

552.01

18.01 (per Assessment)

CVS
PHARMACY

2545 2545

12-1679

BLOCK

LOT

QUALIFICATION CODE

ADDRESS (SITE)

PERMIT NO.



CONSTRUCTION PERMIT APPLICATION

C12-001346

Applicant Completes: Sections I, II, III (Optional), IV, VI, and VII

I. IDENTIFICATION

1. Proposed Work Site at: 2545 Hooper ave Brick

2. Name of Owner in Fee: Rehburg & McArthur
 Tel. (856) 489 8887 e-mail hcartson1@comcast.net
 Address 1824 E Madison Pike Ch. Hill NJ 08003
 Street Municipality Zip code

3. Ownership in Fee: Public ☒ Private ☒

4. Principal Contractor: H. Can 1301 & Sons Tel. (609) 625 5252
 Address 7201 BHP e-mail COMMERCIAL
Marys Landry NJ 08330

License No. OR, if new home, Builder Reg. No. 22322805 Exp. Date _____

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____

Federal Emp. ID No. 223228055 FAX: (609) 625 4829

5. Architect or Engineer: LDG Contact _____
 Address 1110 Commerce Dr Williamstown NJ e-mail _____
 Tel. (770) 323 6003 FAX: (570) 323 9902

6. Responsible Person in Charge once Work has Begun _____
 Tel. (609) 625 5252 FAX: (609) 625 4829

V. FEE SUMMARY (for office use only)

	Update	Update
1. Building	\$ 8760	
2. Electrical	940	115
3. Plumbing	280	
4. Fire Protection	250	225
5. Elevator Devices		190
6. Subtotal		
7. Less 20% for State Plan Review		
8. Subtotal	\$ 975	39
9. State Permit Surcharge Fee		
10. Subtotal	\$ 1055	
11. Cert. of Occupancy	150	
12. Other		
13. TOTAL	\$ 123400	225 284

VI. BUILDING/SITE CHARACTERISTICS

		(office use only)
1. Number of Stories	ONE	1E
2. Height of Structure	34'	E 40
3. Area - Largest Floor	9459	E 105
4. New Building Area	14600	8
5. Volume of New Structure	292000	21
6. Max. Live Load		61
7. Max. Occupancy Load	352	
8. If Industrialized Building: State Approved	HUD	
9. Total Land Area Disturbed		
10. Flood Hazard Zone		
11. Base Flood Elevation		
12. Wetlands	yes no	

IIa. PROPOSED WORK

- ☐ Minor Work ☐ New Building ☐ Addition ☐ Demolition
- ☐ Repair ☐ Alteration ☐ Renovation ☐ Reconstruction
- ☐ Asbestos Abat. -Subch. 8 ☐ Lead Hazard Abatement ☐ Radon Remediation ☐ Annual Permit

IIb. SUBCODES

(Check all that apply)

- ☒ Building
- ☐ Electrical
- ☒ Plumbing
- ☐ Fire Protection
- ☐ Elevator

Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates	Re-viewer
67500	YB	4/9/12	5/16/12			4/12/12	KA
12500			5/3/12			5/3/12	D
30000			5/3/12		mt	5/17/12	W
55000			5/12				
115000	Eng	5/1/12		5/1/12			

TOTAL COST

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/
Dumbwaiters/Moving Walks
2. ☐ High Pressure Boilers
3. ☐ Pressure Vessels
4. ☐ Refrigeration Systems
5. ☐ Cross-Connections/Backflow Preventers
6. ☐ Hazardous Uses/Places of Assembly
7. ☐ Sprinklers/Standpipes
8. ☐ Smoke Control Systems in Open Wells
9. ☐ Underground Storage Tanks
10. ☐ Swimming Pools, Spas and Hot Tubs
11. ☐ LPGas Tanks
12. ☐ Fire Alarm

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL (primary use)

1. State Specific Use: _____
2. Use Group, Proposed: _____
3. Change in Use Group, Indicate Present: _____
4. No. of dwelling units: Total Units Income-restricted
- Gained, Sale _____
- Gained, Rental _____
- 9/6/12
- Lost, Rental _____

B. NON-RESIDENTIAL (primary use)

1. State Specific Use: _____
2. Use Group, Proposed: _____
3. Change in Use Group, Indicate Present: _____
- C. MIXED USE -List secondary use(s): _____
- D. Construct. Classification: Present _____
- Proposed _____

DO YOU WANT:

1. ☐ Partial Releases
2. ☐ Prototype Processing

U.C.C. F100-1 (rev. 8/08)

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

- A. ☐ I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single-family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or my subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

- B. ☐ I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(f)1.ix:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

- C. ☐ I further certify that I will perform or supervise the following work:

C.1. ☐ Building C.2. ☐ Fire Protection

I further certify that I will perform the following work:

C.3. ☐ Electrical C.4. ☐ Plumbing

- D. ☐ I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION (to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

☐ Check if contractor.

