



## **SURVEY REPORT**

### **PRE-RENOVATION INVESTIGATIVE SURVEY FOR HAZARDOUS BUILDING MATERIALS**

**424-444 CHAPEL STREET  
NEW HAVEN, CONNECTICUT**  
Project No. 92-531-3

*Prepared for*

**State of Connecticut  
Department of Transportation**  
Newington, Connecticut

*Prepared by*

**TRC Environmental Corporation**  
Windsor, Connecticut

October 2007




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TRC Project No. 106471-3474-0710  
October 2007

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## PROJECT OUTLINE

DOT Project No.: 92-531-3

Assignment No.: 502-3474

DOT Project Manager: Felix Mathieu

Site Address: 424-444 Chapel Street, New Haven, CT

TRC Project No.: 106471-3474-0710

Asbestos Inspector: Anthony Minalga (#000423)

Lead Inspector: Anthony Minalga (#002160)

Date(s) of Inspection: 8/6/07-8/7/07, 8/20/07

Asbestos Identified: Yes

Removal Cost Estimate: **\$ 44,525**

Lead Paint Identified: Yes

Haz./Reg. Mat./Waste/Items: Yes (See Table 5)

Removal Cost Estimate: **\$ 32,900**

### Additional Notes:

The property consists of a two-story brick/concrete framed commercial building including offices and a large warehouse. All utilities are still connected (electric, gas, water, sewer). Building is scheduled for renovation. Lead painted building components have been identified. Therefore, any building debris waste generated during renovations will need to be sampled for proper waste characterization prior to disposal. An underground storage tank (UST) is located by the garage bay doors by the Warehouse area. Two (2) large storage containers and a 30 CY dumpster remain in the parking area. The high bay roof in the warehouse is intended to be replaced before any renovation work begins.

## **TABLES**

**TABLE I  
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS CONTAINING MATERIALS  
424-444 CHAPEL STREET  
NEW HAVEN, CONNECTICUT**

Sample No.	Sample Location	Type of Homogeneous Material	% and Type Asbestos
1	Street side stairwell	FT1-9x9 grey marble pattern floor tile	ND<1% <sup>1</sup>
		Mastic associated with FT1	Trace chrysotile <sup>1</sup>
2	2 <sup>nd</sup> floor-reading room	FT2a-12x12 black floor tile	Trace chrysotile <sup>1</sup>
		Mastic associated with FT2a	ND<1% <sup>1</sup>
3	2 <sup>nd</sup> floor-reading room	FT2b-12x12 white floor tile	ND<1% <sup>1</sup>
		Mastic associated with FT2b	ND<1% <sup>1</sup>
4	2 <sup>nd</sup> floor- warehouse	FT3-wood patterned floor tile (self-stick)	ND<1% <sup>1</sup>
5	Atrium/lobby stairs	G1-yellow carpet glue	ND<1% <sup>1</sup>
6	Atrium stair 2 <sup>nd</sup> floor landing	G2-blue carpet glue	Trace chrysotile <sup>1</sup>
7	2 <sup>nd</sup> floor-offices	G3-black carpet glue	10% chrysotile
8	2 <sup>nd</sup> floor-front offices	G4-tan carpet glue	ND<1% <sup>1</sup>
9	2 <sup>nd</sup> floor-head services office	G5-wood flooring glue	ND<1% <sup>1</sup>
10	Atrium/lobby stairs	CB1-large black cove base	ND<1% <sup>1</sup>
		Mastic associated with CB1	ND<1% <sup>1</sup>
11	Atrium/lobby stairs	CB2-grey cove base	ND<1% <sup>1</sup>
		Mastic associated with CB2	ND<1% <sup>1</sup>
12	2 <sup>nd</sup> floor-front offices	CB3-red cove base	ND<1% <sup>1</sup>
		Mastic associated with CB3	Trace chrysotile <sup>1</sup>
13	2 <sup>nd</sup> floor-reading room	CB4-black cove base	ND<1% <sup>1</sup>
		Mastic associated with CB4	ND<1% <sup>1</sup>
14	2 <sup>nd</sup> floor-warehouse	CB5-wood pattern cove base	ND<1% <sup>1</sup>
		Mastic associated with CB5	ND<1% <sup>1</sup>
15	2 <sup>nd</sup> floor-offices	CT1-2x2 textured pattern ceiling tile	ND<1%
16	2 <sup>nd</sup> floor-hall	CT2-2x4 birds feet pattern ceiling tile	ND<1%
17	2 <sup>nd</sup> floor-atrium	FD-fire door insulation	ND<1%
18	2 <sup>nd</sup> floor-kitchen	SC-sink coating	ND<1% <sup>1</sup>
19	Exterior-side A overhang	Cement board material	20% chrysotile
20	Side B mechanical room	MF-pipe elbow fitting	30% chrysotile

NA/PVA Not analyzed/positive via inseparable association with a confirmed positive ACM

NA/PS Not analyzed/positive stop, homogeneous to sample proven to contain asbestos

ND<1% Non-detected, less than 1%

NAD No asbestos detected

+ Although found to be negative by analysis, material is homogeneous to a determined ACM and therefore must be considered positive

<sup>1</sup> Result confirmed by TEM analyses

\* Quantified by PLM Point Counting techniques

TABLE 1 (continued)  
**BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS CONTAINING MATERIALS**  
**424-444 CHAPEL STREET**  
**NEW HAVEN, CONNECTICUT**

Sample No.	Sample Location	Type of Homogeneous Material	% and Type Asbestos
21	Exterior-side A windows	WG1-exterior window glazing	5% chrysotile
22	Exterior-side B windows	WG2-exterior window glazing	4.24% chrysotile <sup>1</sup>
23	Exterior-side D warehouse overhead garage door windows	WG3-exterior window glazing	10% chrysotile
24	2 <sup>nd</sup> floor-offices	WG4-interior door window glazing	ND<1% <sup>1</sup>
25	Exterior-side A windows	C1-exterior window sill/concrete section caulking	Trace anthophyllite <sup>1</sup>
26	Exterior-side A windows	C2-exterior window side caulking	ND<1% <sup>1</sup>
27	Exterior	C3-expansion joint caulking	Trace chrysotile <sup>1</sup>
28	Exterior-doors	C4-exterior door caulking	Trace chrysotile <sup>1</sup>
29	Exterior vent	C5-exterior vent caulking	Trace chrysotile <sup>1</sup>
30	Exterior-444 entrance	C6-exterior façade/window caulking	3.58% chrysotile <sup>1</sup>
31	1 <sup>st</sup> floor-front offices	CB6-small black cove base	Trace chrysotile <sup>1</sup>
		Mastic associated with CB6	ND<1% <sup>1</sup>
32	1 <sup>st</sup> floor-front offices	G6-carpet glue	3% chrysotile
33	1 <sup>st</sup> floor-front offices (below carpet)	FT4-9x9 grey/white marble pattern floor tile	3% chrysotile
		Mastic associated with FT4	8.52% chrysotile <sup>1</sup>
34	1 <sup>st</sup> floor-front offices (server room)	G7-ceramic cove base glue	Trace anthophyllite <sup>1</sup>
35	1 <sup>st</sup> floor-front/side office	CB7-brown cove base	ND<1% <sup>1</sup>
		Mastic associated with CB7	ND<1% <sup>1</sup>
36	1 <sup>st</sup> floor-front/side office	G8-brown carpet glue	3% chrysotile
37	1 <sup>st</sup> floor-front/side office	FT5-9x9 red marble pattern floor tile	5% chrysotile
		Mastic associated with FT5	3% chrysotile
38	1 <sup>st</sup> floor-front office entrance area	WG5-interior window glazing	3% chrysotile
39	1 <sup>st</sup> floor-front offices partition	Transite wall	20% chrysotile
40	1 <sup>st</sup> floor-front offices	CT4-2x4 small dot pattern ceiling tile	ND<1%
41	1 <sup>st</sup> floor-front offices	CT4-2x4 small dot pattern ceiling tile	ND<1%

NA/PVA Not analyzed/positive via inseparable association with a confirmed positive ACM

NA/PS Not analyzed/positive stop, homogeneous to sample proven to contain asbestos

ND<1% Non-detected, less than 1%

NAD No asbestos detected

+ Although found to be negative by analysis, material is homogeneous to a determined ACM and therefore must be considered positive

<sup>1</sup> Result confirmed by TEM analyses

\* Quantified by PLM Point Counting techniques

**TABLE 1 (.. continued)**  
**BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS CONTAINING MATERIALS**  
**424-444 CHAPEL STREET**  
**NEW HAVEN, CONNECTICUT**

Sample No.	Sample Location	Type of Homogeneous Material	% and Type Asbestos
42	1 <sup>st</sup> floor-front offices	WT1-wall tile	ND<1%
43	1 <sup>st</sup> floor-front offices	G9-wall tile glue	ND<1% <sup>1</sup>
44	1 <sup>st</sup> floor-front offices	Sheetrock	ND<1%
		Joint compound	ND<1%
45	1 <sup>st</sup> floor-front entrance	Fire door insulation	20% chrysotile
46	1 <sup>st</sup> floor-warehouse	ST-stair tread material	ND<1% <sup>1</sup>
47	1 <sup>st</sup> floor-side entrance by boiler room	LP-light insulation paper	80% chrysotile
48	1 <sup>st</sup> floor-mechanical room	DC1-red duct caulking	ND<1% <sup>1</sup>
49	1 <sup>st</sup> floor-boiler room	WG6-interior window glazing	1.56% chrysotile <sup>1</sup>
50	1 <sup>st</sup> floor-warehouse	MF1-elbow fittings on water lines	ND<1%
51	1 <sup>st</sup> floor-front offices	MF1-elbow fittings on water lines	ND<1%
52	1 <sup>st</sup> floor-front offices	MF1-elbow fittings on water lines	ND<1%
53	1 <sup>st</sup> floor-storage	CT5-2x4 wormhole pattern ceiling tile	ND<1%
54	1 <sup>st</sup> floor-warehouse office	FT6-12x12 blue with multi-specs floor tile	ND<1% <sup>1</sup>
		Mastic associated with FT6	ND<1% <sup>1</sup>
55	1 <sup>st</sup> floor-warehouse	DC2-gray duct caulking	ND<1% <sup>1</sup>
56	1 <sup>st</sup> floor-warehouse bathroom	G10-ceramic wall tile glue	Trace chrysotile <sup>1</sup>
57	1 <sup>st</sup> floor-mechanical/electrical room	FP-flue packing (water heater)	ND<1%
58	1 <sup>st</sup> floor-warehouse	PW-pipe tar wrap	ND<1% <sup>1</sup>
59	1 <sup>st</sup> floor-warehouse	PW-pipe tar wrap	ND<1%
60	1 <sup>st</sup> floor-warehouse	PW-pipe tar wrap	ND<1%
61	1 <sup>st</sup> floor-warehouse	MF2-large heating line elbow fittings	10% chrysotile
62	1 <sup>st</sup> floor-warehouse	MF2-large heating line elbow fittings	10% chrysotile
63	1 <sup>st</sup> floor-warehouse	MF2-large heating line elbow fittings	NA/PS
64	2 <sup>nd</sup> floor-front office hallway	CT3-1x1 splined textured ceiling tiles	ND<1%
65	Exterior-warehouse roof	Built-up roofing	ND<1% <sup>1</sup>
66	Exterior-warehouse roof	Parapet paper flashing	3% chrysotile

NA/PVA Not analyzed/positive via inseparable association with a confirmed positive ACM

NA/PS Not analyzed/positive stop, homogeneous to sample proven to contain asbestos

ND<1% Non-detected, less than 1%

NAD No asbestos detected

+ Although found to be negative by analysis, material is homogeneous to a determined ACM and therefore must be considered positive

1 Result confirmed by TEM analyses

\* Quantified by PLM Point Counting techniques



TABLE 11 (continued)  
**BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS CONTAINING MATERIALS**  
 424-444 CHAPEL STREET  
 NEW HAVEN, CONNECTICUT

Sample No.	Sample Location	Type of Homogeneous Material	% and Type Asbestos
67	Exterior-warehouse roof	Parapet tar flashing	10% chrysotile
68	Exterior-warehouse roof	Penetration tar flashing	20% chrysotile

NA/PVA Not analyzed/positive via inseparable association with a confirmed positive ACM

NA/PS Not analyzed/positive stop, homogeneous to sample proven to contain asbestos

ND<1% Non-detected, less than 1%

NAD No asbestos detected

+ Although found to be negative by analysis, material is homogeneous to a determined ACM and therefore must be considered positive

i Result confirmed by TEM analyses

\* Quantified by PLM Point Counting techniques

**TABLE 2a**  
**IDENTIFIED ASBESTOS CONTAINING MATERIALS (>1%)**  
**434-444 CHAPEL STREET**  
**NEW HAVEN, CONNECTICUT**

Material	General Location	NESHAP Category	AHERA Category	Estimated Quantity
<b>FIRST FLOOR-SIDE A FRONT OFFICES</b>				
G6-carpet glue	Throughout Offices	Category I Non-friable	Miscellaneous	1,552 SF
FT4-9x9 grey/white marble pattern floor tile & associated mastic	Throughout front offices (beneath carpet); Storage A, Storage C, Hall to Warehouse	Category I Non-friable	Miscellaneous	2,784 SF
FT4-9x9 grey/white marble pattern floor tile & associated mastic	Server Room & adjacent Bathrooms (beneath ceramic tile floor)	Category I Non-friable	Miscellaneous	160 SF
FT4-9x9 grey/white marble pattern floor tile & associated mastic	Office 1 (beneath non-ACM floor tile/mastic)	Category I Non-friable	Miscellaneous	176 SF
G8-brown carpet glue	Side A/B corner office	Category I Non-friable	Miscellaneous	196 SF
FT5-9x9 red marble pattern floor tile & associated mastic	Side A/B corner office	Category I Non-friable	Miscellaneous	196 SF
WG5-interior window glazing	Entrance/Reception area	Category II Non-friable	Miscellaneous	2 window units
Transite wall partitions	Throughout Offices	Category II Non-friable	Miscellaneous	165 SF
Fire door insulation (blue doors)	Throughout Offices	Friable	Miscellaneous	3 doors
<b>FIRST FLOOR-WAREHOUSE/SERVICE AREAS</b>				
LP-light insulation paper	Stair Hall adjacent Boiler Room (within 2 light fixtures)	Category II Non-friable	Miscellaneous	2 SF
MF2-large heating/service line elbow fittings	Warehouse Side B Mechanical Room	Friable	Thermal System Insulation	33 EA 13 EA
WG6-interior window glazing	Boiler Room, Equipment Room, Storage Room (sealed from exterior with concrete)	Category II Non-friable	Miscellaneous	5 window units
<b>SECOND FLOOR-BOE OFFICES/STORAGE AREAS</b>				
G3-black carpet glue	Reception, Office C, Main Hall (side A), 1/2 Conference Room (side A), Hall (side C) & Furniture Storage	Category I Non-friable	Miscellaneous	2180 SF

AHERA Categories = thermal system insulation (TSI), surfacing material or miscellaneous

NESHAP Categories = friable, category I non-friable or category II non-friable

Friable = crumbled, pulverized or reduced to powder by hand pressure when dry

Category I Non-friable = packings, gaskets, resilient floor covering and asphalt roofing

Category II Non-friable = all non-friable that is not Category I

**TABLE 2a**  
**IDENTIFIED ASBESTOS CONTAINING MATERIALS (>1%)**  
**424-444 CHAPEL STREET**  
**NEW HAVEN, CONNECTICUT**

Material	General Location	NESHAP Category	AHERA Category	Estimated Quantity
<b>EXTERIOR</b>				
Cement board material	Side A overhang	Category II Non-friable	Miscellaneous	80 SF
WG1-exterior window glazing	Side A windows	Category II Non-friable	Miscellaneous	18 window units
WG2-exterior window glazing	Side B windows	Category II Non-friable	Miscellaneous	1 window unit
WG3-exterior window glazing	Side D warehouse-overhead garage doors	Category II Non-friable	Miscellaneous	4 garage doors (each has 6 windows)
C6-exterior façade/window caulking	B.O.E entrance (side D)	Category II Non-friable	Miscellaneous	60 LF
Parapet paper flashing and associated tar	Warehouse roof (high bay)	Category I Non-friable	Miscellaneous	1000 SF
Penetration tar flashing	Warehouse roof (high bay)	Category I Non-friable	Miscellaneous	50 SF

*\* Roof tars have been completely exempted from OSHA Asbestos regulations and, as a Category I Non-friable material, do not need to be removed from a structure prior to renovation/demolition under EPA Asbestos NESHAP regulations and, so long as the materials are exterior to a structure and will remain Category I Non-friable materials during renovation/demolition, are not covered under the CTDPH Asbestos Abatement standards. In addition, as Category I Non-friable materials, the roof tars do not need to be disposed of as asbestos waste under the EPA Asbestos NESHAP regulations; however, the CTDEP special waste regulations would not allow the material to be disposed of as general construction waste within the State of Connecticut. Disposal of the roof tars as general construction waste (so long as the materials are not rendered into a state which would define them as regulated asbestos-containing materials (RACM), i.e., friable) is, however, allowed in other states such as Massachusetts.*

AHERA Categories = thermal system insulation (TSI), surfacing material or miscellaneous  
 NESHAP Categories = friable, category I non-friable or category II non-friable  
 Friable = crumbled, pulverized or reduced to powder by hand pressure when dry  
 Category I Non-friable = packings, gaskets, resilient floor covering and asphalt roofing  
 Category II Non-friable = all non-friable that is not Category I

