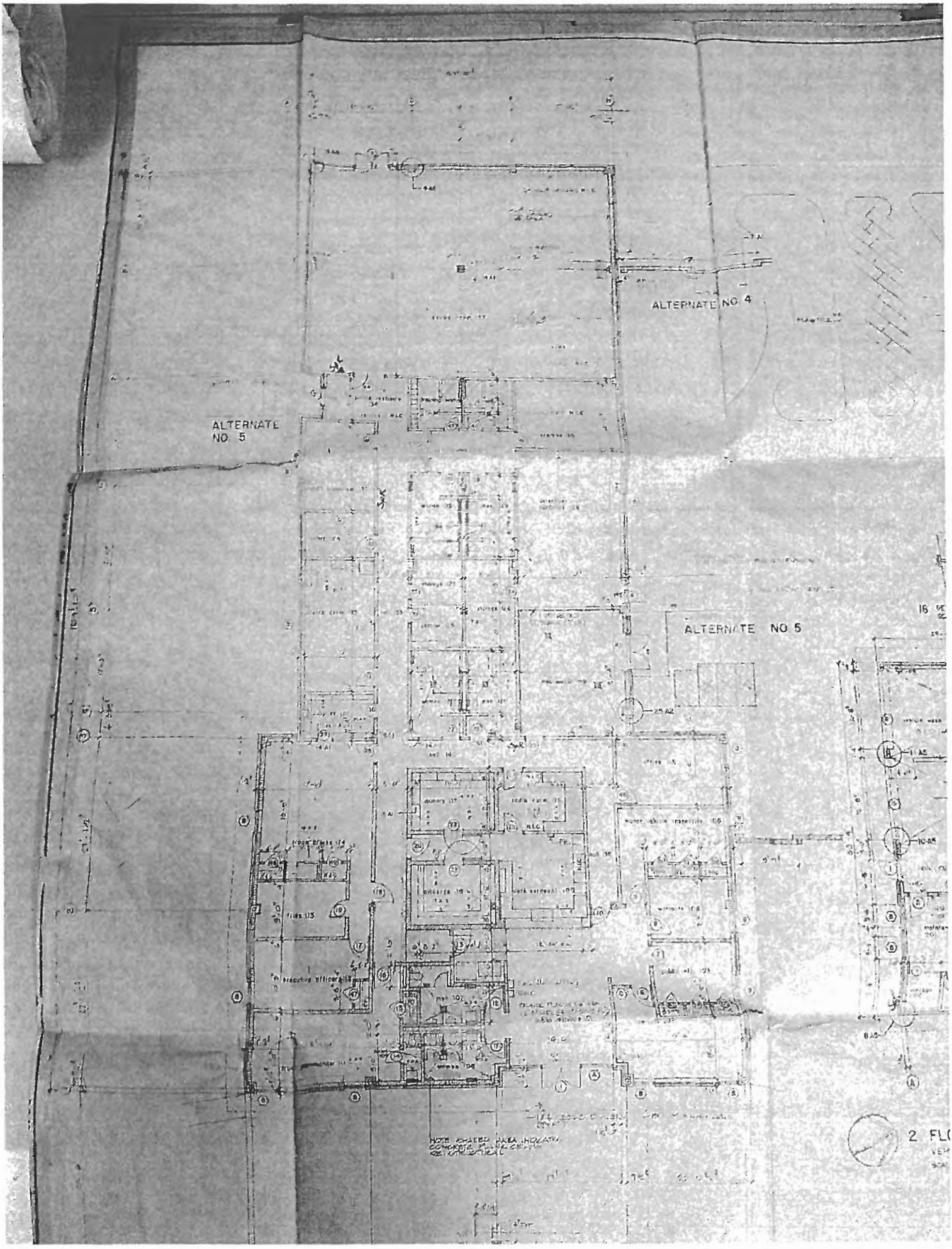
DIVISION OF ADMINISTRATION
CHARLES E. ROEMER II, COMMISSIONER

DEPARTMENT OF PUBLIC SAFETY
MALCOLM R. MILLET, DIRECTOR

BOVAY ENGINEERS, INC.
ENGINEERS

DESMOND - MIREMONT & ASSOCIATES
ARCHITECTS

B C D E F G


ALTERNATE NO 4
ALTERNATE NO 5
ALTERNATE NO 5

Area No.	Homogeneous Areas	
1	1 x 1 Foot, Smooth Cream Floor Tile	Sampling Info
2	1 x 1 Foot, Smooth Beige/Tan Floor Tile	Sampling Info
3	TAR-LIKE BLACK PIPE COVERING	Sampling Info
4	FIBEROUS White Mudded Pipe Fittings	Sampling Info
5	Smooth White Drywall system	Sampling Info
6	1 x 1 Foot, Smooth Brown, LT BROWN Floor Tile	Sampling Info

**Note: If Positive, then at least one sample was analyzed as containing ACBM within the building.

FM Program | Home | Building Info

Homogeneous Area Information

State ID	00814	**Date of Inspection**	12/8/1992
Building Name	TROOP L HEADQUARTERS		**Positive**
Accredited Building Inspector	JOSEPH RID		
LADEQ Accreditation No.	3I0438		
Imminent Hazard Samples	1		
Total Samples Collected	1		

Sample Location Information

Sample No.	H.A. No.	Floor No.	Room No.	Location within Room
001	1	1	125	SOUTH AREA

Sample Laboratory Results

Sample No.	H.A. No.	Result	ASBESTOS					Non-ASBESTOS			
			Chry.	Amos.	Croc.	Other	Total	Synth.	F/G	Cell	Non-Fib
001	1	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	TR	

FM Program | Home | Building Info

Homogeneous Area Information

State ID	00814	**Date of Inspection**	12/8/1992
Building Name	TROOP L HEADQUARTERS		Positive
Accredited Building Inspector	JOSEPH RID		
LADEQ Accreditation No.	3I0438		
Imminent Hazard Samples	1		
Total Samples Collected	1		

Sample Location Information

Sample No.	H.A. No.	Floor No.	Room No.	Location within Room
002	2	1	127	SOUTH AREA

Sample Laboratory Results

Sample No.	H.A. No.	Result	ASBESTOS					Non-ASBESTOS			
			Chry.	Amos.	Croc.	Other	Total	Synth.	F/G	Cell	Non-Fib
002	2	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	ND	

FM Program | Home | Building Info

Homogeneous Area Information

State ID	00814	**Date of Inspection**	12/8/1992
Building Name	TROOP L HEADQUARTERS		**Positive**
Accredited Building Inspector	JOSEPH RID		
LADEQ Accreditation No.	3I0438		
Imminent Hazard Samples	1		
Total Samples Collected	1		