Agent Name H. Carlson & Son
Address 7201 BHM
Marys Landing, NJ 08330
Telephone (609) 635 5052
Signature Harold Carlson

III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.

OFFICE DATE RECEIVED:

4-30-12 JG26

VIII. PRIOR APPROVALS CHECKLIST (office use only)	LOCAL APPROVAL		COUNTY APPROVAL		REGIONAL APPROVAL		STATE APPROVAL		COMMENTS
	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	
☒ Zoning Officer	JG	4/30/12							24-18-00578
☐ Planning Board									
☐ Zoning Board									
☐ Sewer Authority									
☐ Water Authority									
☐ Police Department									
☐ Health Department									
☐ Soil Conservation									
☐ N.J. Department of Community Affairs									
☐ N.J. Department of Transportation									
☐ N.J. Department of Environmental Protection									
☐ Utility Dig No.									
☐									
☐									

IX. SUBCODES AND SPECIAL REGULATIONS APPLICABLE (office use only—optional)

Name of Code & Edition		Name of Code & Edition		Other	
Building		Energy			
Electrical		Barrier Free			
Plumbing		Flood Hazard			
Fire Protection		As Built Elevation Cert.			
Mechanical		Other			

X. CERTIFICATES ISSUED (office use only)

	DATE ISSUED	DATE EXPIRED	DATE REISSUED	DATE EXPIRED
☐ Temporary Certificate of Occupancy	No.			
☐ Temporary Certificate of Compliance	No.			
☐ Continued Certificate of Occupancy	No.			
☐ Certificate of Compliance	No.			
☐ Certificate of Occupancy	No.			
☐ Certificate of Approval	No.			
☐ Lead Abatement Clearance Certificate	No.			

OFFICE USE ONLY

[illegible]



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 11/26/2012
Control Number C-12-001346
Permit Number 12-1679
Permit Issue Date 6/21/2012
Certificate Number 12-1679

Certificate
Construction Code Division
(Certificate of Occupancy)

Identification

Work Site Location: 2545 Hooper Ave. Brick Township, NJ Block: 552.01 Lot: 18.01 Qual: _____
Owner in Fee: Feinberg & McBurnes
Owner Address: 1874 E. Marlton Pike Cherry Hill NJ 08723
Telephone: (856) 489-8887
Contractor: H CARLSON & SONS
Address: 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Telephone: (609) 625-5052 Fax: (609) 625-4829
License Number or Builders Registration Number: _____ Federal Emp. Number: 22-3228655

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: M Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: NEW COMMERCIAL STRUCTURE CVS

Certificate Comments:

☒ **Certificate of Occupancy**

This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☐ **Certificate of Approval**

This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ **Certificate of Continued Occupancy**

This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ **Temporary Certificate of Compliance**

The following conditions must be met no later than or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of: _____

Conditions to be met:

☐ **Certificate of Clearance - Lead Abatement 5:17**

This serves notice that based on written certification, lead abatement was performed as per NJAC5:17 to the following extent.

- ☐ Total removal of lead-based paint hazards in scope of work
☐ Partial or limited time period (_____ years); see file

☐ **Certificate of Clearance - Asbestos Abatement**

This serves notice that based on written certification, asbestos abatement was performed to the following extent.

- ☐ Total removal of asbestos hazards in scope of work
☐ Partial or limited time period (_____ years); see file

☐ **Certificate of Compliance**

This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until _____

☐ **Temporary Certificate of Occupancy**

The following conditions must be met no later than: _____ or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of: _____

Conditions to be met:

Construction Official

Fee: \$1,055.00
Check Number: 30213
Collected By: Christopher Romano



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 11/8/2012
Control Number C-12-001346
Permit Number 12-1679
Permit Issue Date 6/21/2012
Certificate Number 12-1679

Certificate

Construction Code Division
(Temporary Certificate of Occupancy)

Identification

Work Site Location: 2545 Hooper Ave. Brick Township, NJ Block: 552.01 Lot: 18.01 Qual: _____
Owner in Fee: Feinberg & McBurnes
Owner Address: 1874 E. Marlton Pike Cherry Hill NJ 08723
Telephone: (856) 489-8887
Contractor H CARLSON & SONS
Address 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Telephone: (609) 625-5052 Fax: (609) 625-4829
License Number or Builders Registration Number: _____ Federal Emp. Number: 22-3228655

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: M Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: NEW COMMERCIAL STRUCTURE CVS

Certificate Comments: FOR STOCKING ONLY

☐ **Certificate of Occupancy**

This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☐ **Certificate of Approval**

This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ **Certificate of Continued Occupancy**

This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ **Temporary Certificate of Compliance**

The following conditions must be met no later than or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of:

Conditions to be met:

☐ **Certificate of Clearance - Lead Abatement 5:17**

This serves notice that based on written certification, lead abatement was performed as per NJACS:17 to the following extent.