**TABLE 2b  
PRESUMED ASBESTOS CONTAINING MATERIALS (>1%)  
424-444 CHAPEL STREET  
NEW HAVEN, CONNECTICUT**

<b>Material</b>	<b>General Location</b>	<b>NESHAP Category</b>	<b>AHERA Category</b>	<b>Estimated Quantity</b>
<b>FIRST FLOOR-WAREHOUSE/SERVICE AREAS</b>				
Fire door insulation	Throughout (mechanical rooms, between main areas, to exterior)	Category II Non-friable	Miscellaneous	~20 doors
White flex connectors	Equipment Room Carpentry Shop	Friable	Thermal System Insulation	6 SF 10 SF
Paper insulation in transformer units	Electrical Room	Category II Non-friable	Miscellaneous	2 units
<b>SECOND FLOOR-BOE OFFICES/STORAGE AREAS</b>				
White flex connectors	Utility Room 2	Friable	Thermal System Insulation	10 SF
Ceramic floor/wall tile glue	All Bathrooms, Kitchen, Cafeteria	Category II Non-friable	Miscellaneous	1,500 SF
Mirror glue	All Bathrooms	Category II Non-friable	Miscellaneous	50 SF
<b>EXTERIOR</b>				
Possible built-up roofing under rubber membrane including any penetration/perimeter tar flashing	All roofs except high bay warehouse roof	Category I Non-friable	Miscellaneous	24,000 SF

*\* Roof tars have been completely exempted from OSHA Asbestos regulations and, as a Category I Non-friable material, do not need to be removed from a structure prior to renovation/demolition under EPA Asbestos NESHAP regulations and, so long as the materials are exterior to a structure and will remain Category I Non-friable materials during renovation/demolition, are not covered under the CTDPH Asbestos Abatement standards. In addition, as Category I Non-friable materials, the roof tars do not need to be disposed of as asbestos waste under the EPA Asbestos NESHAP regulations; however, the CTDEP special waste regulations would not allow the material to be disposed of as general construction waste within the State of Connecticut. Disposal of the roof tars as general construction waste (so long as the materials are not rendered into a state which would define them as regulated asbestos-containing materials (RACM), i.e., friable) is, however, allowed in other states such as Massachusetts.*

AHERA Categories = thermal system insulation (TSI), surfacing material or miscellaneous  
 NESHAP Categories = friable, category I non-friable or category II non-friable  
 Friable = crumbled, pulverized or reduced to powder by hand pressure when dry  
 Category I Non-friable = packings, gaskets, resilient floor covering and asphalt roofing  
 Category II Non-friable = all non-friable that is not Category I

**TABLE 3  
 CONFIRMED NON-ASBESTOS CONTAINING MATERIALS (<1%)  
 424-444 CHAPEL STREET  
 NEW HAVEN, CONNECTICUT**

Material	General Location
<b>1<sup>st</sup> FLOOR – SIDE A OFFICES</b>	
CB6-small black cove base & associated mastic	Throughout offices
G7-ceramic cove base glue	Server room
CB7-brown cove base & associated mastic	Side A/B corner office
Wood wall panel – nailed (non-suspect)	Side A/B corner office
CT4-2x4 small dot pattern ceiling tile	Throughout offices
WT1-wall tile	Common room
G9-wall tile glue (WT1)	Common room
Sheetrock/joint compound	Throughout offices
Cellulose paper insulation within cubicle walls (non-suspect)	Throughout offices
Fiberglass insulation within metal office partition walls (non-suspect)	Throughout offices
MF1-elbows on fiberglass lines	Throughout offices (above ceiling tiles)
<b>1<sup>st</sup> FLOOR – WAREHOUSE/SERVICE AREAS</b>	
ST-stair tread material	Loading dock staircase
DC1-red duct caulking	Mechanical room
MF1-elbow fittings on water lines	Storage A & B, bathrooms
Fiberglass duct insulation (wrapped) (non-suspect)	Storage A
CT5-2x4 wormhole pattern ceiling tile	Storage B
Styrofoam ceiling tile (non-suspect)	Storage B (above CT5)
FT6-12x12 blue with multi-specs floor tile & associated mastic*	Warehouse office 1*
DC2-gray duct caulking	Throughout ductwork
Concrete-based grout/setting material under ceramic tile floor (non-suspect)	Bathrooms
G10-ceramic wall tile glue	Bathrooms
FP-flue packing (water heater)	Mechanical/electrical room
PW-pipe tar wrap	Throughout warehouse
Sheetrock & associated joint compound	Scattered throughout
<b>2<sup>nd</sup> FLOOR – BOE OFFICES/STORAGE</b>	
FT1-9x9 grey marble pattern floor tile & associated mastic	Street side stairwell
FT2a-12x12 black floor tile & associated mastic	Reading room
FT2b-12x12 white floor tile & associated mastic	Reading room
FT3-wood patterned floor tile (self-stick)	Warehouse
G1-yellow carpet glue	Atrium/lobby stairs, scattered throughout side C offices/departments
G2-blue carpet glue	Atrium stair 2 <sup>nd</sup> floor landing, scattered throughout side A offices
G4-tan carpet glue	Scattered throughout side A/C offices

\* However, associated/adjacent layers are positive.

**TABLE 3 (continued)**  
**CONFIRMED NON-ASBESTOS CONTAINING MATERIALS (<1%)**  
**424-444 CHAPEL STREET**  
**NEW HAVEN, CONNECTICUT**

Material	General Location
<b>2<sup>nd</sup> FLOOR – BOE OFFICES/STORAGE (continued)</b>	
G5-wood flooring glue	Head services office
CB1-large black cove base & associated mastic	Atrium/lobby stairs
CB2-grey cove base & associated mastic	Atrium/lobby stairs, scattered throughout side A/C offices
CB3-red cove base & associated mastic	Throughout side A offices (scattered)
CB4-black cove base & associated mastic	Reading room, library
WG4-interior door window glazing	Reception
CB5-wood pattern cove base & associated mastic	Warehouse
CT1-2x2 textured pattern ceiling tile	Offices
CT2-2x4 birds feet pattern ceiling tile	Hall to warehouse
FD-fire door insulation	Atrium
SC-sink coating	Kitchen
CT3-1x1 splined textured ceiling tiles	Hallway
Sheetrock & associated joint compound	Throughout (scattered)
<b>EXTERIOR</b>	
C1-exterior window sill/concrete section caulking	Side A windows
C2-exterior window side caulking	Side A windows
C3-expansion joint caulking	Throughout exterior
C4-exterior door caulking	Doors throughout
C5-exterior vent caulking	Vents throughout
Built-up roofing*	Exterior-high bay warehouse roof (main field)*

\* However, associated/adjacent layers are positive.

**TABLE 4  
SUMMARY OF LEAD PAINT XRF MEASUREMENTS  
424-444 CHAPEL STREET  
NEW HAVEN, CONNECTICUT**

<b>Structure</b>	<b>No. of Measurements</b>	<b>Calibrations</b>	<b>Void</b>	<b>Lead Detected</b>	<b>No Lead Detected</b>
Office Building/Warehouse	163	22	7	40	94

See Lead Paint XRF Measurement Table in Appendix H.

**TABLE 5  
INVENTORY OF ADDITIONAL HAZARDOUS/REGULATED  
MATERIALS, WASTES AND ITEMS IDENTIFIED  
424-444 CHAPEL STREET  
NEW HAVEN, CONNECTICUT**

Quantity	Size	Material/Item	Potential Hazard
<b>1<sup>st</sup> FLOOR – SIDE A OFFICES</b>			
Eighty-five (85)		Fluorescent light bulbs	UW-mercury bulbs
Forty-three (43)		Light ballasts	CRW-PCB ballasts
Two (2)		Fire alarms	UW-used electronics (printed circuit boards) UW-Hg switch
Four (4)		Thermostats	UW-mercury ampoules
One (1)		Clock (wired in)	UW-used electronics (printed circuit boards)
Nine (9)		Electrical panels/boxes	UW-used electronics (printed circuit boards)
Four (4)		Fire extinguishers	CRW-waste chemical solid
One (1)		Water fountain	CFC's/Freon
Two (2)		Smoke detectors	Low-level radioactive source
Two (2)		Solvent/rubber cement	I, T
<b>1<sup>st</sup> FLOOR – WAREHOUSE/SERVICE AREA</b>			
Six hundred sixty-eight (668)		Fluorescent light bulbs	UW-mercury bulbs
Three hundred thirty-four (334)		Light ballasts	CRW-PCB ballasts
Thirty (30)		Fluorescent light bulbs (loose)	UW-mercury bulbs
Sixteen (16)		Mercury thermostats	UW-mercury ampoules
Twenty (20)		Emergency lights	UW-(Ni-Cd or Pb acid batteries) UW-used electronics
Nine (9)		Light sensors	UW-used electronics
Ten (10)		Electronic thermostats	UW-used electronics
~Twenty (20)		Telephones	UW-used electronics
Two (2)		Sonitrol operating panels	UW-used electronics
Thirteen (13)		Smoke detectors	Low-level radioactive source

- CRW- Connecticut Regulated Waste – PCBs (CR01), Oils (CR02/CR03), waste chemical liquids - antifreeze, latex & solvent paints, sludges, etc. (CR04), waste chemical solids (CR05)
- UW- Universal Waste (batteries, thermostat ampoules, fluorescent lamps, used electronics)
- IH- Inhalation hazard (silicas, etc.)
- I- Ignitable - may contain ingredients which are ignitable (materials which have a flashpoint <140°F) (D001)
- C- Corrosive - may contain ingredients which are alkaline or acidic (materials with a PH<2 or >12.5) (D002)
- T- Toxic - may contain ingredients which are harmful if swallowed or which release vapors that can cause irritation
- R- Reactive – may contain ingredients which are unstable, react violently with water or are explosive (D003)



**TABLE 5 (...continued)  
INVENTORY OF ADDITIONAL HAZARDOUS/REGULATED  
MATERIALS, WASTES AND ITEMS IDENTIFIED  
424-444 CHAPEL STREET  
NEW HAVEN, CONNECTICUT**

Quantity	Size	Material/Item	Potential Hazard
<b>2<sup>nd</sup> FLOOR – BOE OFFICES/STORAGE</b>			
Twenty six (26)		Halogen lights	UW-Hg lamps
Four hundred forty-four (444)		Fluorescent light bulbs	UW-mercury bulbs
Two hundred fifty-seven (257)		Light ballasts	CRW-PCB ballasts
Ten (10)		Exit signs	UW-used electronics (printed circuit boards) UW-Hg lamp
Two (2)		Hydraulic lifts	CRW-hydraulic oil
Twenty-nine (29)		Electrical panels/boxes	UW-used electronics (printed circuit boards)
Nine (9)		Alarm boxes	UW-used electronics (printed circuit boards)
Two (2)		Thermostats	UW-mercury ampoules
Twenty-two (22)		Emergency lights	UW-Hg lamps UW-used electronics (printed circuit boards) UW-batteries (Ni-Cd /Pb-acid battery)
Two (2)		Fire alarms	UW-used electronics (printed circuit boards) UW-Hg lamps
Two (2)		Containers graffiti remover	F, I, C
Six (6)	5 gal	Cleanup solvent	I, T
Forty-five (45)	1 gal	Denatured solvent	I, T
One (1)	5 gal	Linseed oil	CRW-waste chemical liquid
One (1)	5 gal	Weed killer	T
One (1)	5 gal	Urethane gym finish	CRW-waste chemical liquid
Twelve (12)		Liquefied petroleum	I
One (1)		Bag lawn spread	CRW-waste chemical solid
Seven (7)		Smoke detectors	Low-level radioactive source
Five (5)		Fire alarms/boxes	UW-used electronics (printed circuit boards) UW-Hg lamp
One (1)		Clock	UW-used electronics (printed circuit boards)

CRW- Connecticut Regulated Waste – PCBs (CR01), Oils (CR02/CR03), waste chemical liquids - antifreeze, latex & solvent paints, sludges, etc. (CR04), waste chemical solids (CR05)

UW- Universal Waste (batteries, thermostat ampoules, fluorescent lamps, used electronics)

III- Inhalation hazard (silicas, etc.)

I- Ignitable - may contain ingredients which are ignitable (materials which have a flashpoint <140°F) (D001)

C- Corrosive - may contain ingredients which are alkaline or acidic (materials with a PH<2 or >12.5) (D002)

T- Toxic - may contain ingredients which are harmful if swallowed or which release vapors that can cause irritation

R- Reactive – may contain ingredients which are unstable, react violently with water or are explosive (D003)

**TABLE 5 (...continued)  
INVENTORY OF ADDITIONAL HAZARDOUS/REGULATED  
MATERIALS, WASTES AND ITEMS IDENTIFIED  
424-444 CHAPEL STREET  
NEW HAVEN, CONNECTICUT**

Quantity	Size	Material/Item	Potential Hazard
<b>2<sup>nd</sup> FLOOR – BOE OFFICES/STORAGE (continued)</b>			
One (1)		Motion detector	UW-used electronics (printed circuit boards)
Three (3)		Boxes germicidal cross-contamination cleaner	T, C, I
Unknown		Miscellaneous items (paint, solvents, kerosene, propane, etc.)	CRW-waste chemical liquid
<b>EXTERIOR</b>			
One (1)		Propane gas cylinder	I
One (1)		Large gas cylinder	I
Seven (7)	55 gal	Drums – unknown	Unknown
One (1)	20 gal	Propane cylinder	I
One (1)	50 gal	Gas cylinder	I
Eight (8)		Halogen lights	UW – Hg lamps
One (1)		Fuel oil underground storage tank (UST)	CRW -- oil

CRW- Connecticut Regulated Waste – PCBs (CR01), Oils (CR02/CR03), waste chemical liquids - antifreeze, latex & solvent paints, sludges, etc. (CR04), waste chemical solids (CR05)

UW- Universal Waste (batteries, thermostat ampoules, fluorescent lamps, used electronics)

IH- Inhalation hazard (silicas, etc.)

I- Ignitable - may contain ingredients which are ignitable (materials which have a flashpoint <140°F) (D001)

C- Corrosive - may contain ingredients which are alkaline or acidic (materials with a PH<2 or >12.5) (D002)

T- Toxic - may contain ingredients which are harmful if swallowed or which release vapors that can cause irritation

R- Reactive – may contain ingredients which are unstable, react violently with water or are explosive (D003)