Sample Location Information

Sample No.	H.A. No.	Floor No.	Room No.	Location within Room
003	3	1	119	NORTH AREA

Sample Laboratory Results

Sample No.	H.A. No.	Result	ASBESTOS					Non-ASBESTOS			
			Chry.	Amos.	Croc.	Other	Total	Synth.	F/G	Cell	Non-Fib
003	3	POSITIVE	5%	ND	ND	Other	5%	ND	5%	20%	

Homogeneous Area Information

State ID	00814	**Date of Inspection**	12/8/1992
Building Name	TROOP L HEADQUARTERS		**Negative**
Accredited Building Inspector	JOSEPH RID		
LADEQ Accreditation No.	3I0438		
Imminent Hazard Samples	0		
Total Samples Collected	3		

Sample Location Information

Sample No.	H.A. No.	Floor No.	Room No.	Location within Room
004	4	1	119	NORTHWEST AREA
005	4	1	119	NORTHWEST AREA
006	4	1	119	NORTHWEST AREA

Sample Laboratory Results

Sample No.	H.A. No.	Result	ASBESTOS					Non-ASBESTOS			
			Chry.	Amos.	Croc.	Other	Total	Synth.	F/G	Cell	Non-Fib
004	4	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	20%	
005	4	NEGATIVE	ND	ND	ND	Other	ND	ND	5%	20%	
006	4	NEGATIVE	ND	ND	ND	Other	ND	ND	5%	20%	

Homogeneous Area Information

State ID	00814	**Date of Inspection**	12/8/1992
Building Name	TROOP L HEADQUARTERS		**Negative**
Accredited Building Inspector	JOSEPH RID		
LADEQ Accreditation No.	3I0438		
Imminent Hazard Samples	0		
Total Samples Collected	7		

Sample Location Information

Sample No.	H.A. No.	Floor No.	Room No.	Location within Room
007	5	A	119	SOUTHWEST AREA
008	5	A	119	NORTH AREA
009	5	A	119	NORTHWEST AREA
010	5	A	119	SOUTHEAST AREA
011	5	A	119	SOUTHEAST AREA
012	5	1	H136	SOUTH AREA
013	5	1	137	WEST AREA NEAR COLUMN

Sample Laboratory Results

Sample No.	H.A. No.	Result	ASBESTOS					Non-ASBESTOS		
			Chry.	Amos.	Croc.	Other	Total	Synth.	F/G	Cell	Non-Fib
007	5	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	15%	
008	5	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	TR	
009	5	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	15%	
010	5	NEGATIVE	ND	ND	ND	Other	ND	ND	2-4%	2-4%	
011	5	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	20%	
012	5	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	10%	
013	5	NEGATIVE	ND	ND	ND	Other	ND	ND	ND	25%	

FM Program | Home | Building Info

Homogeneous Area Information

State ID	00814	**Date of Inspection**	12/8/1992
Building Name	TROOP L HEADQUARTERS		Positive
Accredited Building Inspector	JOSEPH RID		
LADEQ Accreditation No.	3I0438		
Imminent Hazard Samples	1		
Total Samples Collected	1		

Sample Location Information

Sample No.	H.A. No.	Floor No.	Room No.	Location within Room
014	6	1	137	NORTHWEST AREA

Sample Laboratory Results

Sample No.	H.A. No.	Result	ASBESTOS					Non-ASBESTOS			
			Chry.	Amos.	Croc.	Other	Total	Synth.	F/G	Cell	Non-Fib
014	6	POSITIVE	2-4%	ND	ND	Other	2-4	ND	ND	TR	

Roofing Information

Section A of B

Site Code	1-52-004	**State ID**	00814
Facility Name	TROOP L HEADQUARTERS		
Building Name	**TROOP L HEADQUARTERS**		
Address	2600 N CAUSEWAY BOULEVARD MANDEVILLE, LA		
Date Created	**2/20/2006**	**Revised Date**	**9/16/2009**
Roof Type	**Shingles**	**Manufacturer**	**GAF-ELK Corporation**
Roof Area	**13590**	**Manufacturer Address**	**1361 Alps Road**
Surfacing	**Ceramic Granules**		**Wayne, NJ 07470**
		Manufacturer Phone	**(973) 628-3000**
Bitumen	**None**	**Manufacturer Warranty**	
Drainage	**Over the Edge**	**Begin Date - End Date**	**9/16/2009-9/16/2039**
Slope	**5/12**	**Contractor**	**Sieverding Construction, Inc.**
Deck	**Wood**	**Contractor Address**	**235 Lotus Drive South**
Plies	**0**		**Mandeville, LA 70471**
		Contractor Phone	**(985) 626-8360**
Insulation	**Polystyrene**	**Contractor Warranty**	
Insulation Thickness	**4**	**Begin Date - End Date**	**9/16/2009-9/16/2011**
Penetrations	**11**		

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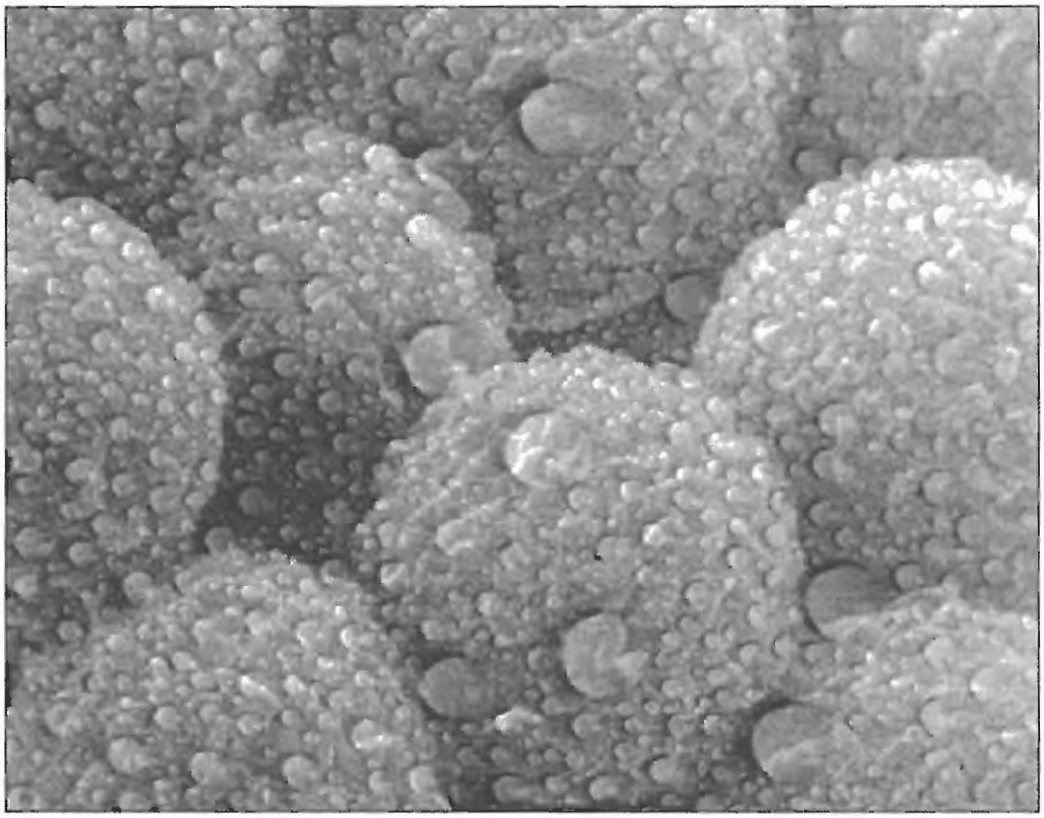