☐ Total removal of lead-based paint hazards in scope of work

☐ Partial or limited time period (_____ years); see file

☐ **Certificate of Clearance - Asbestos Abatement**

This serves notice that based on written certification, asbestos abatement was performed to the following extent.

☐ Total removal of asbestos hazards in scope of work

☐ Partial or limited time period (_____ years); see file

☐ **Certificate of Compliance**

This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until

☒ **Temporary Certificate of Occupancy**

The following conditions must be met no later than: or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of: 12/7/2012

Conditions to be met:

Final Building/Electric/Fire/Engineering

Construction Official

Date Printed: 11/8/2012

U.C.C. F260 (rev. 08/05)

Fee: \$0.00

Check Number: _____

Collected By: _____



PERMIT UPDATE

Date Update Issued 10/24/2012
Control # C-12-003935
Permit # 12-1679-F

IDENTIFICATION Block: 552.01 Lot: 18.01 Qualifier
Work Site Location: 2545 Hooper Ave. Brick Township, NJ Contractor: H CARLSON & SONS
Address: 7201 BLACK HORSE PIKE, MAYS LANDING NJ 08330
Owner in Fee: Feinberg & McBurnes
1874 E. Marlton Pike Cherry Hill NJ 08723 Telephone: (609) 625-5052
Telephone: (856) 489-8887 Lic. No. or Bldrs. Reg. No.
Federal Employee No. 22-3228655

Is hereby granted permission to perform the following work:

- ☐ BUILDING ☒ PLUMBING ☐ LEAD HAZARD ABATEMENT
☐ ELECTRICAL ☐ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

BACKFLOW PREVENTER/LAWN SPRINKLER CVS

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$500

Construction Official

Date

U.C.C. F170
equiv (rev 1/04)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building \$0
Electrical \$0
Plumbing \$60
Fire Protection \$0
Elevator Devices \$0
Other \$0.00
DCA Training Fee \$0
CO Fee
Other \$0
Total \$60
Check No.
Cash \$60
Credit \$0
Collected By Mary Jane Rinaldi

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☒ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and /or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.



PERMIT UPDATE

1-18-12
Date Update Issued 12-
Control # C-12-003245
Permit # 12-1679+D

IDENTIFICATION Block: 552.01 Lot: 18.01 Qualifier
Work Site Location: 2545 Hooper Ave. Brick Township, NJ Contractor H CARLSON & SONS
Address 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Owner in Fee Feinberg & McBurnes
1874 E. Marlton Pike Cherry Hill NJ 08723 Telephone: 6096255052
Telephone: 8564898887 Lic. No. or Bldrs. Reg. No.
Federal Employee. No. 22-3228655

Is hereby granted permission to perform the following work:

- ☐ BUILDING ☐ PLUMBING ☐ LEAD HAZARD ABATEMENT
☒ ELECTRICAL ☐ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

COMMUNICATION POINTS CVS

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$4,500

Construction Official

Date

9-7-12

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	\$0
Electrical	\$165
Plumbing	\$0
Fire Protection	\$0
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$8
CO Fee	
Other	\$0
Total	\$173
Check No.	1694
Cash	\$0
Credit	\$0
Collected By	

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

- ☐ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and /or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

- ☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

- ☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

- ☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.

1694
ELECTRIC \$165.00
DCA \$8.00
CHECK \$173.00



PERMIT UPDATE

Date Update Issued _____
Control # C-12-001346+C
Permit # +C

6-21-12
12-1619+C

IDENTIFICATION Block: 552.01 Lot: 18.01 Qualifier _____
Work Site Location: 2545 Hooper Ave. Brick Township, NJ Contractor: H CARLSON & SONS
Address: 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Owner in Fee: Feinberg & McBurnes
1874 E. Marlton Pike Cherry Hill NJ 08723 Telephone: (609) 625-5052
Telephone: (856) 489-8887 Lic. No. or Bldrs. Reg. No. _____
Federal Employee No. 22-3228655

Is hereby granted permission to perform the following work:

- ☐ BUILDING ☐ PLUMBING ☐ LEAD HAZARD ABATEMENT
☐ ELECTRICAL ☒ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

FIRE ALTERATIONS CVS

Dedicated underground fire line

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$12,000

Construction Official

Date

PAYMENTS (Office Use Only)

Building	\$0
Electrical	\$0
Plumbing	\$0
Fire Protection	\$65
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$20
CO Fee	
Other	\$0
Total	\$85
Check No.	30212
Cash	\$0
Credit	\$0
Collected By	

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

06/21/12 9:54 AM 00155845611

☐ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and/or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.