**APPENDIX A**  
**SITE PHOTOS**

**APPENDIX B**  
**SITE SKETCHES**

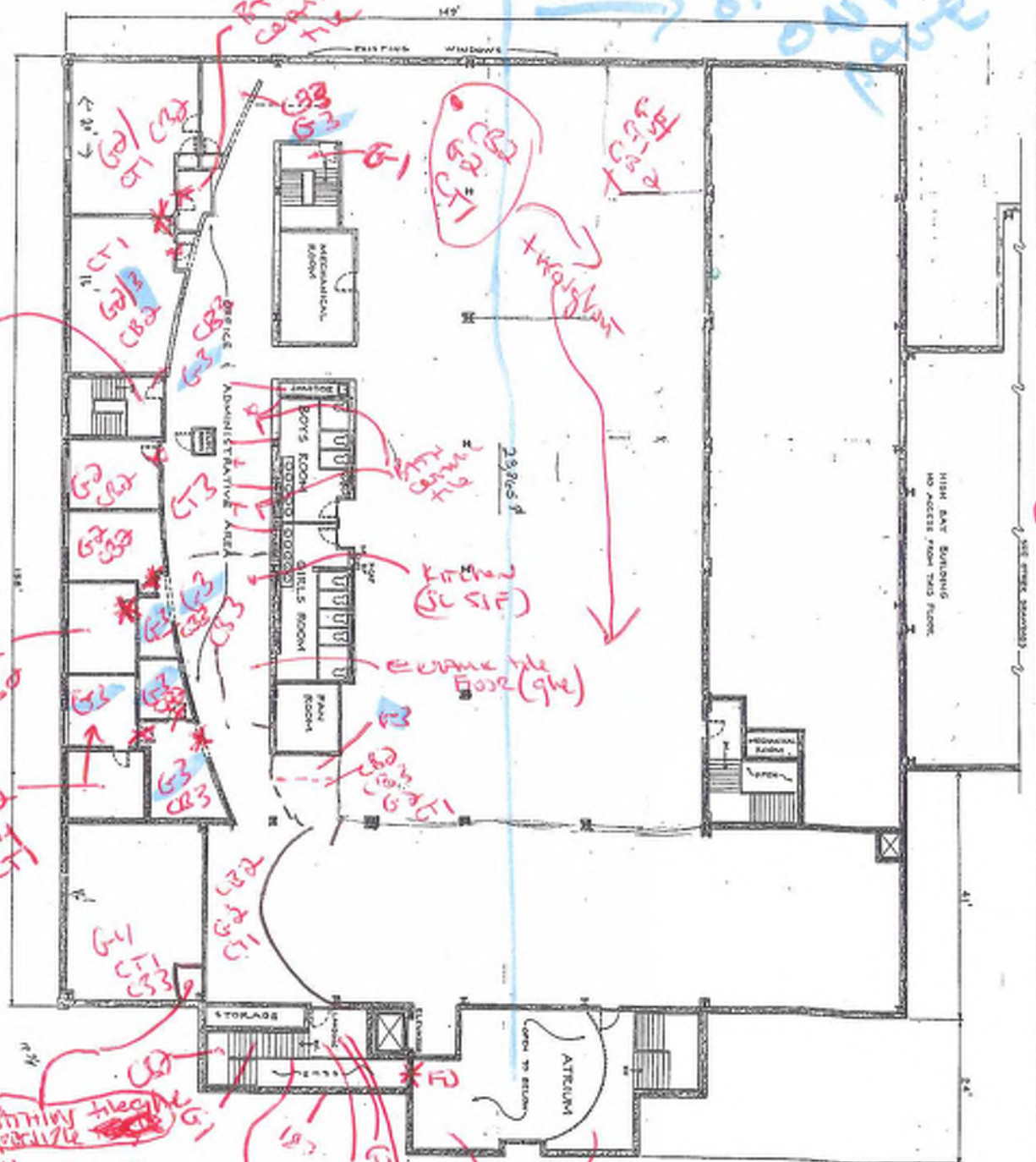




1/2 (A side) 2nd Floor BOE

OTHER HALF  
1954

SECOND FLOOR PLAN



A

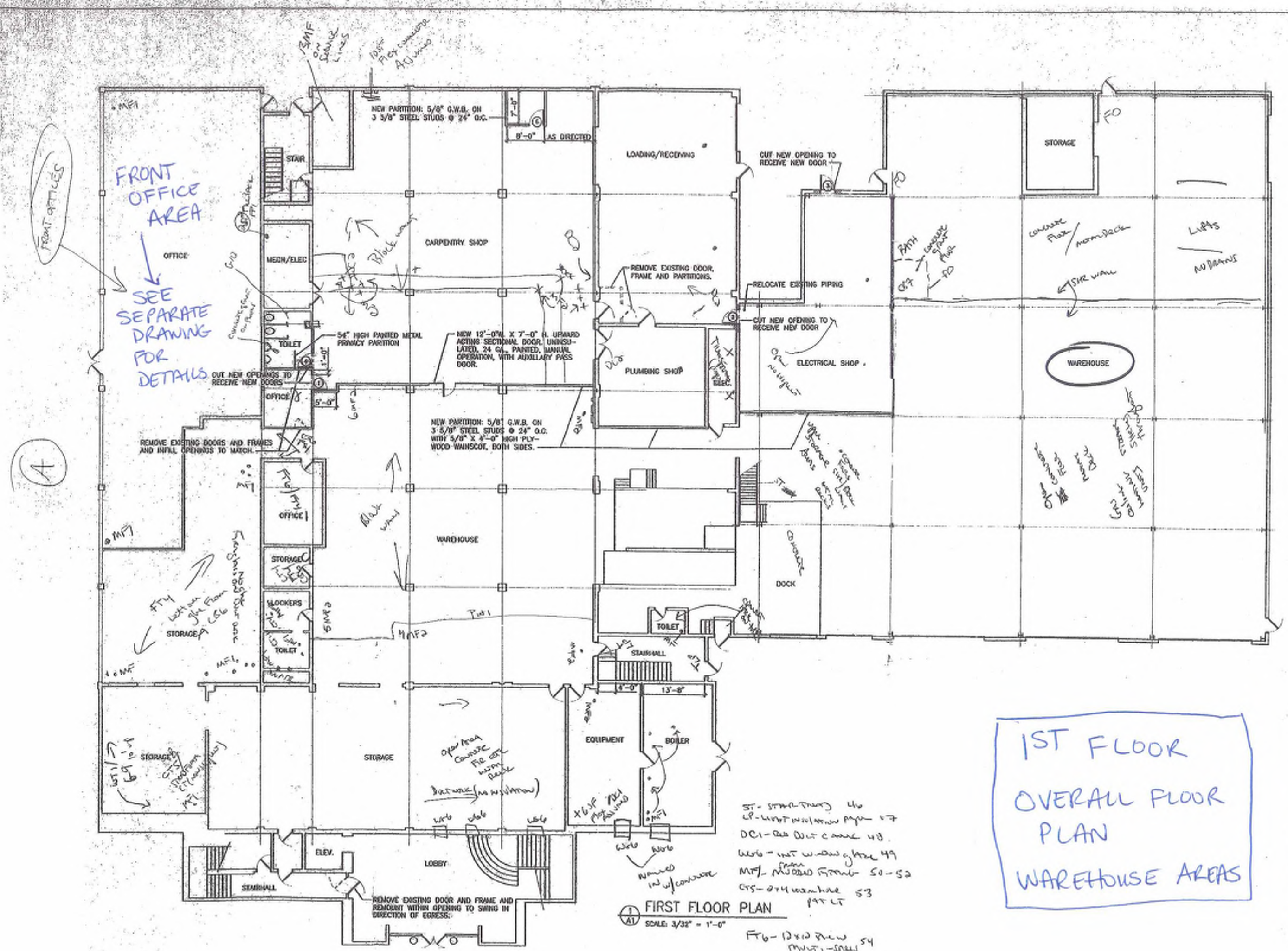
C

- G1 - 15 RIL CR + M
- G1 - yellow carpet ghe
- G2 - Bay Case B + M
- CT - INT STAIR CASE
- CT - 2nd tiered CT
- G2 - Blue carpet ghe (17-18)
- FD - Fire Door Invitation (wood) \*

- G3 - Red CR + M
- G3 - RIL carpet ghe (12-12)
- G4 - Tan carpet ghe
- R - SUE COAT
- R1 - 9x9 tile / 1/4\"

2ND FLOOR  
SIDE A



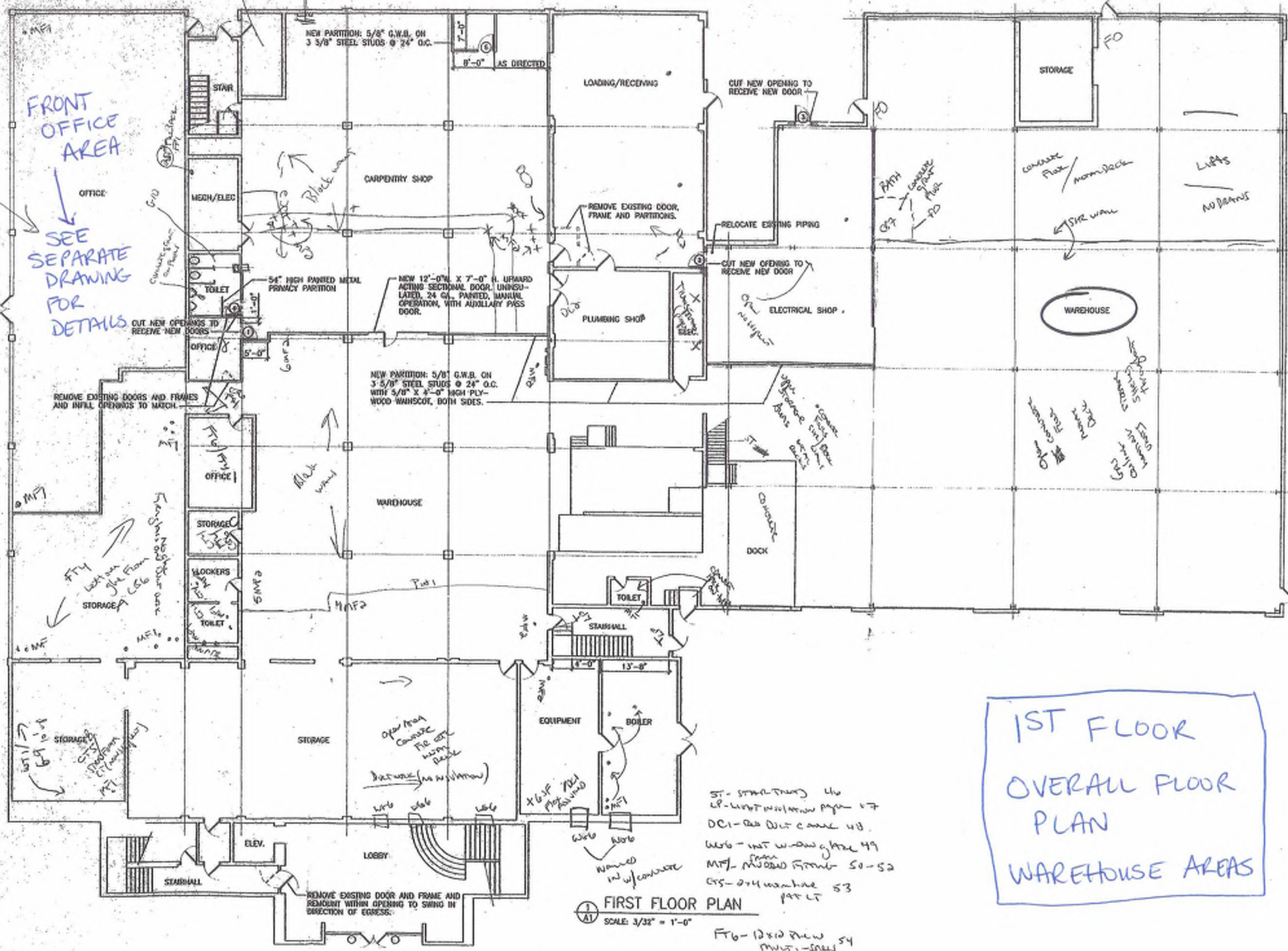


FRONT OFFICES  
 FRONT OFFICE AREA  
 SEE SEPARATE DRAWING FOR DETAILS

1ST FLOOR  
 OVERALL FLOOR PLAN  
 WAREHOUSE AREAS

FIRST FLOOR PLAN  
 SCALE: 3/32" = 1'-0"  
 ST - STRUCTURE 46  
 LP - LIGHT WEIGHT CONCRETE 47  
 DC1 - RED OIL CANAL 48  
 W66 - INT WINDOW GLAZ 49  
 M17 - MILD STEEL FROM 50-52  
 C15 - 2x4 WALLS 53  
 FT6 - 12x12 PINE 54  
 M17 - MULTI-SPEED 55  
 DC2 - RED OIL CANAL 55

A

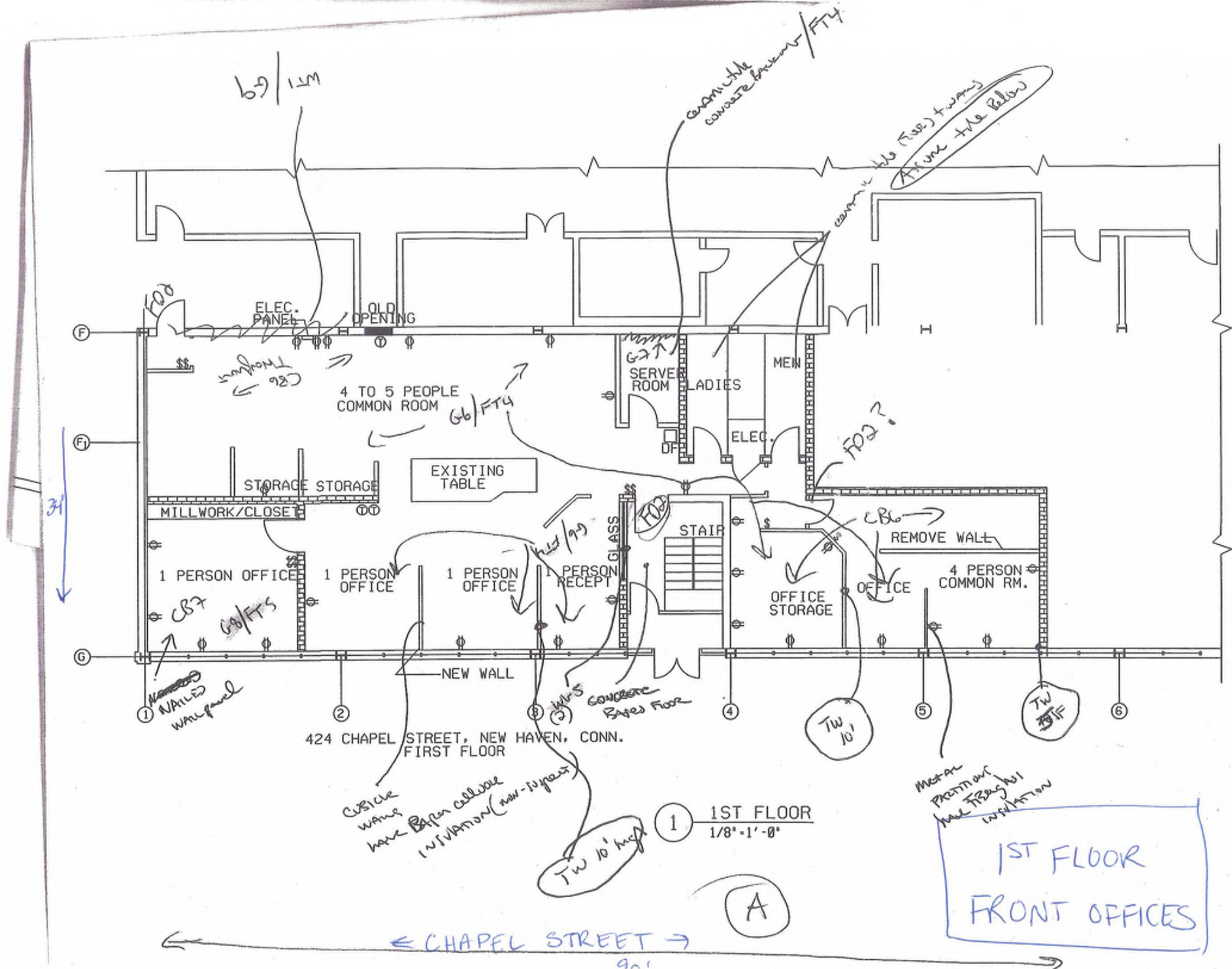


REMOVE EXISTING DOORS AND FRAMES AND INFILL OPENINGS TO MATCH.

REMOVE EXISTING DOOR AND FRAME AND REMOUNT WITHIN OPENING TO SWING IN DIRECTION OF EGRESS.

FIRST FLOOR PLAN  
 SCALE: 3/32" = 1'-0"

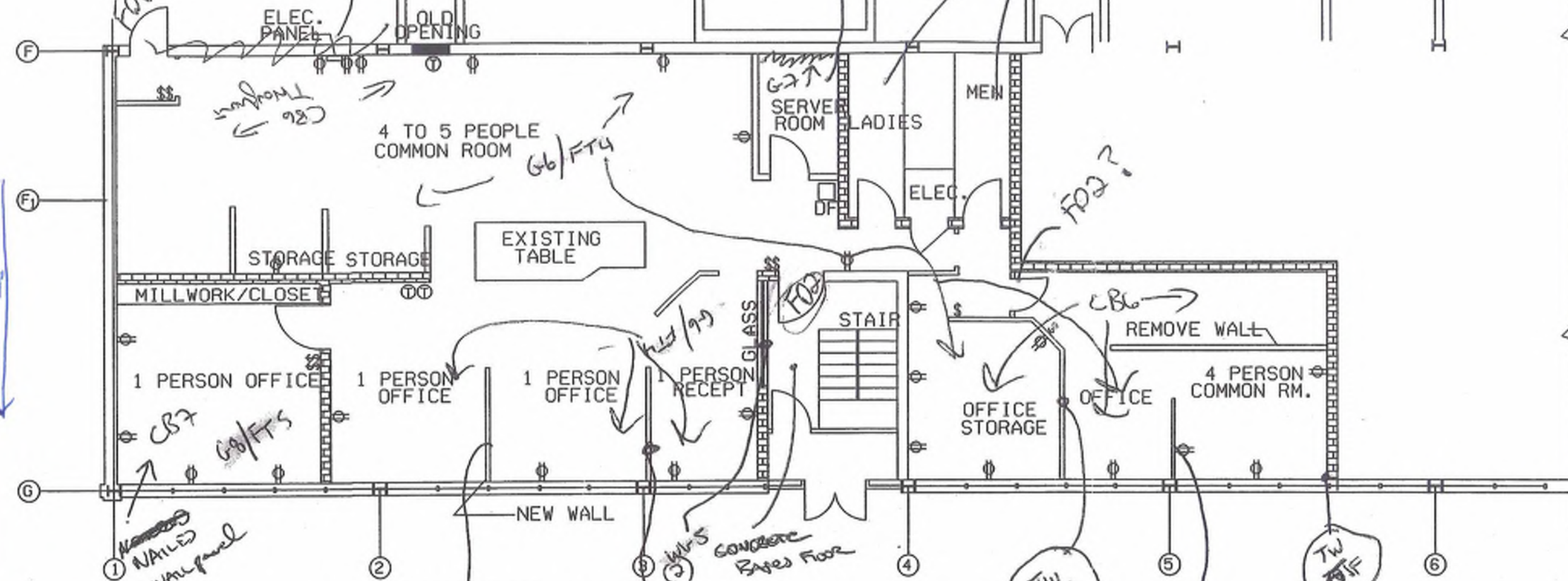




69/11M

concrete  
concrete beam/FT4

concrete (Floor) + walls  
Assume the below



424 CHAPEL STREET, NEW HAVEN, CONN.  
FIRST FLOOR

CUBICLE  
walls  
have paper cellular  
insulation (now - in part)

TW 10' high

1 1ST FLOOR  
1/8" = 1'-0"