Moisture/Fungal Investigation Report

Prepared for: Louisiana State Police, Troop L
Site Address: 2600 N Causeway Blvd, Mandeville, LA 70471
Prepared by: Urna Semper, Job Title
February 6, 2019
RTC Job Number: 19029

Introduction

RTC was contacted by Sgt. Mayfield of the Troop L with a request to inspect and sample the building and HVAC system for possible mold contamination. The initial inspection was done by Glenn Ray of RTC on 1/28/19 with Sgt. Mayfield. Sgt. Mayfiled requested that RTC submit a quote for the services. That quote was approved on 1/29/19 and the work was scheduled for the evening of 1/31/19. The inspection was done by Glenn Ray and Jason Ray.

The building in question is a commercial building built slab on grade. Exterior walls are brick veneer. The interior walls are concrete block with paint. The ceilings are suspended drywall panels. The HVAC system is in the middle of the building and has a ducted returns system.

The HVAC contractor had inspected the units prior to RTC and submitted photos of the interior of the system. The photos show a system that is very soiled on the interior.

There was no suspect visible growth on walls in the building and no evidence of water damage. The ceiling were clean. St. Mayfield stated there had been problems the ceiling a couple of years ago but it had been repaired.

The outside conditions were cool and windy, with gust to 20 mph. There was no rain.

The building and the HVAC unit are 25 to 30 years old.

Standards of Evaluation

The information contained in this report is based on methodology and standards set forth in several documents. Descriptions of some of these documents are included below. More information about all of these documents can be found in the Reference section of this report.

ANSI/IICRC S500-2006 Standard for Professional Water Damage Restoration

"ANSI/IICRC S500-2006 Standard for Professional Water Damage Restoration is a procedural standard. It is based on reliable restoration principles, research and practical experience. In addition, there has been extensive consultation and information obtained from numerous sources. These sources include, but are not necessarily limited to the scientific community, international, national and regional trade associations serving the professional restoration industry, chemical formulators and equipment manufacturers, cleaning and restoration training schools, restoration service companies, the insurance industry, allied trades persons and others with specialized experience. It is subject to

further revision as developments occur in technology, testing and processing procedures."[1]

"ANSI/IICRC S500-2006 provides a specific set of practical standards for water damage restoration. It does not attempt to teach comprehensive water damage restoration procedures; rather, it provides the foundation for basic principles of proper restoration practices. ANSI/IICRC S500-2006 does not attempt to include exhaustive performance characteristics or standards for the manufacture or installation of structural components, materials and contents (personal property)."[2]

"ANSI/IICRC S500-2006 Standard and Reference Guide is presented using a two-part format: the standard itself and a supplementary reference guide. The procedural standard is featured in this first section, supported by the reference guide in the second section. The intent is to use the principles outlined in the reference guide as a tool to better understand and apply the standard itself. However, the reference guide is not considered part of this standard."[3]

BSR-IICRC S520-2008 Standard and Reference Guide for Professional Mold Remediation

"BSR-IICRC S520-2008 is a procedural standard and reference guide for the remediation of mold damaged structures and contents. IICRC S520 is based on reliable remediation and restoration principles, research and practical experience, and attempts to combine essential academic principles with practical elements of water damage restoration for technicians facing "real-life" mold remediation challenges. The S520 is written for use by those involved in the mold remediation industry, and is the result of collaboration among microbiologists and other scientists, public health professionals, industrial hygienists, remediation contractors, restoration service companies, cleaning and restoration training schools, trade associations that service the professional restoration industry, allied trade-persons, and others with related professional and practical experience."[4]

EPA Mold Remediation in Schools and Commercial Buildings

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[1] IICRC, S-500, Standard and Reference Guide for Professional Water Damage, IICRC, Vancouver, WA, 2006

[2] Ibid

[3] IICRC, S-520, Standard and Reference Guide for Professional Mold Remediation, IICRC, Vancouver, WA, 2008

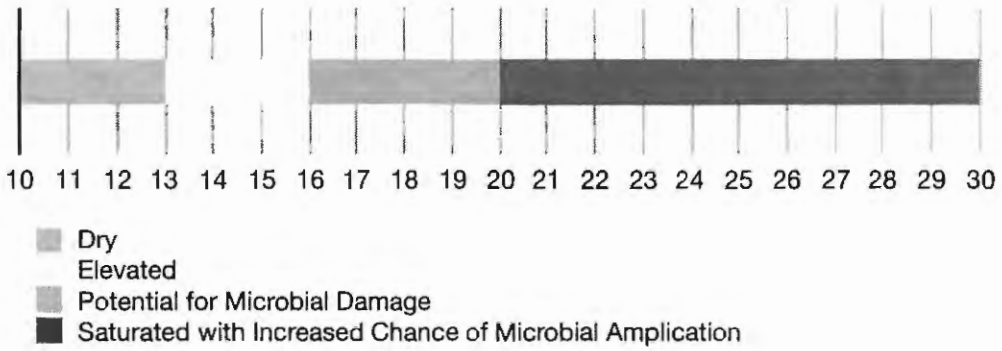
[4] Ibid

"This document presents guidelines for the remediation/cleanup of mold and moisture problems in schools and commercial buildings; these guidelines include measures designed to protect the health of building occupants and remediators. It has been designed primarily for building managers, custodians, and others who are responsible for commercial building and school maintenance. It should serve as a reference for potential mold and moisture remediators."[5]

ASTM D7339-10. Standard Guide for Assessment of Fungal Growth in Buildings
The guide provide a menu of options for assessment of fungal growth in buildings, but does not recommend a specific course of action. Due to variation in fungal problems, occupant, building construction, and causes for the fungal amplification, it is not possible to describe a uniform procedure to followed in every situation.