PERMIT UPDATE

Date Update Issued _____
Control # C-12-001346+B
Permit # +B

12-16794B

IDENTIFICATION Block: 552.01 Lot: 18.01 Qualifier _____
Work Site Location: 2549 Hooper Ave. Brick Township, NJ Contractor: H CARLSON & SONS
Address: 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Owner in Fee: Feinberg & McBurnes
1874 E. Marlton Pike Cherry Hill NJ 08723 Telephone: (609) 625-5052
Telephone: (856) 489-8887 Lic. No. or Bldrs. Reg. No. _____
Federal Employee No. 22-3228655

Is hereby granted permission to perform the following work:

- | | | |
|--|--|--|
| ☐ BUILDING | ☐ PLUMBING | ☐ LEAD HAZARD ABATEMENT |
| ☒ ELECTRICAL | ☒ FIRE PROTECTION | ☐ DEMOLITION |
| ☐ ELEVATOR DEVICES | ☐ ASBESTOS ABATEMENT
(Subchapter 8 only) | ☐ OTHER |

DESCRIPTION OF WORK:

ALARM SYSTEM (BURGLAR OR FIRE) CVS

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$23,000

Construction Official

Date

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	\$0
Electrical	\$115
Plumbing	\$0
Fire Protection	\$130
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$39
CO Fee	
Other	\$0
Total	\$284
Check No.	3033
Cash	\$0
Credit	\$0
Collected By	

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☒ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and/or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

06/21/12 00155845610
SERV CITY
#1679
ELECTRIC
\$115.00
\$130.00
\$39.00

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☐ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.



PERMIT UPDATE

Date Update Issued _____
Control # C-12-001346+A
Permit # +A

12-16791A

IDENTIFICATION Block: 552.01 Lot: 18.01 Qualifier _____
Work Site Location: 2545 Hooper Ave. Brick Township, NJ Contractor H CARLSON & SONS
Address 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Owner in Fee Feinberg & McBurnes
1874 E. Marlon Pike Cherry Hill NJ 08723 Telephone: (609) 625-5052
Lic. No. or Bldrs. Reg. No. _____
Telephone: (856) 489-8887 Federal Employee No. 22-3228655

Is hereby granted permission to perform the following work:

- ☐ BUILDING ☐ PLUMBING ☐ LEAD HAZARD ABATEMENT
☐ ELECTRICAL ☒ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

FIRE RESTORATION CVS
Fire Sprinklers Heads

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$20,000

Construction Official

Date

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	\$0
Electrical	\$0
Plumbing	\$0
Fire Protection	\$225
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$0
CO Fee	
Other	\$0
Total	\$225
Check No.	30213
Cash	\$0
Credit	\$0
Collected By	

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☐ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and/or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.



PERMIT UPDATE

Date Update Issued 10/25/12
Control # C-12-003489
Permit # 12-1679+E

IDENTIFICATION Block: 552.01 Lot: 18.01 Qualifier _____
Work Site Location: 2545 Hooper Ave. Brick Township, NJ Contractor H CARLSON & SONS
Address 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Owner in Fee Feinberg & McBurnes Telephone: 6096255052
1874 E. Marlton Pike Cherry Hill NJ 08723 Lic. No. or Bldrs. Reg. No. _____
Telephone: 8564898887 Federal Employee No. 22-3228655

Is hereby granted permission to perform the following work:

- ☐ BUILDING ☐ PLUMBING ☐ LEAD HAZARD ABATEMENT
☒ ELECTRICAL ☐ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

COMMUNICATION POINTS CVS

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$12,500

[Signature]
Construction Official

9-20-12
Date

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	\$0
Electrical	\$40
Plumbing	\$0
Fire Protection	\$0
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$21
CO Fee	
Other	\$0
Total	\$61
Check No. <u>1597</u>	
Cash	\$0
Credit	\$0
Collected By	

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☐ Required inspections for all subcodes for one- and two-family dwellings are as follows:

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and /or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.