A

metal  
premium  
hard fiberglass  
insulation

1ST FLOOR  
FRONT OFFICES

← CHAPEL STREET →

921



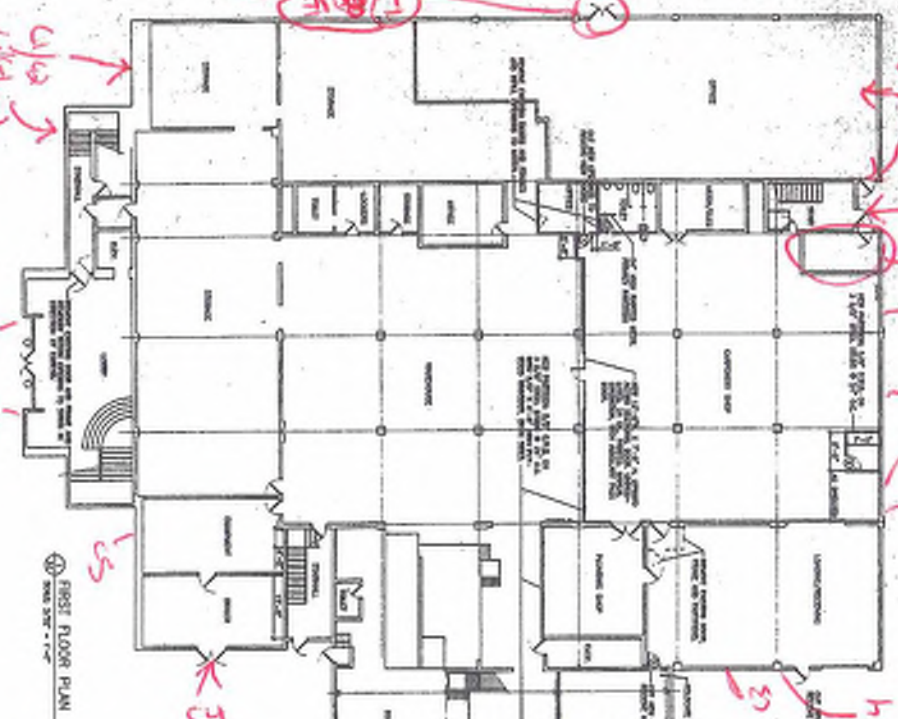
8 heat window units  
 15mm units (translucent)  
 A

also w/1 (drops) →

EXTERIOR

UNITEL SCHEDULE

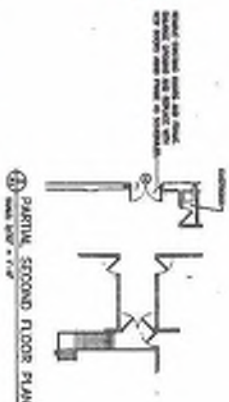
SYMBOL	DESCRIPTION
□	UNITEL WINDOW
□	UNITEL DOOR
□	UNITEL GLASS
□	UNITEL PARTITION
□	UNITEL STAIR
□	UNITEL ELEVATOR



2. B.M.E  
 2mm

EXTERIOR

- C1 - EXT window sill concrete CAUSE
- C2 - EXT window CAUSE
- w/1 - EXT window CAUSE
- T - Translucent
- C3 - BUILDING CAUSE (EXT)
- C4 - Door cause (ext)

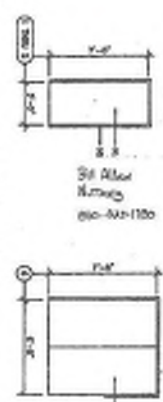


wid-EXT window glare  
 w/s - (see above window for  
 CS - EXT VENT CAUSE  
 Co-EXT  
 OUTSIDE  
 CAUSE

LEGEND

SYMBOL	DESCRIPTION
□	GLASS WINDOW/DOOR
□	GLASS PARTITION
□	GLASS CURTAIN WALL
□	GLASS STAIR
□	GLASS ELEVATOR
□	GLASS STAIR
□	GLASS ELEVATOR

DOOR HARDWARE SCHEDULE



LIST OF MANUFACTURERS FOR HARDWARE

SYMBOL	DESCRIPTION	MANUFACTURER
1	DOOR HANDLE	AMERICAN BRASS
2	DOOR LOCK	AMERICAN BRASS
3	DOOR LOCK	AMERICAN BRASS
4	DOOR LOCK	AMERICAN BRASS
5	DOOR LOCK	AMERICAN BRASS

474 Chapel, NH

CITY OF NEW HAVEN

PROJECT	DATE
STREET LEVEL FLOOR PLAN	11/11/11

JOSEPH SERRANO ARCHITECTS LLC  
 1100 STATE STREET, SUITE 200  
 NEW HAVEN, CT 06510  
 PHONE: 203.333.3333  
 FAX: 203.333.3333  
 WWW: JOSEPHSERRANO.COM

BOARD OF ENGINEERS  
 PROFESSIONAL FACULTY  
 STATE OF CONNECTICUT  
 LICENSE NO. 12345

HIGH BAY  
WAKEHOUSE  
ROOF

A

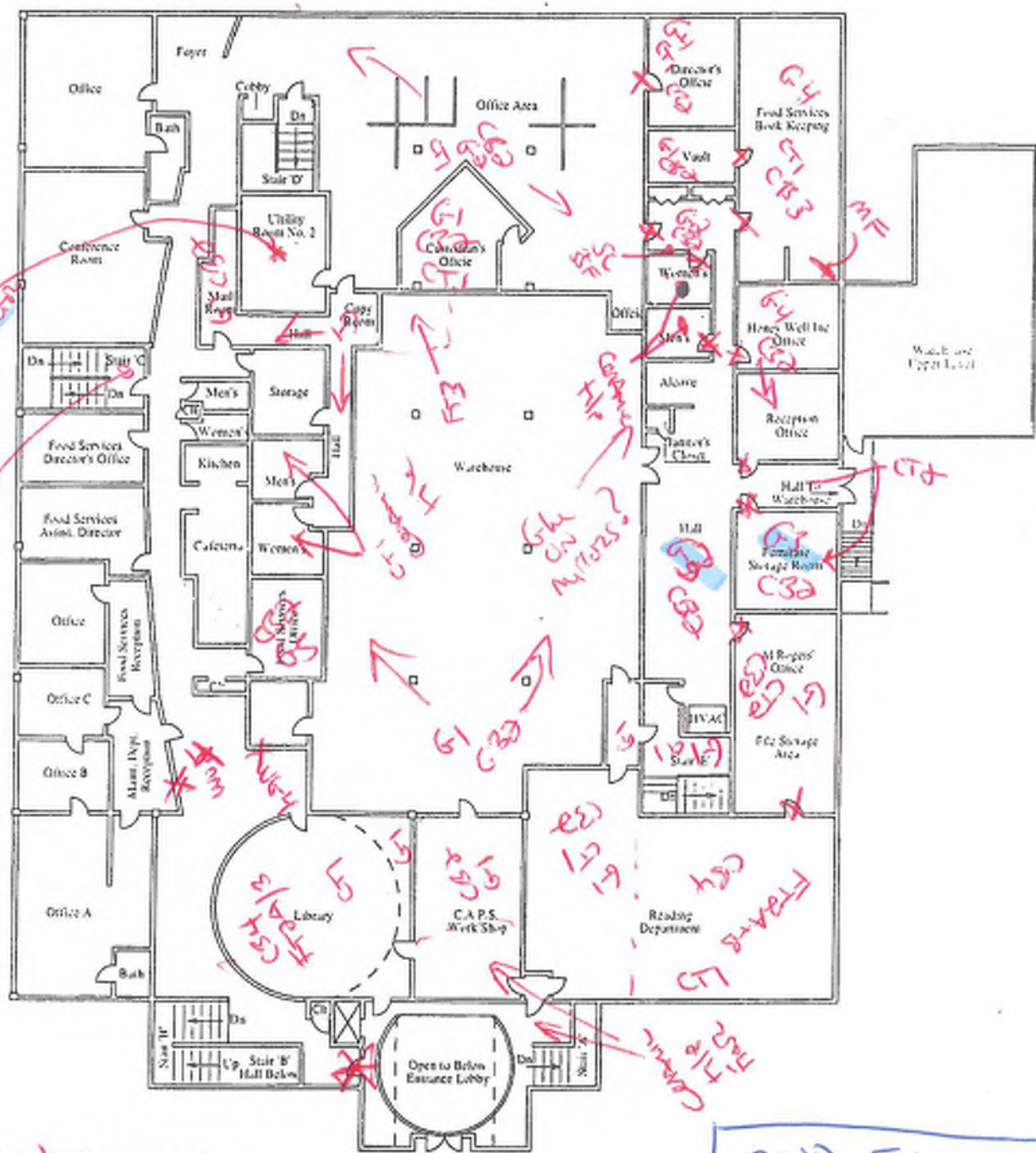


FIRST FLOOR PLAN - HIGH BAY AREA

High Bay Roof



(B)



Assuming  
Floor connects

FT1

(C)

(C)

Second Floor Plan

(1)

2ND FLOOR  
SIDE C

- CTD - dry brick feet
- FT2A - blk 12x12 tile + m
- FT2B - wht " "
- CR4 - sm blk CS + m
- FT3 - wood pattern floor tile (self-stick)
- CBS - wood pat B
- GS - wood floor glc
- W04 - int w/ daughter

2nd Floor (C side)  
 New Haven Public Schools B.O.E.  
 444 Chapel Street  
 New Haven, Connecticut

**APPENDIX C**

**TRC INSPECTORS LICENSES/CERTIFICATIONS**

0003201 FP \*\*PRSR T1 0 0664 08082

ANTHONY J. MINALGA  
527 HAZARD AVENUE  
ENFIELD CT 06082

Dear Licensed/Certified Professional,  
Attached you will find your validated license/certification for the coming year. Should you have any questions about your license/certificate renewal, please do not hesitate to write or call:

Department of Public Health (860) 509-7603  
P.O. Box 340308  
M.S. #12N02A <http://www.dph.state.ct.us>  
Hartford, CT 06134-0308

Sincerely,

*J. Robert Galvin, M.D., MPH.*

J. ROBERT GALVIN, MD, MPH, COMMISSIONER  
DEPARTMENT OF PUBLIC HEALTH

**INSTRUCTIONS:**

1. Detach and sign each of the cards on this form.
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.

4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

**STATE OF CONNECTICUT**  
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT  
THE INDIVIDUAL NAMED BELOW IS CERTIFIED  
BY THIS DEPARTMENT AS A

**LEAD INSPECTOR, RISK ASSESSOR**

ANTHONY J. MINALGA

*[Signature]*  
SIGNATURE

*J. Robert Galvin, M.D., MPH.*  
COMMISSIONER

CERTIFICATION NO.  
002160  
CURRENT THROUGH  
03/31/08  
VALIDATION NO.  
03-471219

EMPLOYER'S COPY

**STATE OF CONNECTICUT**  
DEPARTMENT OF PUBLIC HEALTH

NAME  
ANTHONY J. MINALGA

VALIDATION NO. 03-471219      CERTIFICATION NO. 002160      CURRENT THROUGH 03/31/08

PROFESSION  
LEAD INSPECTOR, RISK ASSESSOR

*[Signature]*  
SIGNATURE

*J. Robert Galvin, M.D., MPH.*  
COMMISSIONER

# CERTIFICATE OF ACHIEVEMENT

*This certifies that*

**Anthony Minalga**

527 Hazard Avenue, Enfield, CT 06082  
031-66-5683

*has successfully completed the*

## **INSPECTOR RISK ASSESSOR REFRESHER**

*Training Course*

*conducted by*  
ATC Associates Inc.  
73 William Franks Drive  
West Springfield, MA 01089  
(413) 781-0070

*Training received complies with the requirements of the  
Connecticut Department of Public Health pursuant to  
Section 20-477 of the Connecticut General Statutes.*

*Edward Kolby*

Principal Instructor

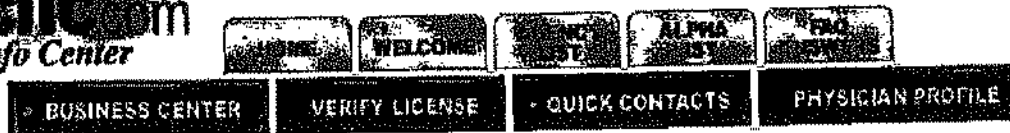
March 14, 2007  
Date of Course

March 14, 2007  
Exam Date

CTLRAR-171  
Certificate Number

March 14, 2008  
Expiration Date

*Gregory J. Morach*  
Training Manager



## Health Care or Environmental Health Professional's License Status

This site is part of [CT-cllic.com](#), the **Connecticut Licensing Info Center**, that links to all YOUR State licensing and registration needs.

Note: Requests for copies of documents related to past disciplinary action for professions other than physicians may be emailed as such documents are not currently available via this web site. Please include your name and telephone number on any request.

**License Type:** Asbestos Consultant - Inspector  
**License Number:** 000464  
**Name:** MINALGA, ANTHONY J  
**Expiration Date:** 3/31/2008  
**Granted Date:** 5/3/2001  
**License Name:** Anthony J. Minalga  
**License Status:** Current  
**Disciplinary Action:** None

### Questions ? ?

E-mail [oplc.dph@po.state.ct.us](mailto:oplc.dph@po.state.ct.us) or call (860) 509-7603  
 Return to [DPH Licensure/Renewal Page](#)

For Business Registry Questions? Contact [SmartState](#) or call 1-800-392-2122.

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# CERTIFICATE OF ACHIEVEMENT

*This certifies that*

**Anthony Minalga**

*has successfully completed the*  
**Asbestos Site Inspector Refresher Training**  
**Asbestos Accreditation Under TSCA Title II**  
**40 CFR Part 763**

Official record of successful completion  
of this Course is the DOH2832  
Certificate issued on April 26, 2007.

conducted by

**ATC Associates Inc.**  
**73 William Franks Drive**  
**West Springfield, MA 01089**  
**(413) 781-0070**

*Charles Kolby*

Principal Instructor

April 26, 2007

Date of Course

April 26, 2008

Expiration Date

*Margery J. Morsch*

Regional Manager

SIAR-2427

Certificate Number

April 26, 2007

Examination Date



**APPENDIX D**  
**LABORATORY ACCREDITATIONS**

# State of Connecticut, Department of Public Health

## Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

### TRC ENVIRONMENTAL CORPORATION

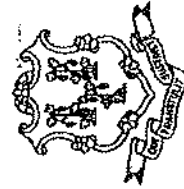
LOCATED AT 21 Griffin Road North IN Windsor, CT 06095  
AND REGISTERED IN THE NAME OF Richard A. Love

THIS CERTIFICATE IS ISSUED IN THE NAME OF Henry Laliberte WHO HAS BEEN DESIGNATED  
BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF  
APPROVAL AS FOLLOWS:

ASBESTOS  
AIR-FIBER COUNTING - PCM  
BULK IDENTIFICATION - PLM

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES December 31, 2007 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH  
DATED AT HARTFORD, CONNECTICUT, THIS 22<sup>ND</sup> DAY OF DECEMBER 2005



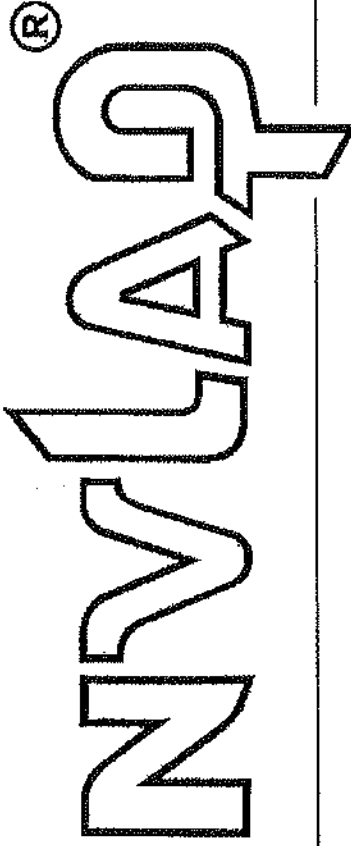
Registration  
No.

PH-0426

*Elena J. Blaschinski*

CHIEF, REGULATORY SERVICES BRANCH

United States Department of Commerce  
National Institute of Standards and Technology



---

## Certificate of Accreditation to ISO/IEC 17025:1999

---

NVLAP LAB CODE: 101424-0

**TRC Environmental Corporation**  
Windsor, CT

is recognized by the National Voluntary Laboratory Accreditation Program for conformance with criteria set forth in  
NIST Handbook 150:2001 and all requirements of ISO/IEC 17025:1999.  
Accreditation is granted for specific services, listed on the Scope of Accreditation, for:

**BULK ASBESTOS FIBER ANALYSIS**

2007-07-01 through 2008-06-30

Effective dates

---



*Dolly A. Buce*  
For the National Institute of Standards and Technology



**National Voluntary  
Laboratory Accreditation Program**



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:1999**

**TRC Environmental Corporation**

21 Griffin Road North

Windsor, CT 06095

Ms. Kathleen Williamson

Phone: 860-298-9692 Fax: 860-298-6399

E-Mail: [kwilliamson@trcsolutions.com](mailto:kwilliamson@trcsolutions.com)

URL: <http://www.trcsolutions.com>

**BULK ASBESTOS FIBER ANALYSIS (PLM)**

**NVLAP LAB CODE 101424-0**

*NVLAP Code    Designation / Description*

18/A01            EPA-600/M4-82-020; Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2007-07-01 through 2008-06-30

*Effective dates*

*For the National Institute of Standards and Technology*

# State of Connecticut, Department of Public Health

## Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

### PROSCIENCE ANALYTICAL SERVICES, INC.

LOCATED AT 22 Cummings Park IN Woburn, MA 01801

AND REGISTERED IN THE NAME OF Adrian Stanca

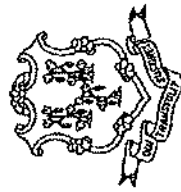
THIS CERTIFICATE IS ISSUED IN THE NAME OF Adrian Stanca - Director WHO HAS BEEN DESIGNATED  
BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF APPROVAL AS FOLLOWS:

NON-POTABLE WATER/ WASTEWATER, SOLID WASTE/SOIL ENVIRONMENTAL HEALTH & HOUSING ASBESTOS  
INORGANICS LEAD IN PAINT AIR

LEAD (PAINT) IN SOIL BULK MATERIALS  
LEAD IN DUST WIPES WATER

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES December 31, 2008 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH  
DATED AT HARTFORD, CONNECTICUT, THIS 20th DAY OF December 2006



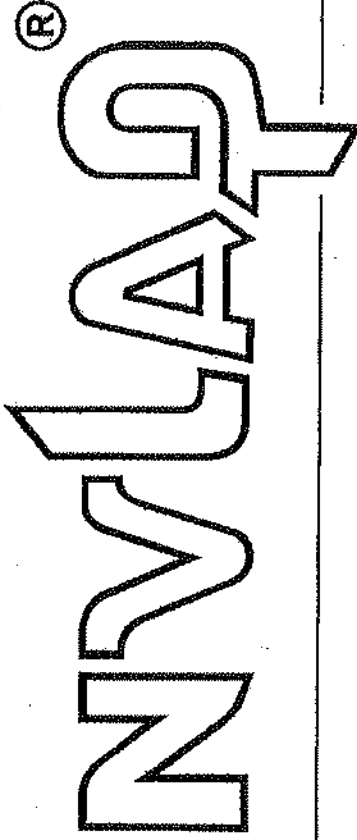
Registration No.