Moisture Intrusion Investigation

Unless otherwise specified, all moisture readings cited in this report are based on the Wood Moisture Content Scale. This scale is a representation of the percentage of moisture in wood products. When the meter is used in a real wood product the reading is the actual moisture percentage of the wood. When reading in other materials the number is not an exact moisture content percentage. The same scale will be used in other materials such as drywall and manufactured wood products. For simplicity, RTC reports the readings as whole numbers and not percentages. Below is a chart showing the interpretation that RTC will use for the readings collected in the building.



RTC used a Delmhorst BD2100 Moisture meter in various locations the building. All readings were well within the "DRY" range.

[5] Mold Remediation in Schools and Commercial Buildings. EPA. http://www.epa.gov/mold/mold_remediation.html.

Humidity and Bioaerosol Investigation

Humidity has a critical role in the performance of the structure. There are several species of fungi that can begin to grow simply based on high humidity levels. There are many building materials and contents that can be damaged from high humidity. The EPA states that humidity indoors at a normal indoor temperature range, should be below 60% and ideally between 30-50%.[6] RTC collected humidity readings while at the site. A summary of the readings is below.

Location	Temperature	Relative Humidity
Hall, near mechanical room	72°F	37
West end of Bldg, by Lt. Mills office	73°F	36
Shift Supervisors office	73°F	35
Admin office	73°F	35
Outside, front of building	59°F	59

The ASHRAE ideal range for relative humidity is 30% to 60%. The building is operating well within that range. It means the HVAC is working well and dehumidifying as part of it's job.

Sampling Methodology

During the course of the investigation the following sampling methodologies were conducted.

Spore Trap Samples

Spore Traps, also called "Air-O-Cells", are specially designed cartridges used for capturing both viable and non viable spores in the air. Air is pulled through the cartridge using a vacuum pump, at a metered rate of 15 Liters per minute, for ten minutes, which results in a total sample volume of 150 Liters of air. To certify that the amount of air flow is as close as possible to 15 liters per minute, the pump is calibrated using a BioCal calibration unit. A photo of the calibration reading is included below under the "Sample Results" section. As spores present in the air are drawn through the cartridge, they are trapped on adhesive strips inside the cartridges. The cartridge is then sealed, labeled, placed into a sealed plastic bag and delivered to a qualified laboratory for analysis. The cartridges are analyzed under a microscope (direct examination) by laboratory personnel, and the total amount of spores found are counted and identified, and the data is returned to RTC.

[6] A Brief Guide to Mold, Moisture, and Your Home. EPA. http://www.epa.gov/sites/production/files/2014-08/documents/moldguide.pdf . Page 11.

One advantage of the Spore Trap is that it captures both viable and non viable spores. Viable spores are spores that are "alive" and capable of growth.[7] Non-Viable spores are dead spores. For the purposes of mold remediation, both type of air borne spores can be of equal importance, since, according to the US EPA, "dead or alive, mold can cause allergic reactions".[8]

Swab Samples

Swab samples are used to take sample of visible damage on a surface. The swab is removed from a sealed package, and used to collect some of the matter that comprises the visible damage. The swab is then sealed back into a tube, labeled, sealed in a plastic bag and then delivered to a laboratory for analysis. At the lab, the end of the swab is examined under microscope (direct examination) and the types and counts of mold spores are reported by the lab to RTC.

As with some other types of samples, swabs capture both viable and non-viable spores. Viable spores are spores that are "alive" and capable of growth.[9] Non-Viable spores are dead spores. For the purposes of mold remediation, both type of air borne spores can be of equal importance, since, according to the US EPA, "dead or alive, mold can cause allergic reactions".[10]

Swab sample results can be reported in different ways. Quantitative reports give numerical spore counts to show exactly how many spores could be identified on the swab. Qualitative reports give a summary of the findings in terms such as rare, low, medium, high, etc. Not all laboratories offer quantitative reporting for laboratory results. RTC does not always request quantitative analysis. It is generally not necessary to know the actual counts. The identification of species is usually the more valuable information in a swab sample. If the swab sample shows four specific species of mold present in a visible growth, then air sampling should reflect those four species. If the air sampling does not in some way correlate to the swab sampling, then there could be other growths or factors at work.

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[7] Fungal Glossary, EM Lab P&K, http://www.emlab.com/s/sampling/FungalGlossary.html.

[8] EPA Mold Course - Chapter 1: Intro to Molds, US EPA, http://www.epa.gov/mold/moldcourse/chapter1.html.

[9] Fungal Glossary, EM Lab P&K, http://www.emlab.com/s/sampling/FungalGlossary.html.

[10] EPA Mold Course - Chapter 1: Intro to Molds, US EPA, http://www.epa.gov/mold/moldcourse/chapter1.html.

Sample Results Summary

Below is a summary of the sample results the full results will be transmitted with this report. RTC does not offer medical opinions based on the sample results. RTC is not a medical company and the focus of this report is not medical or health advice. This report is to assist with remediation and repairs to the structure. The most that anyone other than a medical professional can say concerning mold is that molds have the potential to be allergens and certain people can develop worse symptoms based on medical history or specific sensitivities. Any further medical information should be obtained from a physician that is qualified and familiar with the individual in question.

The first set of samples to review are the air samples. The full EMSL Analytical Lab report is attached.

Sample Location	Count/m3	Dominant Fungi	% of Sample
Sample #1, Hallway by Mechanical room	134600	Aspergillus/ Penicillium	97.3
#2, W End of Building by Lt. Mills office	24960	Aspergillus/ Penicillium	96.6
#3, Shift Supervisors office	15640	Aspergillus/ Penicillium	94
$4, Admin office	42480	Aspergillus/ Penicillium	97.7
#5, Outside, front of building	60	N/A	

There are no government set standards or Permissible Exposure Limits for mold spores. In the absence of such, the industry norm is to compare the indoor levels to the outdoor levels. Mold spork are always present, the goal is to have the indoor totals lower than the outdoor totals and similar in diversity.