PH-0209

A handwritten signature in black ink, appearing to read 'Suzanne Blancaflor'.

SUZANNE BLANCAFLOR, MS  
CHIEF, ENVIRONMENTAL HEALTH SECTION

United States Department of Commerce  
National Institute of Standards and Technology



---

**Certificate of Accreditation to ISO/IEC 17025:1999**

---

NVLAP LAB CODE: 200090-0

**ProScience Analytical Services, Inc.**  
Woburn, MA

is recognized by the National Voluntary Laboratory Accreditation Program for conformance with criteria set forth in  
NIST Handbook 150:2001 and all requirements of ISO/IEC 17025:1999.

Accreditation is granted for specific services, listed on the Scope of Accreditation, for:

**BULK ASBESTOS FIBER ANALYSIS**

2007-01-01 through 2007-12-31

Effective dates



*Dolly A. Bruce*  
For the National Institute of Standards and Technology



**National Voluntary  
Laboratory Accreditation Program**



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:1999**

**ProScience Analytical Services, Inc.**  
 22 Cummings Park  
 Woburn, MA 01801-2122  
 Mr. Adrian Stanca  
 Phone: 781-935-3212 Fax: 781-932-4857  
 E-Mail: PASI96@aol.com  
 URL: <http://www.proscience.net>

**BULK ASBESTOS FIBER ANALYSIS (PLM)**

**NVLAP LAB CODE 200090-0**

***NVLAP Code    Designation / Description***

18/A01            EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2007-01-01 through 2007-12-31

*Effective dates*

*Sally S. Bruce*

For the National Institute of Standards and Technology

**APPENDIX E**

**ASBESTOS BULK SAMPLE  
CHAIN OF CUSTODY FORMS**



TRC

21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6399

# ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: September 2005  
Supersede Previous Edition

PROJECT NUMBER  
106471-3474-00710

PROJECT NAME  
CTDOT-424/444 Chapel Street,  
New Haven, CT

LAB ID # 34342

TURNAROUND TIME

PLM:	24hr	48hr	X	3day	5day
TEM:	24hr	48hr	X	3day	5day

INSPECTOR: (SIGNATURE)

(PRINTED)

Anthony Minalga

PARAMETERS

PLM NY N93/116 (POSITIVE STOP)	X
PLM NY N91 (w/gravimetric reduction) (POSITIVE STOP)	X
ANALYZE BY LAYER	X
POINT COUNT (F > 1% & < 10%)	X
TEM NY N98-4 (F PLM SERIES NEG)	X

SAMPLE LOCATION

TYPE  
TIME  
DATE

FIELD  
SAMPLE  
NUMBER

FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	PLM NY N93/116 (POSITIVE STOP)	PLM NY N91 (w/gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (F > 1% & < 10%)	TEM NY N98-4 (F PLM SERIES NEG)	MATERIAL
			COMP	GRAB							
1	8/7/07		X		Street side stairwell	X		X		X	FT1-9x9 grey marble pattern floor tile and associated mastic
2	8/7/07		X		2 <sup>nd</sup> floor-reading room	X		X		X	FT2a-12x12 black floor tile and associated mastic
3	8/7/07		X		2 <sup>nd</sup> floor-reading room	X		X		X	FT2b-12x12 white floor tile and associated mastic
4	8/7/07		X		2 <sup>nd</sup> floor- warehouse	X		X		X	FT3-wood patterned floor tile (self-stick)
5	8/7/07			X	Atrium/lobby stairs	X				X	G1-yellow carpet glue
6	8/7/07			X	Atrium stair 2 <sup>nd</sup> floor landing	X				X	G2-blue carpet glue
7	8/7/07			X	2 <sup>nd</sup> floor-offices	X				X	G3-black carpet glue
8	8/7/07			X	2 <sup>nd</sup> floor-front offices	X				X	G4-tan carpet glue
9	8/7/07			X	2 <sup>nd</sup> floor-head services office	X				X	G5-wood flooring glue
10	8/7/07			X	Atrium/lobby stairs	X		X		X	CB1-large black cove base and associated mastic
11	8/7/07			X	Atrium/lobby stairs	X		X		X	CB2-grey cove base and associated mastic

Relinquished by: (Signature)

Date: 8/15/07

Received by: (Signature) *K. Williamson*

Date: 8/15/07

Relinquished by: (Signature)

Date:

Received by: (Signature)

(Printed)

Anthony Minalga

Time: 1400

(Printed)

K. Williamson

Time: 1530

(Printed)

Time:

(Printed)

Remarks:

Condition of Samples:  Yes  No  
Comments:

TRC

21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6399

# ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: September 2005  
Supersede Previous Edition

PROJECT NUMBER 106471-3474-00710		PROJECT NAME CTDOT 424/444 Chapel Street, New Haven, CT		LAB ID #. 34342	
INSPECTOR: (SIGNATURE) 		INSPECTOR: (PRINTED) Anthony Minalga		TURNAROUND TIME	
DATE	TIME	24hr	48hr	3day	5day
8/7/07			X	X	
		24hr	48hr	3day	5day
		X			

FIELD SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	PARAMETERS				MATERIAL
					PLM NY N98.1 (w/gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (F > 1% & < 10%)	TEM NY N98.4 (F PLM SERIES NEG)	
12	8/7/07		X	2 <sup>nd</sup> floor-front offices	X	X	X	X	CB3-red cove base and associated mastic
13	8/7/07		X	2 <sup>nd</sup> floor-reading room	X	X	X	X	CB4-black cove base and associated mastic
14	8/7/07		X	2 <sup>nd</sup> floor-warehouse	X	X	X	X	CB5-wood pattern cove base and associated mastic
15	8/7/07		X	2 <sup>nd</sup> floor-offices	X				CT1-2x2 textured pattern ceiling tile
16	8/7/07		X	2 <sup>nd</sup> floor-hall	X				CT2-2x4 birds feet pattern ceiling tile
17	8/7/07		X	2 <sup>nd</sup> floor-atrium	X				FD-fire door insulation
18	8/7/07		X	2 <sup>nd</sup> floor-kitchen	X		X	X	SC-sink coating
19	8/7/07		X	Exterior-side A overhang	X				Cement board material
20	8/7/07		X	Side B mechanical room	X				MF-pipe elbow fitting
21	8/7/07		X	Exterior-side A windows	X		X	X	WG1-exterior window glazing
22	8/7/07		X	Exterior-side B windows	X		X	X	WG2-exterior window glazing


Relinquished by: (Signature) 	Date: 8/15/07	Received by: (Signature) <i>K. Williamson</i>	Date: 8/15/07
(Printed) Anthony Minalga	Time: 1400	(Printed) K. Williamson	Time: 1530
Remarks:	Condition of Samples: <u>OK</u> Acceptable: Yes <u>   </u> No <u>   </u>		Comments:
		Relinquished by: (Signature)	Received by: (Signature)
		Date:	Date:
		Time:	Time:

**TRC**

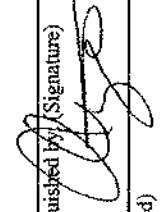
21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6399

# ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: September 2005  
Supersede Previous Edition

<b>PROJECT NUMBER</b> 106471-3474-00710		<b>PROJECT NAME</b> CTDOT-424/444 Chapel Street, New Haven, CT		<b>LAB ID #.</b> 34342	
<b>INSPECTOR: (SIGNATURE)</b> 		<b>(PRINTED)</b> Anthony Minalga		<b>TURNAROUND TIME</b>	
<b>TYPE</b>		<b>SAMPLE LOCATION</b>		PLM: <input type="checkbox"/> 24hr <input type="checkbox"/> 48hr <input checked="" type="checkbox"/> 3day <input type="checkbox"/> 5day	
<b>DATE</b>		<b>TIME</b>		TEM: <input type="checkbox"/> 24hr <input checked="" type="checkbox"/> 48hr <input type="checkbox"/> 3day <input type="checkbox"/> 5day	
<b>FIELD SAMPLE NUMBER</b>		<b>COMB</b>		<b>GRAB</b>	

FIELD SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	PARAMETERS				MATERIAL	
					PLM NY NOB 198.1 (POSITIVE STOP)	PLM NY NOB 198.1 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (PF > 1% & < 10%)		TEM NY NOB 198.4 (PF PLM SERIES NEG)
23	8/7/07		X	Exterior-side D warehouse door windows	X				X	WG3-exterior window glazing
24	8/7/07		X	2 <sup>nd</sup> floor-offices	X				X	WG4-interior door window glazing
25	8/7/07		X	Exterior-side A windows	X				X	C1-exterior window sill/concrete section caulking
26	8/7/07		X	Exterior-side A windows	X				X	C2-exterior window side caulking
27	8/7/07		X	Exterior	X				X	C3-expansion joint caulking
28	8/7/07		X	Exterior-doors	X				X	C4-exterior door caulking
29	8/7/07		X	Exterior vent	X				X	C5-exterior vent caulking
30	8/7/07		X	Exterior-444 entrance	X				X	C6-exterior facade/window caulking

<b>Relinquished by: (Signature)</b> 	<b>Date:</b> 8/15/07	<b>Received by: (Signature)</b> <i>K. Williamson</i>	<b>Date:</b> 8/15/07	<b>Relinquished by: (Signature)</b>	<b>Date:</b>	<b>Received by: (Signature)</b>
<b>(Printed)</b> Anthony Minalga	<b>Time:</b> 1400	<b>(Printed)</b> K. Williamson	<b>Time:</b> 1530	<b>(Printed)</b>	<b>Time:</b>	<b>(Printed)</b>
<b>Remarks:</b>				<b>Condition of Samples:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
				<b>Comments:</b>		

**TRC**

21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6399

# ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: September 2005  
Supersede Previous Edition

PROJECT NUMBER  
106471-3474-0710

PROJECT NAME  
CTDOT-424/444 Chapel Street,  
New Haven, CT

INSPECTOR: (SIGNATURE)

(PRINTED)

Anthony Minalga

LAB ID #. 34785

TURNAROUND TIME

PLM:	24hr	48hr	X	3day		5day
TEM:	24hr	X	48hr	3day		5day

FIELD SAMPLE NUMBER	DATE	TIME	TYPE	COM	GRA	SAMPLE LOCATION	PLM EPA 600/R93/116 (POSITIVE STOP)	PLM NY NOB 198.1 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (PF >1% & <10%)	TEM NY NOB 198.4 (PF PLM SERIES NEG)	MATERIAL
31	8/20/07		X			1 <sup>st</sup> floor-front offices	X		X		X	CB6-small black cove base and associated mastic
32	8/20/07		X			1 <sup>st</sup> floor-front offices	X				X	G6-carpet glue
33	8/20/07		X			1 <sup>st</sup> floor-front offices (below carpet)	X		X		X	FT4-9x9 grey/white marble pattern floor tile and associated mastic
34	8/20/07		X			1 <sup>st</sup> floor-front offices (server room)	X				X	G7-ceramic cove base glue
35	8/20/07		X			1 <sup>st</sup> floor-front/side office	X		X		X	CB7-brown cove base and associated mastic
36	8/20/07		X			1 <sup>st</sup> floor-front/side office	X				X	G8-brown carpet glue
37	8/20/07		X			1 <sup>st</sup> floor-front/side office	X		X		X	FT4-9x9 red marble pattern floor tile and associated mastic
38	8/20/07		X			1 <sup>st</sup> floor-front office entrance area	X				X	WG5-interior window glazing
39	8/20/07		X			1 <sup>st</sup> floor-front offices partition	X					Transite wall

Relinquished by: (Signature) 	Date: 8/21/07	Received by: (Signature) <i>S/21/07</i>	Date:	Relinquished by: (Signature)	Date:	Received by: (Signature)
(Printed) Anthony Minalga	Time: 1400	(Printed) K. Williamson	Time: 1500	(Printed)	(Printed)	(Printed)
Remarks: Series (40-41)(50-52)(58-60)(61-63)			Condition of Samples: <u>OK</u> Acceptable: Yes _____ No _____ Comments:			

TRC

21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6399

# ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: September 2005  
Supersede Previous Edition

PROJECT NUMBER  
106471-3474-0710

PROJECT NAME  
CTDOT-424/444 Chapel Street,  
New Haven, CT

LAB ID # 34385

TURNAROUND TIME

PLM:	24hr	48hr	X	3day	5day
TEM:	24hr	X	48hr	3day	5day

INSPECTOR; (SIGNATURE)  


(PRINTED)  
Anthony Minalga

FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	PLM NY NOB 198.1 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (P > 1% & < 10%)	TEM NY NOB 198.4 (P PLM SERIES NEG)	MATERIAL
			COMP	GRAB						
40	8/20/07		X		1 <sup>st</sup> floor-front offices	X				CT4-2x4 small dot pattern ceiling tile
41	8/20/07		X		1 <sup>st</sup> floor-front offices	X				CT4-2x4 small dot pattern ceiling tile
42	8/20/07		X		1 <sup>st</sup> floor-front offices	X				WT1-wall tile
43	8/20/07		X		1 <sup>st</sup> floor-front offices	X		X		G9-wall tile glue
44	8/20/07		X		1 <sup>st</sup> floor-front offices	X	X	X		Sheetrock and associated joint compound
45	8/20/07		X		1 <sup>st</sup> floor-front entrance	X				Fire door insulation
46	8/20/07		X		1 <sup>st</sup> floor-warehouse	X		X		ST-stair tread material
47	8/20/07		X		1 <sup>st</sup> floor-side entrance by boiler room	X				LP-light insulation paper
48	8/20/07		X		1 <sup>st</sup> floor-mechanical room	X		X		DC1-red duct caulking
49	8/20/07		X		1 <sup>st</sup> floor-boiler room	X		X		WG6-interior window glazing
50	8/20/07		X		1 <sup>st</sup> floor-warehouse	X				MFI-elbow fittings on water lines

Relinquished by: (Signature)  


Date: 8/21/07

Received by: (Signature)  


Date: 8/24/07

Relinquished by: (Signature)

Date:

Received by: (Signature)

(Printed)  
Anthony Minalga

Time: 1400

(Printed)  
K. Williamson

Time: 1500

(Printed)

(Printed)

Remarks: Series (40-41)(50-52)(58-60)(61-63)

Condition of Samples:  
Acceptable: Yes  No   
Comments:

TRC

21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6399

# ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: September 2005  
Supersedes Previous Edition

PROJECT NUMBER: 106471-3474-0710

PROJECT NAME: CTDOT-424/444 Chapel Street, New Haven, CT

LAB ID #: 34385

TURNAROUND TIME	
PLM:	24hr <input type="checkbox"/> 48hr <input checked="" type="checkbox"/> 3day <input type="checkbox"/> 5day <input type="checkbox"/>
TEM:	24hr <input checked="" type="checkbox"/> 48hr <input type="checkbox"/> 3day <input type="checkbox"/> 5day <input type="checkbox"/>

FIELD SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	PARAMETERS				MATERIAL
					PLM NY N98.1 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (IF >1% & <10%)	TEM NY N98.4 (IF PLM SERIES NEG)	
51	8/20/07		X	1 <sup>st</sup> floor-front offices	X				MF1-elbow fittings on water lines
52	8/20/07		X	1 <sup>st</sup> floor-front offices	X				MF1-elbow fittings on water lines
53	8/20/07		X	1 <sup>st</sup> floor-storage	X				CT5-2x4 wormhole pattern ceiling tile
54	8/20/07		X	1 <sup>st</sup> floor-warehouse office	X	X		X	FT6-12x12 blue with multi-specs floor tile and associated mastic
55	8/20/07		X	1 <sup>st</sup> floor-warehouse	X			X	DC2-gray duct caulking
56	8/20/07		X	1 <sup>st</sup> floor-warehouse bathroom	X			X	G10-ceramic wall tile glue
57	8/20/07		X	1 <sup>st</sup> floor-mech/electric room	X				FP-flue packing (water heater)
58	8/20/07		X	1 <sup>st</sup> floor-warehouse	X			X	PW-pipe tar wrap
59	8/20/07		X	1 <sup>st</sup> floor-warehouse	X				PW-pipe tar wrap
60	8/20/07		X	1 <sup>st</sup> floor-warehouse	X				PW-pipe tar wrap
61	8/20/07		X	1 <sup>st</sup> floor-warehouse	X				MF2-large heating line elbow fittings

Relinquished by: (Signature) 	Date: 8/21/07	Received by: (Signature) 	Date: 8/21/07
(Printed) Anthony Minalga	Time: 1400	(Printed) K. Williamson	Time: 1520
Remarks: Series (40-41)(50-52)(58-60)(61-63)		Condition of Samples: <input checked="" type="checkbox"/> Yes, <input type="checkbox"/> No	
Comments:		Comments:	

**TRC**

21 GRIFFIN ROAD NORTH  
WINDSOR, CONNECTICUT 06095  
TELEPHONE (860) 298-9692  
FAX (860) 298-6399

# ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: September 2005  
Supersede Previous Edition

LAB ID # 34385

PROJECT NUMBER 106471-3474-0710	PROJECT NAME CTDOT-424/444 Chapel Street, New Haven, CT	PARAMETERS				TURNAROUND TIME			
		PLM NY N98.1 (w/ gravimetric reduction) (POSITIVE STOP)	PLM NY N98.4 (IF PLM SERIES NEG)	POINT COUNT (IF > 1% & < 10%)	ANALYZE BY LAYER	PLM: 24hr	48hr	X	3day

INSPECTOR: (SIGNATURE) 	(PRINTED) Anthony Minalga
----------------------------	------------------------------

FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	PLM EPA 600/R93/116 (POSITIVE STOP)	PLM NY N98.1 (POSITIVE STOP)	PLM NY N98.4 (IF PLM SERIES NEG)	POINT COUNT (IF > 1% & < 10%)	ANALYZE BY LAYER	MATERIAL
			COMP	GRAB							
62	8/20/07			X	1 <sup>st</sup> floor-warehouse	X					MF2-large heating line elbow fittings
63	8/20/07			X	1 <sup>st</sup> floor-warehouse	X					MF2-large heating line elbow fittings
64	8/20/07			X	2 <sup>nd</sup> floor-front office hallway	X					CT3-1x1 splined textured ceiling tiles
65	8/21/07		X		Exterior-warehouse roof	X		X		X	Built-up roofing
66	8/21/07		X		Exterior-warehouse roof	X		X		X	Parapet paper flashing
67	8/21/07		X		Exterior-warehouse roof	X		X		X	Parapet tar flashing
68	8/21/07		X		Exterior-warehouse roof	X		X		X	Penetration tar flashing

Relinquished by: (Signature) 	Date: 8/21/07	Received by: (Signature) <i>K. Williamson</i>	Date: 8/24/07	Relinquished by: (Signature)	Date:	Received by: (Signature)
(Printed) Anthony Minalga	Time: 1400	(Printed) K. Williamson	Time: 1500	(Printed) K. Williamson	Time:	(Printed)
Remarks: Series (40-41)(50-52)(58-60)(61-63)	Condition of Samples: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Comments:		Page 4 of 4	



**Proscience Analytical Services, Inc.**

22 Cummings Park, Woburn, MA 01801 Ph. 781-935-3212 Fax 781-932-4857  
 TEM Bulk Chain of Custody Record

Date: 08/15/07

Client: TRC Environmental Corporation  
 Client Job#: 106471.3474.0710  
 Client Job Ref./Loc.: CT DOT- 424/444 Chapel Street, New Haven, CT  
 Relinquished by: K. Williamson  
 Received by: E. Plimpton  
 Report to: A. Minalga  
 Samplers Name:

Analysis Type: Chatfield N.O.B N.Y.S Qualitative

*Stephanie Andersen*  
 8/17/07 9:05 AM

NT9408

Turn Around Time: <12 Hour <24 Hour <48 Hour <3 Day 5 Day Other:

Client ID #	Lab ID#	Description	Location	Acceptable on Receipt	For Lab Use Only Comments
1	34342	Tile & Mastic	See Chain of Custody		
2	34342	Tile & Mastic			
3	34342	Tile & Mastic			
4	34342	Tile			
5	34342	Glue			
6	34342	Glue			
8	34342	Glue			
9	34342	Glue			
10	34342	CB & Mastic			
11	34342	CB & Mastic			
12	34342	CB & Mastic			
13	34342	CB & Mastic			
14	34342	CB & Mastic			
18	34342	Sink coating			
22	34342	Glazing			
24	34342	Glazing			
25	34342	Caulking			
For Lab Use Only	# Spies	Total	Batch #	Results Reported	Comments





**APPENDIX F**

**PLM LABORATORY ANALYSIS DATA**



Industrial Hygiene Laboratory  
21 Griffin Road North  
Windsor, CT 06095  
(860) 298-6308

**BULK ASBESTOS ANALYSIS REPORT**

CLIENT: CT Department of Transportation

Site: 424/444 Chapel Street, New Haven, CT  
Lab Log #: 34342  
Project #: 106471,3474,0710  
Date Received: 08/15/07  
Date Analyzed: 08/16/07

**RESULTS**

Sample No.	Color	Homogeneous	Multi-Layered	Layer No.	Other Matrix Mat'ls	Asbestos %	Asbestos Type
1	Yellow/Brown (mastic)	No	Yes	1	--	ND<1%	None
1	Grey (tile)	No	Yes	2	--	ND<1%	None
2	Yellow (mastic)	No	Yes	1	1% cellulose	ND<1%	None
2	Black (tile)	No	Yes	2	1% cellulose	ND<1%	None
3	Dark Yellow (mastic)	No	Yes	1	--	ND<1%	None
3	White (tile)	No	Yes	2	--	ND<1%	None
4	Brown	Yes	No	--	--	ND<1%	None
5	Yellow	Yes	No	--	--	ND<1%	None
6	Blue	Yes	No	--	--	ND<1%	None
7	Black	Yes	No	--	--	10%	Chrysotile
8	Yellow	Yes	No	--	--	ND<1%	None
9	Brown	Yes	No	--	--	ND<1%	None
10	White (mastic)	No	Yes	1	--	ND<1%	None
10	Black (cove base)	No	Yes	2	--	ND<1%	None
11	Yellow (mastic)	No	Yes	1	--	ND<1%	None
11	Grey (cove base)	No	Yes	2	--	ND<1%	None
12	Yellow (mastic)	No	Yes	1	--	ND<1%	None
12	Brown (cove base)	No	Yes	2	--	ND<1%	None
13	White (mastic)	No	Yes	1	--	ND<1%	None
13	Black (cove base)	No	Yes	2	--	ND<1%	None
14	Dark Yellow (mastic)	No	Yes	1	--	ND<1%	None

**TRC LABORATORY ASBESTOS ANALYTICAL CERTIFICATIONS**

NVLAP Lab Code 101424-0  
NY #10980

AIHA #100122 CT #PH-0426  
RI #AAL-007C3 TX #300354

ME LA-0075, LB-0071  
VT #AL014538

MA #AA000052  
VA #3333 000283

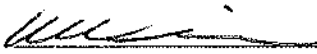
14	Brown (cove base)	No	Yes	2	--	ND<1%	None
15	White/Beige	Yes	No	--	90% mineral wool	ND<1%	None
16	White/Grey	Yes	No	--	40% cellulose	ND<1%	None
17	White	Yes	No	--	--	ND<1%	None
18	White	Yes	No	--	20% cellulose	ND<1%	None
19	Grey	Yes	No	--	--	20%	Chrysotile
20	White	Yes	No	--	10% mineral wool	30%	Chrysotile
21	Black	Yes	No	--	--	5%	Chrysotile
22	Grey	Yes	No	--	--	ND<1%	None
23	Black	Yes	No	--	--	10%	Chrysotile
24	Black	Yes	No	--	--	ND<1%	None
25	White	Yes	No	--	--	ND<1%	None
26	White	Yes	No	--	--	ND<1%	None
27	White	Yes	No	--	--	ND<1%	None
28	White	Yes	No	--	--	ND<1%	None
29	Brown	Yes	No	--	10% mineral wool	ND<1%	None
30	Black	Yes	No	--	--	ND<1%	None

Reporting limit- asbestos present at 1%  
 ND<1% - asbestos was not detected  
 Trace- asbestos was observed at level of less than 1%

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2008. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through February 1, 2008. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Analyst: Kathleen Williamson  
 QC Analyst: Helen Rimsa  
 Reviewed by:   
 Laboratory Analyst

Approved  
 Signatory: Kathleen Williamson  
 Laboratory Manager

Date Issued: 8/17/07



Industrial Hygiene Laboratory  
21 Griffin Road North  
Windsor, CT 06095  
(860) 298-6308

**BULK ASBESTOS ANALYSIS REPORT**

CLIENT: CT Department of Transportation

Site: 424/444 Chapel Street, New Haven, CT  
Lab Log #: 34385  
Project #: 106471.3474.0710  
Date Received: 08/21/07  
Date Analyzed: 08/21/07

**RESULTS**

Sample No.	Color	Homogeneous	Multi-Layered	Layer No.	Other Matrix Mat'ls	Asbestos %	Asbestos Type
31	Yellow (glue)	No	Yes	1	--	ND<1%	None
31	Black (cove base)	No	Yes	2	--	ND<1%	None
32	Dark Yellow	Yes	No	--	--	3%	Chrysotile
33	Black (mastic)	No	Yes	1	--	ND<1%	None
33	Grey (tile)	No	Yes	2	--	3%	Chrysotile
34	Brown	Yes	No	--	--	ND<1%	None
35	Brown (glue)	No	Yes	1	--	ND<1%	None
35	Brown (cove base)	No	Yes	2	--	ND<1%	None
36	Yellow/Black	Yes	No	--	--	3%	Chrysotile
37	Black (mastic)	No	Yes	1	--	3%	Chrysotile
37	Brown (tile)	No	Yes	2	--	5%	Chrysotile
38	Black	Yes	No	--	--	3%	Chrysotile
39	Grey	Yes	No	--	--	20%	Chrysotile
40	White/Brown	Yes	No	--	30% cellulose 40% mineral wool	ND<1%	None
41	White/Brown	Yes	No	--	30% cellulose 40% mineral wool	ND<1%	None
42	White/Brown	Yes	No	--	30% cellulose 40% mineral wool	ND<1%	None
43	Brown	Yes	No	--	--	ND<1%	None
44	White (joint compound)	No	Yes	1	--	ND<1%	None

**TRC LABORATORY ASBESTOS ANALYTICAL CERTIFICATIONS**

NVI AP Lab Code 101424-0  
NY #10980

AIHA #100122  
RI #AAL-007C3

CT #PH-0426  
TX #300354

ME LA-0075, LB-0071  
VT #AL014538

MA #AA000052  
VA #3333 000283



44	Grey (sheetrock)	No	Yes	2	--	ND<1%	None
45	White	Yes	No	--	--	20%	Chrysotile
46	Grey	Yes	No	--	--	ND<1%	None
47	White	Yes	No	--	10% cellulose	80%	Chrysotile
48	Red/Brown	Yes	No	--	--	ND<1%	None
49	Grey	Yes	No	--	--	ND<1%	None
50	Grey	Yes	No	--	30% mineral wool	ND<1%	None
51	Grey	Yes	No	--	30% mineral wool	ND<1%	None
52	Grey	Yes	No	--	30% mineral wool	ND<1%	None
53	White/Beige	Yes	No	--	40% cellulose 30% mineral wool	ND<1%	None
54	Yellow (mastic)	No	Yes	1	--	ND<1%	None
54	Grey (tile)	No	Yes	2	--	ND<1%	None
55	Grey	Yes	No	--	1% cellulose	ND<1%	None
56	White	Yes	No	--	--	ND<1%	None
57	White	Yes	No	--	--	ND<1%	None
58	Black/Brown/Silver	Yes	No	--	60% cellulose	ND<1%	None
59	Black/Brown/Silver	Yes	No	--	60% cellulose	ND<1%	None
60	Black/Brown/Silver	Yes	No	--	60% cellulose	ND<1%	None
61	Yellow	Yes	No	--	20% mineral wool	10%	Chrysotile
62	White	Yes	No	--	20% mineral wool	10%	Chrysotile
63	--	--	--	--	--	NA/PS	--
64	White/Grey	Yes	No	--	90% mineral wool	ND<1%	None
65	Black/Yellow	Yes	No	--	20% fiberglass	ND<1%	None
66	Black	Yes	No	--	--	3%	Chrysotile
67	Black	Yes	No	--	--	10%	Chrysotile
68	Black	Yes	No	--	--	20%	Chrysotile

NA/PS- Not Analyzed/Positive Stop

Reporting limit- asbestos present at 1%

ND<1% - asbestos was not detected

Trace- asbestos was observed at level of less than 1%

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, negative results must be confirmed by quantitative transmission electron microscopy.


The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2008. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through February 1, 2008. Asbestos content is

determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Analyst: Kathleen Williamson

QC Analyst: Helen Rimsa

Reviewed by:   
Laboratory Analyst

Approved  
Signatory: Kathleen Williamson  
Laboratory Manager

Date Issued: 8/22/07

TRC LABORATORY ASBESTOS ANALYTICAL CERTIFICATIONS

NVLAP Lab Code 101424-0  
NY #10980

AIHA #100122  
RI #AAL-007C3

CT #PH-0426  
TX #300354

ME LA-0075, LB-0071  
VT #AL014538

MA #AA000052  
VA #3333 000283

## **APPENDIX G**

### **TEM LABORATORY ANALYSIS DATA**

# ProScience Analytical Services, Inc

22 Cummings Park, Woburn, Massachusetts 01801  
781-935-3212 ~ Fax: 781-932-4667 ~ E-Mail: general@proscience.net

Client #: 297  
 Client Project: 106471.3474.0710  
 Client Reference: CT DOT, 424/444 Chapel St., New Haven, CT  
 Client Name: TRC Environmental Corp. (CT)

Method: TEM NOB  
 Batch: NT 9408  
 Date Analyzed: 8/21/2007  
 Date Received: 8/17/2007  
 Date of Report: 8/21/2007

LAB ID	Field ID	Description:	Color	Initial Sample Weight	% Asbestos Types						% Organic	% Carb.	Total % Asbestos	Analyzed /Charged	Preped/ Charged	
					CHR	AMO	ACT	CRO	ANT	TRE						
NT72206	1M	Associated mastic		.0699	.22	.00	.00	.00	.00	.00	44.49	51.79	3.72	TR	Yes	No
NT72209	1	9x9 Grey marble pattern floor tile		.4302	.00	.00	.00	.00	.00	.00	36.26	48.93	14.81	ND	Yes	No
NT72210	2M	Associated mastic		.0132	.00	.00	.00	.00	.00	.00	14.39	84.85	.76	ND	Yes	No
NT72211	2	12x12 Black floor tile		.5549	.66	.00	.00	.00	.00	.00	33.16	24.45	42.39	TR	Yes	No
NT72212	3M	Associated mastic		.0232	.00	.00	.00	.00	.00	.00	13.37	63.79	22.84	ND	Yes	No
NT72213	3	12x12 White floor tile		.5567	.00	.00	.00	.00	.00	.00	7.67	25.56	66.77	ND	Yes	No
NT72214	4	Wood pattern floor tile (self-stick)		.3179	.00	.00	.00	.00	.00	.00	1.67	98.27	.06	ND	Yes	No
NT72215	5	Yellow carpet glue		.1771	.00	.00	.00	.00	.00	.00	31.62	68.32	.06	ND	Yes	No
NT72216	6	Blue carpet glue		.0621	.02	.00	.00	.00	.00	.00	4.99	84.38	10.63	TR	Yes	No
NT72217	8	Tan carpet glue		.0188	.00	.00	.00	.00	.00	.00	12.24	86.70	1.06	ND	Yes	No
NT72218	9	Wood flooring glue		.0455	.00	.00	.00	.00	.00	.00	42.63	54.73	2.64	ND	Yes	No
NT72219	10M	Associated mastic		.1605	.00	.00	.00	.00	.00	.00	39.62	50.47	9.91	ND	Yes	No
NT72220	10	Large black cove base		.4022	.00	.00	.00	.00	.00	.00	.33	52.73	46.94	ND	Yes	No
NT72221	11M	Associated mastic		.2125	.00	.00	.00	.00	.00	.00	29.84	66.07	4.09	ND	Yes	No
NT72222	11	Grey cove base		.5105	.00	.00	.00	.00	.00	.00	1.96	38.22	59.82	ND	Yes	No
NT72223	12M	Associated mastic		.1088	.08	.00	.00	.00	.00	.00	16.09	53.49	30.42	TR	Yes	No
NT72224	12	Red cove base		.5817	.00	.00	.00	.00	.00	.00	3.12	39.93	56.95	ND	Yes	No
NT72225	13M	Associated mastic		.0907	.00	.00	.00	.00	.00	.00	27.23	68.14	4.63	ND	Yes	No



# ProScience Analytical Services, Inc

22 Cummings Park, Woburn, Massachusetts 01801  
781-935-3212 ~ Fax: 781-932-4857 ~ E-Mail: general@proscience.net

Client #: 297      Client Project: 106471.3474.0710      Method: TEM NOB  
Client Reference: CT DOT-424/444 Chapel St., New Haven, CT      Batch: NT 9431  
Client Name: TRC Environmental Corp. (CT)      Date Analyzed: 8/27/2007      Date Analyzed: 8/27/2007  
Date Received: 8/23/2007      Date of Report: 8/27/2007

LAB ID	Field ID	Description:	Color	Initial Sample Weight	% Asbestos Types						% Organic	% Carb.	Total % Asbestos	Analyzed /Charged	Preped/ Charged	
					CHR	AMO	ACT	CRO	ANT	TRE						% Other Non-asb.
NT72406	31M	Mastic Assoc. w/ 31		.1119	.00	.00	.00	.00	.00	.00	.00	71.40	3.31	ND	Yes	No
NT72407	31	Small Black Cove Base		2708	.01	.00	.00	.00	.00	.00	.00	39.81	60.08	TR	Yes	No
NT72408	33	Mastic		0845	8.52	.00	.00	.00	.00	.00	.00	52.07	30.89	8.52	Yes	No
NT72409	34	Ceramic Cove Base Glue		1309	.00	.00	.00	.00	.23	.00	.00	51.03	3.21	TR	Yes	No
NT72410	35M	Mastic Assoc w/35		1323	.00	.00	.00	.00	.00	.00	.00	48.30	3.48	ND	Yes	No
NT72411	35	Brown Cove Base		1694	.00	.00	.00	.00	.00	.00	.00	54.45	3.25	ND	Yes	No
NT72412	43	Wall Tile Glue		6024	.00	.00	.00	.00	.00	.00	.00	49.15	2.66	ND	Yes	No
NT72413	46	Stair Tread Material		3085	.00	.00	.00	.00	.00	.00	.00	52.54	2.88	ND	Yes	No
NT72414	48	Red Duct Caulking		1334	.00	.00	.00	.00	.00	.00	.00	63.72	15.52	ND	Yes	No
NT72415	49	Interior Window Glazing		2916	1.56	.00	.00	.00	.00	.00	.00	9.16	88.89	1.56	Yes	No
NT72416	54M	Mastic Assoc w/ 54		1085	.00	.00	.00	.00	.00	.00	.00	57.60	3.96	ND	Yes	No
NT72417	54	12x12 Bt w/ multi-specs. FT		4144	.00	.00	.00	.00	.00	.00	.00	13.39	81.44	ND	Yes	No
NT72418	55	Gray Duct Caulking		1620	.00	.00	.00	.00	.00	.00	.00	53.40	39.01	ND	Yes	No
NT72419	56	Ceramic Wall Tile Glue		1162	.06	.00	.00	.00	.00	.00	.00	29.26	54.56	TR	Yes	No
NT72420	58	Pipe Tar Wrap		0422	.00	.00	.00	.00	.00	.00	.00	86.26	13.27	ND	Yes	No
NT72421	65	Built-up Roofing		8526	.00	.00	.00	.00	.00	.00	.00	89.09	1.97	ND	Yes	No