Note; The exterior sample in this case was abnormally low due to weather conditions. The average for south Louisiana is to have an outdoor sample ranging from 1,500 to 3,000 with Cladosporium or Basidiospores dominated the sample.

The Aspergillus/Penicillium counts inside are too high for the indoor environment. Aspergillus and Penicillium are two different fungi. Both produce a round, clear, 2 micron size spore and cannot be distinguished with ought culturing or DNA. Therefore they are grouped together.

Some species of both Aspergillus and Penicillium are know to grow with very little water. Both of these fungi are know to be allergens. Some species of Aspergillus can cause more severe illnesses in person with a compromised immune system. (The above samples did not go down to species level.)

The second set of samples to review are the swab or surface samples. These samples were taken from either inside the HVAC system or from the HVAC grills in various spaces.

# and Location	Rating	Fungi	Comment
S1, Top right supply duct of HVAC unit, above coils	HIGH	Aspergillus/Penicillium and Cladosporium	The * before and after the work HIGH indicates the lab tech observed the vegetative portion of the fungi, not just spores. This would be indicative of a growth site.
S2, HVAC, top left supply duct, above coils	HIGH	Aspergillus/Penicillium and Cladosporium	The * before and after the work HIGH indicates the lab tech observed the vegetative portion of the fungi, not just spores. This would be indicative of a growth site.
S3, HVAC duct in St. Mayfiled's office	HIGH Medium	Aspergillus/Penicillium Cladosporium	The * before and after the work HIGH indicates the lab tech observed the vegetative portion of the fungi, not just spores. This would be indicative of a growth site for Aspergillus/Penicillium
S4, HVAC grill in Womens restroom	HIGH Medium	Aspergillus/Penicillium Cladosporium	The * before and after the work HIGH indicates the lab tech observed the vegetative portion of the fungi, not just spores. This would be indicative of a growth site for Aspergillus/Penicillium

# and Location	Rating	Fungi	Comment
S5, HVAC grill in Kitchen	HIGH Medium	Cladosporium Aspergillus/Penicillium	

A rating of HIGH by EMSL means the lab tech observed more than 1,000 spores on the samples. A rating of Medium indicates from 101 to 1,000 spores on the sample.

Conclusions

There is a growth of fungi in the HVAC system and ductwork. That growth is being spread throughout the building as the HVAC pushes air.

The Standards that govern cleaning of HVAC systems and ductwork are the National Air Duct Cleaners Standard (NADCA), ACR 2013 and the National Association of Insulation Manufacturers (NAIMA), NAIMA states the duct liner that has become wet or moisture damaged should be replaced. Fiber glass insulation is not a good food source by itself and as such does not support mold growth. The present of significant amounts of mold is because the insulation has collected soils and moisture.

The insulation inside the HVAC system will need to be removed and replaced. Any interior lined ductwork will need to be replaced or have the insulation replaced at a minimum. It has been RTC's experience that replacement of the unit is normally cheaper than retrofitting a unit with new insulation. The protocol will be written to remove and replace because that is what the standards call for. The decision to replace the unit will be left to the owner.

Remediation Protocol

The protocol for this project is below. The following protocols are based on the visual inspections, samples and data gathered by RTC. Not all damage may have been found or even be visible; for this reason, the protocol could be subject to change as work proceeds. Any contractor following this protocol will need to be trained and experienced in mold remediation and licensed in the State of Louisiana for Mold Remediation. All other state and local regulations must be followed as well as part of this protocol. Please ensure that all necessary permits are in place before beginning the remediation project.

It is the contractor's responsibility to ensure that all personnel are trained in mold remediation; respirator use & fit tested, and have an emergency plan for this project in place. All the contractor will need to establish controlled access areas at the site. The contractor shall be responsible for having all personnel in appropriate Personal Protective Equipment.

All work below is to be done using the method that creates the least amount of dust possible. This will usually require hand tools over power tools. Dust is the enemy of mold remediation. Visible dust could potentially contain thousands of spores. Everything possible should be done to limit the spread of dust. This will mean the use of air filtration, containment, HEPA vacuums and other dust control measures. During any Clearance or Post Remediation Verification the project must be visibly dust free inside the containment.

A. Containment

1. The Mechanical closet shall be contained when working on the unit and placed under a negative pressure. A minimum of 4 air changes per hour should create the required negative pressure.

2. Any insulation removed from the unit are ductwork removed should be either bagged in double trash bags or sealed in 6 mil poly to prevent the distribution of mold spores and fiberglass fibers inside the built environment.

B. Materials to be removed

1. HVAC System

    1. Remove all insulation inside the unit and any interior lined insulation in the supply ductwork and replace with new insulation.

    2. Remove the HVAC coils to the outside to be cleaned with high pressure wash and coil cleaner.

    3. Clean the entire HVAC system to include return plenums, return ductwork, all air side surfaces inside the air handling unit, coils, fan, fan motor, supply plenum, supply ductwork and HVAC grills. The cleaning shall be done in accordance with NADCA ACR 2013.

2. Interior of Building

    1. The complete interior of the building shall be cleaned by HEPA vacuum followed by a damp wipe.

2. During the cleaning process the contractor shall maintain HEPA filtered air scrubbers in close proximity to the cleaner. The pre-filters on the air scrubbers shall be changed regularly.

C. Cleaning Methods Overview

1. The following cleaning methods can be used in this project. See the cleaning Procedure for the order in which to use these methods.

    1. *HEPA vacuuming*

        1. This is done with a HEPA vacuum, not a standard vacuum with a HEPA filter.

        2. This is done slowly and methodically. The intent of the HEPA vacuum is to remove as much dust as possible. If the vacuuming is done carelessly and hastily it will create a dust problem that will settle on the structure later.

        3. For wood framing members with visible staining or damage it may be necessary to use a wire brush or sander. If a sander is to be used, it should be HEPA filtered. For wire brush it may be best to work damp to limit the spread of dust.

    2. *Damp Wiping*

        1. Damp wiping can be very effective at removing layers of debris and spores from the surface. This is generally done after vacuuming or when vacuuming would not be practical.

        2. Wiping should be done with a damp cloth. The cloth should be cleaned or replaced as soon as it is visibly dirty.

        3. The wiping should be done with a detergent solution. The purpose of the wiping is to remove dust and spores from the surface, not necessarily to kill anything. Therefore antimicrobials or biocides are not required at this stage. However, any antimicrobials or biocides that are used during the project should be EPA registered and approved for the material or location that they are being applied. Also checking with the occupants may be necessary to prevent any health effects.

        4. The wiping is damp not wet. Do not rewet the structure during this step.

5. For wood framing members with visible staining or damage it may be necessary to use a wire brush or sander. If a sander is to be used, it should be HEPA filtered. For wire brush it may be best to work damp to limit the spread of dust.

3. *Antimicrobial/Disinfectant*

    1. Antimicrobials are used to remove hazards presented by Category 3 water. This helps to remove the bacterial component of the water.

    2. Killing fungi is not the goal of the project. Human bodies react much the same to living mold as dead mold. The purpose of all cleaning is to remove the spores and the hazard. The number one goal of the antimicrobials used in the project should be to kill bacteria or viruses contained in category 3 water.

D. Cleaning Procedure

1. HEPA vacuum the entire area. This includes walls, ceilings, floors, any remaining contents or cabinetry. This also includes the containment. Settled debris on the containment will cause a project to fail clearance. Again this is to be done carefully and methodically.

2. Damp wipe the entire structure including the containment. Any visible damage that does remove with simple wiping may need to be scrubbed or may need a more abrasive device like steel wool or a wire brush.

3. HEPA vacuum the structure again.

4. At this point, check for any remaining dust or debris in the containment. Check the containment as well for any settled dust. Be sure to check all cracks, joints and seams in materials as dust will settle in these areas.

5. Any areas found that need to be cleaned again should be damp wiped and HEPA vacuumed again.

E. Contents and clothing

1. Any contents that came in contact with category 3 water will need to be removed and discarded with the following exceptions.

1. Items made from solid wood can be cleaned if the value of the item either financially or intrinsically is high enough to justify the restoration. Please note this is only for solid wood and not particle board, cardboard, pressed board or MDF.
2. Items made from metal, FRP or plastic can be cleaned using antimicrobials, HEPA vacuuming and damp wiping.

2. All clothing that came in contact with category 3 water should be discarded.
3. Other clothing that is inside the containment may contain damage from settled spores, such clothing can be cleaned using the manufacturer's recommended method.
4. RTC recommends always discarding any contents that involve infants, immunocompromised individuals or the elderly that have contacted category 3 water.
5. Contents that are inside the containment and do not contain water damage should be cleaned for settled spores using damp wiping and HEPA vacuuming.

F. Post Remediation Verification (PRV)

1. At the conclusion of the project, but before the home is rebuilt, it is recommended that Post Remediation Verification be performed. This does not have to be performed by RTC, however we would be happy to do so.
2. PRV is the process of certifying that the home has been restored properly. The inspector will use moisture and hygrometer readings to check for moisture issues. The inspector might use Laser Particle Counters to check for high levels of bioaerosols. The inspector may also collect fungal samples to verify the project has been remediated properly. Also, since Category 3 water can contain high levels of bacteria, the inspector may collect bacterial samples for analysis.
3. If PRV is to be performed it should happen after the cleaning phase of the project. The containment should be left in place. The air scrubber should be sealed and turned off for at least 24 hours beforehand. No one is to disturb the contained area during this time.

References

The following documents were used in the preparation of this report, and could be useful during future work.

IAQ Microbiology Reference Guide; Aerotech Laboratories

IICRC, S-500, Standard and Reference Guide for Professional Water Damage, IICRC, Vancouver, WA, 1999

IICRC, S-520, Standard and Reference Guide for Professional Mold Remediation, IICRC, Vancouver, WA, 2008

Microfungi; Suzanne Gravesen, Jens C. Frisvad, Robert A. Samson, Published by Munskgaard, 2nd Edition, 2001.

Guidèlines on Assessment on Remediation of Fungi in Indoor Environments by New York City Department of Health, Bureau of Environmental & Occupational Disease Epidemiology, 1997

Mold, Moisture & Indoor Air Quality by Building Science Corporation, Joe W. Lsitburek, B.A.Sc, M.Eng. P.Eng.

Bioaerosols: Assessment and Control by ACGIH, 1989

American Concrete Institutes publications ACI 360R-06 Design of Slabs-on-Ground and ACI 302.1R-04 Guide for Concrete Floor and Slab Construction. http://www.concrete.org/Store/StoreResults.aspx?Keyword=360R-06%2cACI%2cDesign%2cSlabs-on-Ground

Mold Remediation in Schools and Commercial Buildings. EPA. http://www.epa.gov/mold/mold_remediation.html.

Fungal Glossary, EM Lab P&K, http://www.emlab.com/s/sampling/FungalGlossary.html.

Control Layers, Insulating Concrete Form as a Control Layer, Reward Wall Systems, http://www.rewardwalls.com/insulated-concrete-forms/building-science/control-layers/

Comparative Study of Water Vapor Transmission Rating and Material Properties of Different Waterproofing Systems, Tariq M Malik, PhD www.icri.org/publications/2003/PDFs/septoct03/CRBSeptOct03_Malik.pdf

Moisture Control Handbook, Joe W. Lstiburek and John Carmody, Building Science Press, Building Science Corp., 1999

EPA Mold Course - Chapter 1: Intro to Molds, US EPA, http://www.epa.gov/mold/moldcourse/chapter1.html.

A Brief Guide to Mold, Moisture, and Your Home. EPA. http://www.epa.gov/sites/production/files/2014-08/documents/moldguide.pdf .

Fungal Glossary

Alternaria (Aw. 0.85 - 0.88)

One of the most common species worldwide. Commonly found in soil on dead organic debris, on food products, plants or textiles. Known to produce some mycotoxins. Needs high amounts of water to amplify, though not as high as others such as Stachybotrys or Fusarium. Used in some biocontrol products for weeds and other plants.

Aspergillus/Penicillium (Aw. 0.71- 0.94)

Aspergillus and Penicillium spores are extremely similar and impossible to distinguish using just a microscopic analysis. Most laboratory reports will list these two genus on the same line. Aspergillus is usually one of the first molds to grow after a water damage event; because of this, it is commonly referred to as a moisture indicting fungi. This fungi does not need much water to begin to grow. It can be found on materials that have only been exposed to high humidity (over 60% RH) and not liquid water. Aspergillus as with most fungi is most commonly an allergen. However certain species of Aspergillus may pose more serious health concerns. All health questions and concerns regarding mold should be brought to a qualified physician. RTC does not offer medical opinions regarding individuals and mold. Known to produce some mycotoxins. Aspergillus is also used in several industrial applications such as fermenting soybeans to make soy sauce, brewing beer and producing cortisone.

Basidiospores

Associated with various mushrooms, also associated with dry rot. Commonly associated with brown or white wood rot in wood. Mushrooms commonly release spores during period of high wind, humidity or rain. Associated with both edible and inedible species of mushrooms.