# ProScience Analytical Services, Inc

22 Cummings Park, Woburn, Massachusetts 01801  
781-935-3212 ~ Fax: 781-932-4857 ~ E-Mail: general@proscience.net

Client #:	297	Method:	TEM NOB
Client Project:	106471.3474.0710	Batch:	NT 9431
Client Reference:	CT DOT-424/444 Chapel St., New Haven, CT	Date Analyzed:	8/27/2007
Client Name:	TRC Environmental Corp. (CT)	Date Received:	8/23/2007
		Date of Report:	8/27/2007

## Comments:

  
Mike Zappala, Analyst

Asbestos Codes: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite TR = Trace = < 1% ND = None Detected

**APPENDIX H**

**LEAD PAINT XRF MEASUREMENT TABLE**



### Lead Based Paint Measurement Summary Table

TRC Environmental Corporation

Device:	Niton XL-399 X Ray Fluorescence (XRF) Spectrum Analyzer, Serial #U688												
Site:	CTDOT-424/444 Chapel Street, New Haven, CT												
Project #:	106471-3474-0710												
Date:	8/6, 8/7, 8/20, 8/21/07												
Inspector:	Anthony Minalga (State of Connecticut License #002160)												
Ranges:	(NEG<ING<POS): 0.0<0.05<0.05 (OSHA Compliance)												
Number	Room	Side	Structure	Feature	Material	Color	Condition	Result	Reading (mg/cm2)	Precision (mg/cm2)	Depth Index	Duration (sec)	Date/Time
1	Self calibration										0	29.8	8/6/2007 11:00
2	0.3 calibration								0.3	0.0	1	19.2	8/6/2007 11:00
3	1.0 calibration								1.1	0.1	1	14.3	8/6/2007 11:02
4	3.5 calibration								4.0	0.2	1.2	31.1	8/6/2007 11:03
5	VOID												
<b>1st Floor Offices</b>													
6	Entrance	A	door	frame	metal	green	defective	NEG	0.0	0.1	2.5	22.7	8/6/2007 11:06
7	Entrance	A	overhang	roof	wood	white	defective	POS	3.3	1.1	5	10.2	8/6/2007 11:09
8	Entrance	A	window	frame	metal	green	defective	NEG	0.0	0.1	1.9	19.6	8/6/2007 11:11
9	Entrance	A	wall		concrete	yellow	intact	NEG	0.0	0.1	1	15	8/6/2007 11:12
10	Entrance	A	wall		brick	red	intact	NEG	0.0	0.1	2.2	16.7	8/6/2007 11:14
11	Entrance	B	wall		concrete	grey	defective	NEG	0.0	0.0	1.7	18.5	8/6/2007 11:17
12	Entrance	B	door		metal	blue	intact	NEG	0.0	0.0	1	11.4	8/6/2007 11:19
13	Entrance	B	pipng		metal	red	defective	POS	0.1	0.1	1	11.6	8/6/2007 11:23
14	Entrance	B	pipng		metal	blue	defective	POS	0.1	0.0	1	14.4	8/6/2007 11:24
15	VOID												
16	VOID												
17	Entrance	B	window	sill	wood	blue	defective	NEG	0.0	0.1	1.4	12	8/6/2007 11:26
18	Entrance	B	window	casing	wood	blue	defective	POS	0.2	0.1	1.2	8.5	8/6/2007 11:27
19	Entrance	B	garage door	frame	wood	blue	defective	POS	2.0	0.5	5	16.4	8/6/2007 11:29
20	Entrance	B	garage door	door	wood	blue	defective	NEG	0.0	0.1	1	5.3	8/6/2007 11:31
21	Entrance	B	door	frame	metal	blue	defective	NEG	0.0	0.1	1	8	8/6/2007 11:32
22	Entrance	B	wall		concrete	grey	defective	NEG	0.0	0.1	3	7	8/6/2007 11:33
23	Entrance	B	garage door	frame	wood	grey	defective	NEG	0.0	0.0	1	8.6	8/6/2007 11:34
24	Entrance	C	garage door	door	metal	blue	defective	NEG	0.0	0.1	1	9.9	8/6/2007 11:36
25	Entrance	C	garage door	frame	wood	blue	defective	NEG	0.0	0.0	1	5.6	8/6/2007 11:38
26	Entrance	D	pole		concrete	yellow	defective	NEG	0.0	0.1	1.6	11.9	8/6/2007 11:40
27	Entrance	D	door		metal	yellow	intact	NEG	0.0	0.1	1	5.3	8/6/2007 11:41
28	Entrance	D	window	frame	metal	blue	defective	NEG	0.0	0.1	2.1	23.4	8/6/2007 11:42
29	Ext. Mechanical Rm	A	wall		concrete	white	intact	NEG	0.0	0.0	1	10.3	8/6/2007 11:51
30	Ext. Mechanical Rm	B	door	frame	metal	blue	defective	NEG	0.0	0.0	1	7	8/6/2007 11:53
31	Ext. Mechanical Rm	B	door		metal	blue	defective	NEG	0.0	0.0	1	8.2	8/6/2007 11:54
32	Ext. Mechanical Rm	B	pipng		metal	red	intact	NEG	0.0	0.0	1	12.5	8/6/2007 11:56
33	1.0 calibration								0.3	0.1	1	8.4	8/6/2007 14:30

All XRF readings <0.1 mg/cm2 = Below Detectable Levels (BDL)

Side A = Street side; Sides B, C, D follow clockwise

### Lead Based Paint Measurement Summary Table

TRC Environmental Corporation

Device:	Niton XL-309 X Ray Fluorescence (XRF) Spectrom Analyzer, Serial #U688												
Site:	CTDOT 424/444 Chapel Street, New Haven, CT												
Project #:	106471-3474-0710												
Date:	8/6, 8/7, 8/20, 8/21/07												
Inspector:	Anthony Minalga (State of Connecticut License #002160)												
Ranges:	(NEG<ING<POS); 0.0<0.05<0.05 (OSHA Compliance)												
Number	Room	Side	Structure	Feature	Material	Color	Condition	Result	Reading (mg/cm2)	Precision (mg/cm2)	Depth Index	Duration (sec)	Date/Time
34	3.5 calibration								1.2	0.1	1	20	8/6/2007 14:30
35	1.6 calibration								1.6	0.1	1	9.6	8/6/2007 14:31
36	Self calibration										0	22.2	8/7/2007 10:06
37	1.6 calibration								1.7	0.2	1	9.3	8/7/2007 10:07
38	1.0 calibration								1.2	0.0	1	40.2	8/7/2007 10:08
39	0.0 calibration								0.0	0.1	1	7	8/7/2007 10:09
<b>BOE Offices</b>													
40	Entrance Lobby	B	wall		sheetrock	white	intact	NEG	0.0	0.1	3.1	13.4	8/7/2007 10:28
41	Entrance Lobby	A	wall	baseboard	wood	stain	intact	NEG	0.0	0.1	6.7	8.4	8/7/2007 10:30
42	Entrance Lobby	-	floor			black	intact	NEG	0.0	0.1	2.5	21.8	8/7/2007 10:31
43	Stairwell "B" Hallway	D	wall	baseboard	rubber	black	intact	NEG	0.0	0.2	4.2	16.7	8/7/2007 10:33
44	Stairwell "B" Hallway	B	door	frame	metal	white	intact	NEG	0.0	0.0	1	9.9	8/7/2007 10:35
45	Stairwell "B" Hallway	D	wall		sheetrock	blue	intact	NEG	0.0	0.0	1	15	8/7/2007 10:37
46	Stairwell "B" Hallway	C	door		wood	stain	intact	NEG	0.0	0.1	1	11.6	8/7/2007 10:39
47	Office "A"	A	wall	casing	sheetrock	white	intact	NEG	0.0	0.1	2.8	13.6	8/7/2007 10:43
48	Office "A"	A	window		metal	green	intact	NEG	0.0	0.1	1.5	22.8	8/7/2007 10:44
49	Office "A"	C	wall	baseboard	rubber	brown	intact	POS	1.1	0.2	2	13.6	8/7/2007 10:46
50	Office "B"	B	wall		sheetrock	white	intact	NEG	0.0	0.0	1	8.8	8/7/2007 10:49
51	Office "B"	C	wall	baseboard	rubber	grey	intact	POS	1.2	0.3	2.2	13.6	8/7/2007 10:50
52	Office "C"	B	door	frame	metal	white	intact	NEG	0.0	0.0	1	12.7	8/7/2007 10:52
53	Office "C"	C	window	casing	metal	white	intact	NEG	0.0	0.0	1	21.1	8/7/2007 10:53
54	Office next to "C"	C	wall	casing	wood	stain	intact	NEG	0.0	0.1	1	6.8	8/7/2007 10:58
55	Kitchen Area	C	wall	baseboard	rubber	purple	intact	POS	0.8	0.2	2	11.7	8/7/2007 11:00
56	Kitchen Area	B	wall		sheetrock	blue	intact	NEG	0.0	0.1	1	8.8	8/7/2007 11:03
57	FSD Office	C	wall	frame	sheetrock	white	intact	NEG	0.0	0.1	1	9.2	8/7/2007 11:04
58	FSD Office	-	door		metal	white	intact	NEG	0.0	0.1	1	6.6	8/7/2007 11:05
59	Stairwell (North Hallway)	-	railing		metal	blue	defective	POS	>>5.0		2.2	11.4	8/7/2007 11:09
60	Stairwell (North Hallway)	B	stairs	baseboard	metal	blue	intact	NEG	0.0	0.0	1	5.7	8/7/2007 11:11
61	Women's Room (North Hallway)	B	wall		sheetrock	wallpaper	intact	POS	4.1	2.0	3	11.4	8/7/2007 11:11
62	Electrical Room (North Hallway)	C	wall		concrete	white	intact	NEG	0.0	0.0	1	11.7	8/7/2007 11:13
63	Men's Room (North Hallway)	A	wall		sheetrock	white	intact	NEG	0.0	0.1	3.5	19.9	8/7/2007 11:15
64	Conference Room	C	window	sill	metal	green	defective	NEG	0.0	0.1	1	13.5	8/7/2007 11:16
65	Office next to Conference Room	C	closet	shelf	wood	white	intact	NEG	0.0	0.1	1	10	8/7/2007 11:18
66	VOID												

All XRF readings <0.1 mg/cm2 = Below Detectable Levels (BDL)

Side A = Street side; Sides B,C,D follow clockwise

**Lead Based Paint Measurement Summary Table**

**IRC Environmental Corporation**

Number	Room	Side	Structure	Feature	Material	Color	Condition	Result	Reading (mg/cm2)	Precision (mg/cm2)	Depth Index	Duration (sec)	Date/Time
Niton XL-309 X Ray Fluorescence (XRF) Spectrum Analyzer, Serial #U688													
Site: CTDOT-424/444 Chapel Street, New Haven, CT													
Project #: 106471-3474-0710													
Date: 8/6,8/7,8/20,8/21/07													
Inspector: Anthony Minalga (State of Connecticut License #002160)													
Ranges: (NEG<INC<POS): 0.0<0.05<0.05 (OSHA Compliance)													
67	Foyer	B	heater		metal	white	intact	NEG	0.0	0.0	1	6.4	8/7/2007 11:21
68	Stairwell "D"	-	railing		metal	blue	defective	POS	1.7	0.3	2.8	16.4	8/7/2007 11:23
69	Office Area (East Side of Building)	B	wall	baseboard	rubber	grey	intact	POS	1.3	0.3	2.3	10.2	8/7/2007 11:24
70	Office Area (East Side of Building)	C	wall		sheetrock	white	intact	NEG	0.0	0.1	1.3	8.9	8/7/2007 11:26
71	Office - FS Bank	B	window	casing	metal	blue	intact	NEG	0.0	0.0	1	23.1	8/7/2007 11:27
72	Office - Honeywell	C	wall	Molding	wood	white	intact	NEG	0.0	0.1	1	7	8/7/2007 11:29
73	Office (next to Honeywell)	B	closet	frame	wood	stain	intact	NEG	0.0	0.1	2.1	13.3	8/7/2007 11:30
74	Office - Reception	C	wall	Molding	wood	white	intact	NEG	0.0	0.1	1	5.5	8/7/2007 11:32
75	File Storage Room	A	wall		sheetrock	white	intact	NEG	0.0	0.1	2.7	14.9	8/7/2007 11:33
76	Self calibration								0.0	0.1	1.9	24.5	8/7/2007 11:36
77	0.3 calibration								0.4	0.1	1	22.2	8/7/2007 11:56
78	1.6 calibration								1.6	0.2	1	8	8/7/2007 11:56
79	0.0 calibration												
80	VOID												
81	Hallway	A	hatch	railing	metal	blue	defective	POS	1.7	0.3	1.6	8.5	8/7/2007 11:59
82	Phone Room	B	wall		sheetrock	white	intact	NEG	0.0	0.1	1	7.2	8/7/2007 12:00
83	Warehouse Mechanical Room	B	wall	panel	wood	blue	defective	POS	0.3	0.1	1.2	15.9	8/7/2007 12:02
84	VOID												
85	Stairwell		stairs		metal	grey	intact	NEG	0.0	0.0	1	7.1	8/7/2007 12:05
86	Library	D	wall	baseboard	rubber	black	intact	POS	1.6	0.5	2.2	7	8/7/2007 12:06
87	Warehouse		i-beam	i-beam	metal	white	defective	POS	2.2	0.4	2	9.8	8/7/2007 12:08
88	Entrance Lobby	C	door		metal	blue	intact	NEG	0.0	0.1	1	8.5	8/7/2007 12:15
89	Entrance Lobby		railing		metal	green	intact	POS	0.1	0.1	5.5	8	8/7/2007 12:16
90	Entrance Lobby	C	wall		sheetrock	white	intact	NEG	0.0	0.1	3.2	10.4	8/7/2007 12:18
<b>1st Floor Warehouse</b>													
91	Self calibration								NA		0		8/20/2007 9:27
92	0.0 calibration								0.0	0.1	1		8/20/2007 9:28
93	VOID												
94	0.3 calibration								0.3	0.1	1		8/20/2007 9:29
95	1.0 calibration								1.2	0.1	1		8/20/2007 9:30
96	Men's room	B	wall		concrete	white	intact	NEG	0.0	0.1	4.4		8/20/2007 9:33
97	Men's room	B	wall		tile	green	intact	POS	0.1	0.2	4.7		8/20/2007 9:34
98	Men's room	A	stall	door	metal	white	intact	POS	0.1	0.1	1.2		8/20/2007 9:35
99	Men's room	A	door		metal	blue	intact	NEG	0.0	0.1	1.9		8/20/2007 9:36

All XRF readings <0.1 mg/cm2 = Below Detectable Levels (BDL)