Bipolaris

Commonly found in sold, plant debris, and grasses. Considered a dry spore and does not require high water activity. Some laboratories do not distinguish between Bipolaris, Drechslera, and Exserohilum since the spores are not readily distinguishable under a microscope. Few species can produce mycotoxins. Creates a very large spore.

Chaetomium

Considered to be a water indicating fungi, since it is commonly found with water damage in the home. Very commonly found on wet drywall paper. Often appears black in color. Can produce some mycotoxins. Used industrially in textile testing.

Cladosporium

Cladosporium is the most commonly found outdoor mold in Louisiana. Because of the commonly high levels in the outdoor environment, it often can be found in high quantities indoors as well. Usually this is considered a benign fungi, however high enough levels indoors can still represent a problem.

Fusarium (Aw. 0.86 - 0.91)

Common in soil or on plants. Fusarium needs high amounts of water to grow, though not as high as Stachybotrys. Known to produce various mycotoxins.

Stachybotrys (Aw. 0.94)

Commonly found in soil, decaying plants, hay, straw, leaf litter and seeds. Stachybotrys is the infamous "black mold". This mold was made infamous by several litigations in the 1990's and early 2000's and by the media. One of the most significant parts of Stachybotrys is that it needs much more moisture to grow than other species such as Aspergillus. It also is one of the slower growing species and it does not easily become air borne. Because of these factors, if Stachybotrys is found in air sample it can indicate a more mature and active growth site than certain other fungi. In many cases it does not compete well with other fungi for growth space, however if the water level is high enough for long enough it may become the dominant species. Known to produce mycotoxins.

Trichoderma (Aw. 0.85 - 0.995)

Commonly found in soil, decaying wood, citrus fruit, tomatoes, sweet potatoes, paper, textiles and damp wood. Found commonly indoors on paper, tapestry, wood, unglazed ceramics. Used industrially in beer, wine and tea production. Also used industrially as a preventative against other plant pathogens. Known to produce some mycotoxins.

Ulocladium (Aw. 0.89)

Commonly found outdoors in soil, feces, paint, grasses, fibers, wood, decaying plants and textiles. Commonly found indoors on gypsum board, paper, paint, tapestries, jute and other straw materials after water damage. Has high water requirement for growth, though not as high as some other species.

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Phone/Fax: (225) 755-1920 / (225) 755-1989
http://www.EMSL.com / batonrougelab@emsl.com

Order ID: 251900739
Customer ID: RTCL63
Customer PO:
Project ID:

Attn: Jason Ray
RTC of Louisiana, LLC
6509 Donnybrook Avenue
Greenwell Springs, LA 70739

Phone: (225) 413-5782
Fax: (225) 413-5783
Collected: 01/31/2019
Received: 02/04/2019
Analyzed: 02/05/2019

Proj: 19029

Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Swab Samples (EMSL Method MICRO-SOP-200)

Lab Sample Number:	251900739-0006	251900739-0007	251900739-0008	251900739-0009	251900739-0010
Client Sample ID:	S1	S2	S3	S4	S5
Sample Location:	HVAC Top Right	HVAC	Sgt Mayfield Office	Women's Restroom	Kitchen Vent
Spore Types	Category	Category	Category	Category	Category
Alternaria (Ulocladium)	-	-	-	-	-
Ascospores	-	-	-	-	-
Aspergillus/Penicillium	*High*	*High*	*High*	*High*	*Medium*
Basidiospores	-	-	-	-	Rare
Bipolaris++	-	-	-	-	-
Chaetomium	-	-	-	-	-
Cladosporium	*High*	*High*	Medium	Medium	*High*
Curvularia	-	-	Rare	-	Rare
Epicoccum	-	-	-	-	-
Fusarium	-	-	-	-	-
Ganoderma	-	-	-	-	-
Myxomycetes++	-	-	-	-	-
Pithomyces++	-	-	-	Rare	-
Rust	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-
Zygomycetes	-	-	-	-	-
Hyphal Fragment	-	-	-	-	-
Insect Fragment	-	-	-	-	-
Pollen	Rare	Rare	Rare	-	Rare

Category: Count/per area analyzed - Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

- Denotes Not Detected.
++ = Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.
* = Sample contains fruiting structures and/or hyphae associated with the spores.

Jamie Laginess

Jamie Laginess, Laboratory Operations Manager

No discernable field blank was submitted with this group of samples.

Initial report from: 02/05/2019 16:36:44

For Information on the fungi listed in this report please visit the Resources section at www.emsl.com

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EMSL Order: 251900739
Customer ID: RTCL63
Customer PO:
Project ID:

Attn: Jason Ray
RTC of Louisiana, LLC
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Phone: (225) 937-6176
Fax: (225) 413-5783
Collected: 01/31/2019
Received: 02/04/2019
Analyzed: 02/05/2019

Project: 18029

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	251900739-0001			251900739-0002			251900739-0003		
Client Sample ID:	1			2			3		
Volume (L):	150			150			150		
Sample Location	Hallway			W End of Building			Shift Supervisor		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	5920	131000	97.3	1090	24100	96.6	666	14700	94
Basidiospores	1	20	0	-	-	-	1	20	0.1
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	162	3580	2.7	39	860	3.4	40	880	5.6
Curvularia	-	-	-	-	-	-	1	20	0.1
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	1	20	0.1
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**6083**	**134600**	**100**	**1129**	**24960**	**100**	**709**	**15640**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	3	-	-	2	-	-	3	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Jamie Leginess

Jamie Leginess, Laboratory Operations Manager
or other approved signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Baton Rouge, LA A2LA Accredited Environmental Testing Cert. #2845.03.

Initial report from: 02/05/2019 16:36:44

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6509 Donnybrook Avenue
Greenwell Springs, LA 70739

Project: 19029

Phone: (225) 937-6176
Fax: (225) 413-5783
Collected: 01/31/2019
Received: 02/04/2019
Analyzed: 02/05/2019

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	251900739-0004			251900739-0005			
Client Sample ID:	4			5			
Volume (L):	150			150			
Sample Location	Admin Office			Outside			
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	
Alternaria (Ulocladium)	-	-	-	-	-	-	
Ascospores	-	-	-	1	20	33.3	
Aspergillus/Penicillium	1880	41500	97.7	-	-	-	
Basidiospores	5	100	0.2	1	20	33.3	
Bipolaris++	-	-	-	-	-	-	
Chaetomium	-	-	-	-	-	-	
Cladosporium	38	840	2	1	20	33.3	
Curvularia	-	-	-	-	-	-	
Epicoccum	-	-	-	-	-	-	
Fusarium	-	-	-	-	-	-	
Ganoderma	1	20	0	-	-	-	
Myxomycetes++	1	20	0	-	-	-	
Pithomyces++	-	-	-	-	-	-	
Rust	-	-	-	-	-	-	
Scopulariopsis/Microascus	-	-	-	-	-	-	
Stachybotrys/Memnoniella	-	-	-	-	-	-	
Unidentifiable Spores	-	-	-	-	-	-	
Zygomycetes	-	-	-	-	-	-	
Total Fungi	**1925**	**42480**	**100**	**3**	**60**	**100**	
Hyphal Fragment	-	-	-	-	-	-	
Insect Fragment	-	-	-	-	-	-	
Pollen	-	-	-	2	40	-	
Analyt. Sensitivity 600x	-	22	-	-	22	-	
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	
Skin Fragments (1-4)	-	1	-	-	1	-	
Fibrous Particulate (1-4)	-	1	-	-	1	-	
Background (1-5)	-	2	-	-	2	-	

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Jamie Laginess

Jamie Laginess, Laboratory Operations Manager
or other approved signatory

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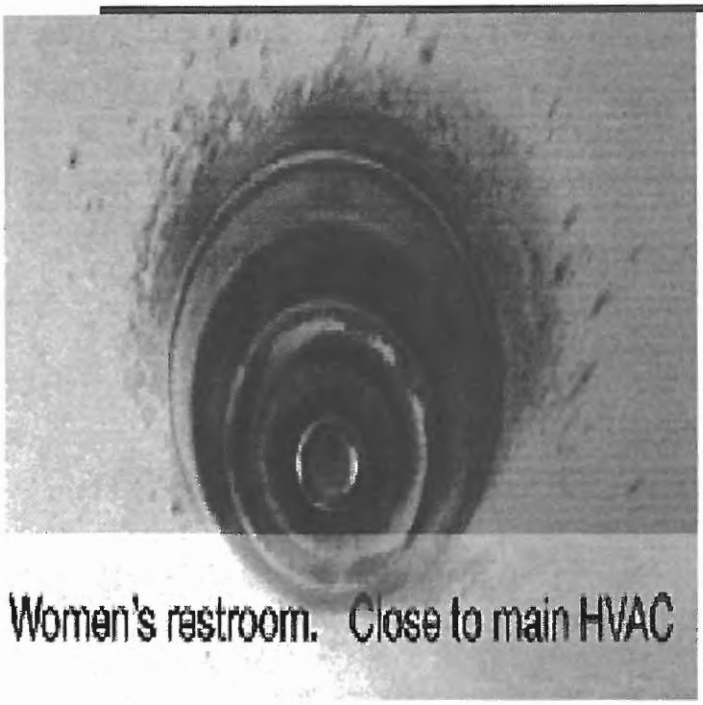
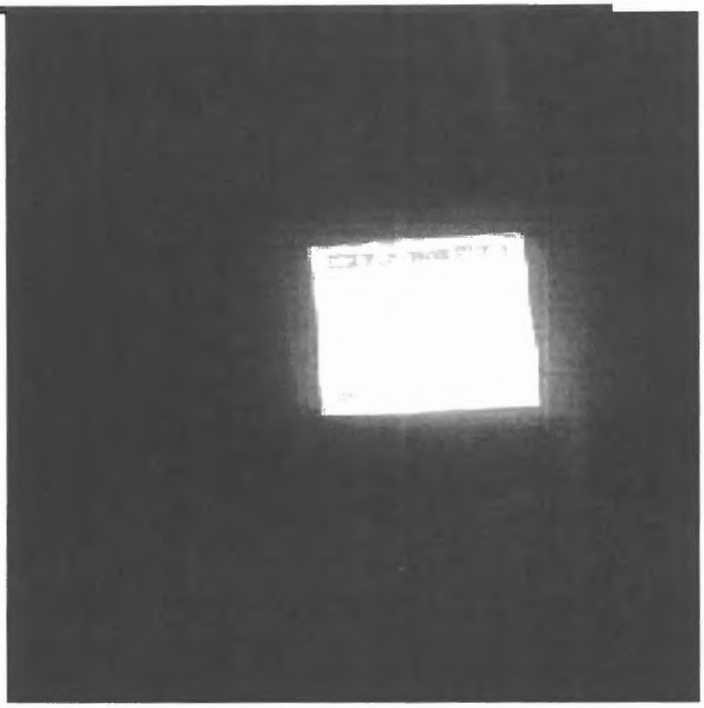
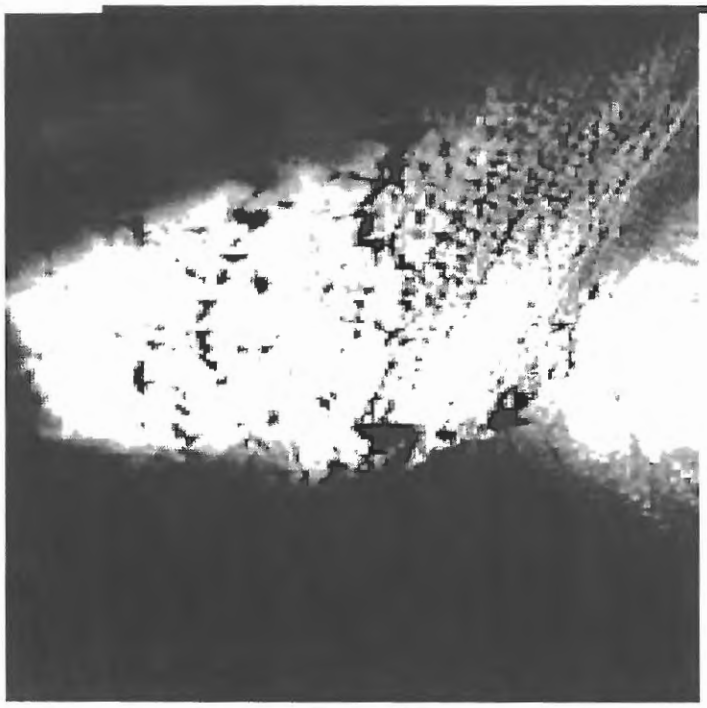


Women's restroom. Close to main HVAC





Visible growth on insulation inside supply duct plenum above coils.

Primary calibrator, calibration of air sampling pump

Photo of inside of HVAC taken by HVAC contractor, supplied by St. Mayfield.