Side A = Street side; Sides B,C,D follow clockwise

### Lead Based Paint Measurement Summary Table

#### TRC Environmental Corporation

Number	Room	Side	Structure	Feature	Material	Color	Condition	Result	Reading (mg/cm2)	Precision (mg/cm2)	Depth Index	Duration (sec)	Date/Time
	Niton XL-309 X Ray Fluorescence (XRF) Spectrum Analyzer, Serial #U688												
	CTDOT-424/444 Chapel Street, New Haven, CT												
	Project #: 106471-3474-0710												
	Date: 8/6, 8/7, 8/20, 8/21/07												
	Inspector: Anthony Minalga (State of Connecticut License #002160)												
	Ranges: (NEG<ING<POS): 0.0<0.05<0.05 (OSHA Compliance)												
100	Women's room	B	wall		tile	mustard	intact	POS	0.1	0.1	2.5		8/20/2007 9:38
101	Women's room	B	door	frame	metal	white	intact	NEG	0.0	0.0	1		8/20/2007 9:39
102	Main office area	D	wall		sheetrock	white	intact	NEG	0.0	0.1	6		8/20/2007 9:43
103	Main office area	A	shelf		wood	white	intact	NEG	0.0	0.0	1		8/20/2007 9:44
104	Main office area	C	door		metal	blue	intact	NEG	0.0	0.0	1		8/20/2007 9:46
105	Main office area	-	table		wood	white	intact	NEG	0.0	0.1	1		8/20/2007 9:48
106	Main office area	A	heater		metal	white	intact	POS	0.1	0.1	2.3		8/20/2007 9:49
107	Main office area	A	window	sill	wood	white	intact	NEG	0.0	0.0	1		8/20/2007 9:50
108	Main office area	A	window	casing	metal	green	intact	NEG	0.0	0.0	1		8/20/2007 9:51
109	Conference Room	A	heater		metal	brown	intact	POS	0.1	0.0	1		8/20/2007 9:54
110	Main office area	D	wall		sheetrock	white	intact	POS	0.1	0.1	8.6		8/20/2007 9:58
111	Main office area	C	shelf		wood	white	intact	NEG	0.0	0.1	3.6		8/20/2007 10:00
112	Main office area	C	i-beam		metal	blue	intact	POS	4.6	0.7	2.8		8/20/2007 10:02
113	Storeroom	C	shelf		wood	white	intact	NEG	0.0	0.1	1		8/20/2007 10:08
114	Entrance	-	stair	frame	metal	blue	intact	POS	5.8	0.8	2		8/20/2007 10:10
115	Electric panel room	C	wall		concrete	green	intact	NEG	0.0	0.1	1.7		8/20/2007 10:13
116	Shop	A	wall		concrete	tan	intact	NEG	0.0	0.1	1		8/20/2007 10:59
117	Shop	A	wall		concrete	white	intact	NEG	0.0	0.0	1		8/20/2007 10:59
118	Shop	A	door		metal	grey	intact	NEG	0.0	0.0	1		8/20/2007 11:00
119	Shop	D	wall		wood	white	intact	NEG	0.0	0.0	1		8/20/2007 11:00
120	Shop	-	i-beam		metal	tan	intact	NEG	0.0	0.1	1		8/20/2007 11:02
121	Shop	-	lift		metal	blue	intact	POS	0.1	0.1	6.7		8/20/2007 11:03
122	Shop	-	lift	legs	metal	red	intact	POS	0.9	0.1	1		8/20/2007 11:04
123	Warehouse area 5	B	wall		sheetrock	white	intact	NEG	0.0	0.0	1		8/20/2007 11:37
124	Warehouse area 5	-	storage rack		metal	orange	intact	NEG	0.0	0.1	2.7		8/20/2007 11:38
125	Electrical room	C	i-beam		metal	blue	intact	POS	1.2	0.1	1.3		8/20/2007 11:41
126	Loading dock	-	floor		concrete	red	defective	POS	3.5	0.4	2		8/20/2007 11:51
127	Loading dock	-	i-beam		metal	grey	intact	POS	6.5	0.8	1.5		8/20/2007 11:52
128	Loading dock	C	i-beam		metal	blue	intact	POS	1.9	0.2	1.3		8/20/2007 11:55
129	Loading dock	-	ramp wall		concrete	grey	intact	NEG	0.0	0.1	2.4		8/20/2007 11:56
130	Loading dock	C	wall		concrete	cream	intact	NEG	0.0	0.1	5.4		8/20/2007 11:58
131	Maintenance department	-	door		metal	red	intact	POS	0.1	0.1	1.4		8/20/2007 12:02
132	Maintenance department	A	wall		concrete	white	intact	NEG	0.0	0.1	1.3		8/20/2007 12:04
133	Maintenance department	D	window	casing	metal	grey	intact	NEG	0.0	0.0	1		8/20/2007 12:07

All XRF readings <0.1 mg/cm2 = Below Detectable Levels (BDL)

Side A = Street side; Sides B,C,D follow clockwise

## Lead Based Paint Measurement Summary Table

TRC Environmental Corporation

Number	Room	Side	Structure	Feature	Material	Color	Condition	Result	Reading (mg/cm2)	Precision (mg/cm2)	Depth Index	Duration (sec)	Date/Time
Device: Niton XL-309 X Ray Fluorescence (XRF) Spectrum Analyzer, Serial #U688 Site: CTDOT-424/444 Chapel Street, New Haven, CT Project #: 106471-3474-0710 Date: 8/6, 8/7, 8/20, 8/21/07 Inspector: Anthony Minalga (State of Connecticut License #002160) Ranges: (NEG<INC<POS): 0.0<0.05<0.05 (OSHA Compliance)													
134	Stair E	-	stair	frame	metal	grey	intact	NEG	0.0	0.0	1.5		8/20/2007 12:10
135	Warehouse area 4	C	garage door		metal	grey	intact	POS	0.1	0.1	7.6		8/20/2007 12:29
136	Warehouse area 4	C	garage door	casing	metal	blue	intact	POS	6.6	1.0	2.4		8/20/2007 12:30
137	Warehouse area 4	-	column		concrete	red	intact	NEG	0.0	0.0	1		8/20/2007 12:31
138	Warehouse area 4	-	column		concrete	white	intact	NEG	0.0	0.0	1		8/20/2007 12:32
139	Warehouse area 4	B	wall		sheetrock	white	intact	NEG	0.0	0.1	3.2		8/20/2007 12:33
140	Warehouse area 4	-	floor		concrete	red	intact	NEG	0.0	0.1	1		8/20/2007 12:40
141	Storage area 1	-	floor		concrete	grey	intact	NEG	0.0	0.0	1		8/20/2007 12:43
142	Storage area 1	D	window	casing	metal	white	intact	POS	0.1	0.1	2.2		8/20/2007 12:44
143	Storage area 1	D	door		metal	grey	intact	NEG	0.0	0.1	3.8		8/20/2007 12:45
144	Storage area 2	B	wall		tan	tan	intact	NEG	0.0	0.1	2.1		8/20/2007 12:52
145	Storage area 2	B	wall		brown	brown	intact	POS	0.1	0.0	1		8/20/2007 12:52
146	Lobby	C	wall		sheetrock	white	intact	NEG	0.0	0.1	1.4		8/20/2007 12:57
147	Lobby	A	door	casing	metal	green	intact	NEG	0.0	0.0	1		8/20/2007 12:58
148	Lobby	C	wall		sheetrock	mauve	intact	NEG	0.0	0.1	1		8/20/2007 12:59
149	Storage area 3	-	ceiling		metal	black	intact	NEG	0.0	0.0	1		8/20/2007 13:06
150	Storage area 3	-	ceiling	support beam	metal	orange	intact	POS	4.0	0.4	1.3		8/20/2007 13:07
151	Office 1	A	wall		concrete	white	intact	NEG	0.0	0.0	1		8/20/2007 13:14
152	Supply room	C	wall		concrete	pink	intact	NEG	0.0	0.0	1		8/20/2007 13:18
153	Office 2	C	wall		concrete	lt. blue	intact	NEG	0.0	0.1	2.5		8/20/2007 13:24
154	Bathroom	C	wall	ceramic tile	black	black	intact	POS	13.1	1.3	1.7		8/20/2007 13:26
155	Bathroom	C	wall	ceramic tile	grey	grey	intact	POS	26.8	1.8	1.6		8/20/2007 13:28
156	Utility room	C	door		metal	red	intact	POS	3.2	0.6	1.1		8/20/2007 13:30
157	Utility room	-	floor		cement	green	intact	NEG	0.0	0.1	3		8/20/2007 13:31
158	Warehouse area 5	A	wall		concrete	white	intact	NEG	0.0	0.1	2.1		8/20/2007 13:37
159	Warehouse area 5	A	wall	pipe	metal	yellow	intact	NEG	0.0	0.0	1		8/20/2007 13:38
160	Raw mat.	A	door		metal	blue	intact	NEG	0.0	0.1	1.7		8/20/2007 13:55
161	0.0 calibration								0.0	0.0	1		8/20/2007 14:01
162	0.3 calibration								0.4	0.1	1		8/20/2007 14:01
163	1.0 calibration								1.3	0.1	1		8/20/2007 14:02

All XRF readings <0.1 mg/cm2 = Below Detectable Levels (BDL)

Side A = Street side; Sides B,C,D follow clockwise

**APPENDIX I**

**ITEMIZED COST ESTIMATES  
FOR ASBESTOS ABATEMENT**

**TRC Environmental Corporation**  
**Asbestos Abatement Cost Estimate**  
**CTDAS Contract # 03PSX0374A**  
**(Effective: March 5, 2004 – September 30, 2008)**

**Site: 424-444 CHAPEL STREET, NEW HAVEN**  
**TRC Project #: 106471-3474-0710**  
**Contractor:**

**DOT Project #: 92-531-3**

<u>ITEM DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>COST</u>	<u>MULT</u>	<u>TOTAL</u>
<b>ASBESTOS REMOVAL</b>					
HEPA VACUUMING	10000	SF	\$ 0.50	0.35 \$	1,750.00
PIPING REMOVAL <6" INCL FITTINGS		LF	\$ 5.00	0.35 \$	-
PIPING REMOVAL 6"-12" INCL FITTINGS		LF	\$ 7.50	0.35 \$	-
PIPING REMOVAL >12" INCL FITTINGS	46	LF	\$ 10.00	0.35 \$	161.00
GLOVE BAG FIRST 25	14	EA	\$ 70.00	0.35 \$	343.00
GLOVEBAG 25-50		EA	\$ 60.00	0.35 \$	-
GLOVEBAG OVER 50		EA	\$ 50.00	0.35 \$	-
REMOVE EQUIPMENT INSULATION		SF	\$ 10.00	0.35 \$	-
REMOVE HVAC DUCT INSULATION		SF	\$ 10.00	0.35 \$	-
REMOVE HVAC DUCT FLEX CONN	26	SF	\$ 7.50	0.35 \$	68.25
FLOOR TILE AND MASTIC	3320	SF	\$ 3.00	0.35 \$	3,486.00
CARPET GLUE	3892	SF	\$ 1.50	0.35 \$	2,064.30
SPRAY ON FIREPROOFING		SF	\$ 6.00	0.35 \$	-
PLASTER LATHE AND BLACK IRON		SF	\$ 7.50	0.35 \$	-
ACOUSTIC OR METAL PAN CEILING INCL GRID		SF	\$ 5.00	0.35 \$	-
ACOUSTIC PANELS CLEAN GRID FOR REUSE		SF	\$ 4.00	0.35 \$	-
ACOUSTIC PLASTER FINISH MTL (SCRAPE)		SF	\$ 6.50	0.35 \$	-
PATCH/SEAL DAMAGED INSULATION		SF	\$ 3.00	0.35 \$	-
CONTAMINATED SOIL (2" DEPTH)		SF	\$ 4.00	0.35 \$	-
TRANSITE MATERIAL	245	SF	\$ 2.50	0.35 \$	214.38
ROOFING OR FLASHING	1050	SF	\$ 3.50	0.35 \$	1,286.25
UNDERGROUND PIPE OR INSULATION (HAND EXCAVATION)		LF	\$ 30.00	0.35 \$	-
CARPET OVER TILE	1752	SF	\$ 2.50	0.35 \$	1,533.00
WALL BASE AND MASTIC		LF	\$ 2.50	0.35 \$	-
REMOVAL OF DRYWALL PARTITIONS INCL FRAMING		SF	\$ 2.00	0.35 \$	-
REMOVAL OF CMU WALL		SF	\$ 5.00	0.35 \$	-
PREP WORK AREA	10000	SF	\$ 3.00	0.35 \$	10,500.00
SOLID BARRIER OR ACCESS TUNNELS 2X4 AND PLYWOOD		SF/SA	\$ 2.50	0.35 \$	-
STANDBY ABATEMENT PERSONNEL	24	HR	\$ 50.00	0.35 \$	420.00
SELECTIVE DEMOLITION TO ACCESS ACM	1886	SF	\$ 3.00	0.35 \$	1,980.30
REMOVAL OF CERAMIC FLOOR/WALL TILE AND GLUE	1500	SF	\$ 4.00	0.35 \$	2,100.00
<b>MISCELLANEOUS ITEMS</b>					
MOBILIZATION (1 PER WORK AREA)	7	EA	\$ 250.00	1 \$	1,750.00
WORKER DECON (1 PER WORK AREA)	7	EA	\$ 250.00	1 \$	1,750.00
TEMP ELECTRICAL CONNECTION (LICENSED ELECTRICIAN)		EA		1.1 \$	-
TEMP GENERATOR		DY	\$ 500.00	1.1 \$	-
ACM DISPOSAL ( INCLUDES TRANSPORTATION)	40	CY	\$ 55.00	1 \$	2,200.00
HAZARDOUS WASTE DISPOSAL (INCLUDES TRANS)		CY	\$ 250.00	1 \$	-
CONSTRUCTION DEBRIS DISPOSAL (INCLUDES TRANS)		CY	\$ 25.00	1 \$	-
FIXED SCAFFOLDING		SF		1.1 \$	-
EXCAVATION TO EXPOSE UNDERGROUND PIPE		CY		1.1 \$	-
PROJECT NOTIFICATION (1% OF ABATEMENT COST)	1	EA	\$ 449.72	1.1 \$	494.69
PROJECT BOND ( 2% OF TOTAL CONTRACT)		EA		1.1 \$	-
<b>ESCALATION FACTORS</b>					
WORK SURFACES 10-20 FEET HIGH			\$ 230.00	15% \$	34.50
WORK SURFACES OVER 20 FEET HIGH			\$ 1,286.25	30% \$	385.88
NON REGULAR WORK HOURS 6:00PM-6:00AM AND WEEKEND				30% \$	-
EMERGENCY RESPONSE				30% \$	-
CONFINED SPACE WORK				15% \$	-
REMOVAL OF MULTIPLE LAYERS OF TILE (EACH ADDIT LAYER)			\$ 184.80	50% \$	92.40
REMOVE ON LIVE STEAM EQUIPMENT				25% \$	-
EXTERIOR WORK			\$ 4,776.25	30% \$	1,432.88
<b>NEGOTIATED ITEMS</b>					
WINDOW GLAZING (INTERIOR/EXTERIOR)	30	EA	\$ 100.00	1 \$	3,000.00
MIRROR GLUE	50	SF	\$ 10.00	1 \$	500.00
FIRE DOORS	23	EA	\$ 100.00	1 \$	2,300.00
LIGHT FIXTURES	2	EA	\$ 50.00	1 \$	100.00
TRANSFORMER PAPER INSULATION	2	EA	\$ 50.00	1 \$	100.00
EXTERIOR CAULKING	60	LF	\$ 7.00	1 \$	420.00
<b>CONTINGENCY (10%)</b>				10% \$	<b>4,046.68</b>
<b>TOTAL</b>					<b>\$ 44,513.50</b>

**Note: Cost estimate does not include the removal of possible asbestos-containing built-up roofing material and/or perimeter/penetration flashing under the rubber membrane roof located above the 2<sup>nd</sup> Floor BOE Offices/Storage Areas.**



**APPENDIX J**

**HAZARDOUS/REGULATED MATERIALS,  
WASTES AND ITEMS REMOVAL COST ESTIMATE**

**TRC Environmental Corporation**  
**Hazardous/Regulated Materials, Wastes & Items Removal Cost Estimate**  
(excluding asbestos abatement)  
**CTDAS Contract # 04PSX0275**  
(Effective: February 1, 2005 – October 30, 2007)

Site: 424-444 CHAPEL STREET, NEW HAVEN

TRC Project #: 106471-3474-0710

DOT Project #:

92-531-3

Contractor:

Item	Item #	Quantity	Units	Rate	Total
Operations Supervisor	1	16	hrs	\$57.50	\$920.00
Equipment Operator	4	20	hrs	\$51.25	\$1,025.00
Equipment Operator OT	4	8	hrs	\$76.88	\$615.04
Laborer	9	55	hrs	\$38.75	\$2,131.25
Laborer OT	9	4	hrs	\$58.13	\$232.52
Driver (Mobilization/Disposal/Vac)	5	60	hrs	\$40.75	\$2,445.00
Driver (Mobilization/Disposal/Vac) OT	5	2	hrs	\$61.13	\$122.26
Vacuum Truck (oil)	13	5	hrs	\$60.00	\$300.00
Box truck	19	50	hrs	\$23.50	\$1,175.00
Utility Trucks (< 18000 GVW)	18	0	hrs	\$13.40	\$0.00
Loader/Backhoe (12' dig depth)	33	40	hrs	\$35.00	\$1,400.00
Loader/Backhoe (15' dig depth)	34	0	hrs	\$59.00	\$0.00
Lowbed Trailer/Tractor	28	25	hrs	\$59.50	\$1,487.50
Triaxle Dump Truck	24	0	hrs	\$31.50	\$0.00
Roll-off Truck	31	20	hrs	\$52.50	\$1,050.00
Roll-off Container (30 CY)	93	1	days	\$20.00	\$20.00
Roll-off Liners (haz waste/CRW soil)	118	1	ea	\$70.00	\$70.00
* Highlift		2	days	\$125.00	\$250.00
Water Wagon	30	0	hrs	\$22.00	\$0.00
Hoses (dust suppression)	65	0	hrs	\$15.00	\$0.00
Frac Tank (20,000 gal)	83	0	days	\$75.00	\$0.00
5,000 psi Hi-Pressure Cleaner	75	5	hrs	\$42.50	\$212.50
Silt Fence	119	0	LF	\$1.00	\$0.00
Level C PPE (Pb)	84	0	person-hrs	\$18.00	\$0.00
Poly (10-mil sheeting 28'x100')	110	1	ea	\$115.00	\$115.00
Speedi-Dry (50 lb bag)	120	1	bag	\$20.00	\$20.00
17C DOT 55 gal Drums (haz items)	107	30	ea	\$60.00	\$1,800.00
Generator (5 kw)	74	0	days	\$150.00	\$0.00
* Dispose of haz-waste/regulated items		100	ea	\$100.00	\$10,000.00
* Dispose of AST/UST/sump contents (oil)		2000	gal	\$1.00	\$2,000.00
* Dispose of trench/drain sludge (CRW)		0	CY	\$50.00	\$0.00
* Dispose of sediment/concrete (CRW)		0	CY	\$50.00	\$0.00
* Dispose of contaminated soil (CRW)		30	CY	\$50.00	\$1,500.00
* Dispose of Pb-painted components (haz)		0	CY	\$125.00	\$0.00
* Dispose of contaminated wood (haz)		0	CY	\$125.00	\$0.00
* Dispose of boiler/fly ash (haz)		0	CY	\$125.00	\$0.00
* CFC Reclaim (subcontractor)		1	day	\$1,000.00	\$1,000.00
Contingency (10%)					\$2,989.11

**TOTAL ESTIMATE      \$32,880.18**

\* Line items not included in Contract 04PSX0275, rate estimated by TRC

Cost estimate based on assumption of 2 days for hazardous/regulated item removal including UST removal; no Pb component removal