CONSTRUCTION PERMIT

Date Issued
Control #
Permit #

6-21-12

12-1679
C-12-001346

IDENTIFICATION Block: 552.01 Lot: 18.01 Qualifier
Work Site Location: 2545 Hooper Ave. Brick Township, NJ Contractor: H. CARLSON & SONS
Address: 7201 BLACK HORSE PIKE MAYS LANDING NJ 08330
Owner in Fee: Feinberg & McBurnes
1874 E. Marlton Pike Cherry Hill NJ 08723 Telephone: (609) 625-5052
Telephone: (856) 489-8887 Lic. No. or Bldrs. Reg. No.
Federal Employee No. 22-3228655

Is hereby granted permission to perform the following work:

- ☒ BUILDING ☒ PLUMBING ☐ LEAD HAZARD ABATEMENT
☒ ELECTRICAL ☒ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

NEW COMMERCIAL STRUCTURE CVS

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$865,000

Construction Official

Date

PAYMENTS (Office Use Only)

Building	\$8,760
Electrical	\$990
Plumbing	\$780
Fire Protection	\$250
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$975
CO Fee	\$1,055.00
Other	\$150
Total	\$12,960
Check No.	30313
Cash	\$0
Credit	\$0
Collected By	

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

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- Foundations and all walls up to grade level prior to back filling.
- All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and/or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
- Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☒ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.

REPORT OF GEOTECHNICAL INVESTIGATION AND STORMWATER MANAGEMENT EVALUATION

**PROPOSED CVS PHARMACY
2545 and 2549 Hooper Avenue
Township of Brick, Ocean County, New Jersey**

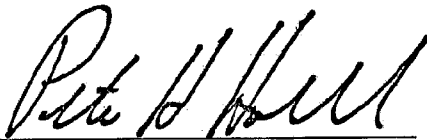
Prepared for:

**DYNAMIC ENGINEERING CONSULTANTS PC
1904 Main Street
Lake Como, New Jersey 07719**

Prepared by:



**245 Main Street; Suite 204
Chester, New Jersey 07930**



Peter H. Howell, P.E.

Project Manager

NJ License No. 24GE04728700



Jeffrey W. Schaumburg, P.E.

Principal

NJ License No. GE39653

**Project #0195-10-049E
May 20, 2011**

REPORT OF GEOTECHNICAL INVESTIGATION AND STORMWATER MANAGEMENT EVALUATION

**Proposed CVS Pharmacy
2545 and 2549 Hooper Avenue
Township of Brick, Ocean County, New Jersey**

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REPORT OF GEOTECHNICAL INVESTIGATION AND STORMWATER MANAGEMENT EVALUATION

**Proposed CVS Pharmacy
2545 and 2549 Hooper Avenue
Township of Brick, Ocean County, New Jersey**

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Laboratory Results
Soil Permeability Test Results
Geotechnical Terms and Symbols
USCS Standard Classification System

SECTION 1.0

Summary of Findings

Dynamic Earth, LLC (Dynamic Earth) has completed an exploration and evaluation of the subsurface conditions at the site of the proposed site redevelopment to be located at 2545 and 2549 Hooper Avenue in the Township of Brick, Ocean County, New Jersey. The site is identified as Block 554, Lot 16 and Block 552.01 Lots 18 and 19. The site of the proposed construction is shown on the *Boring and Test Pit Location Plan*.

The proposed site redevelopment will include construction of a CVS Pharmacy with associated pavements and utilities. The proposed building will have a footprint area of 14,600 square feet. Conceptual site grading has not been developed at this time; however proposed site grades are expected to be near existing site elevations.

The subsurface exploration included reconnaissance of the project site, drilling soil test borings, excavating test pits and evaluating the geotechnical conditions relevant to the proposed construction details provided. A summary of Dynamic Earth's findings and recommendations is presented below:

- **Generalized Subsurface Conditions:** The borings and test pits were performed within existing landscape and parking lot areas and encountered topsoil or asphaltic concrete at the surface. Beneath the surface cover material, existing fill material was typically encountered to depths ranging between approximately four feet to 10 feet below the ground surface. Beneath either the surface cover or existing fill materials medium dense coastal plain deposits were encountered to termination depths ranging between six feet and 21 feet below the ground surface. Groundwater was encountered during the investigation at depths ranging between 10 feet and 12 feet below the ground surface and elevations ranging between 5.5 feet above mean sea elevation (mse) and 7.5 feet above mse.
- **Overexcavation and Recompectation and/or Replacement of Existing Fill:** Relatively loose granular fill material was present within the area of the proposed building footprint to a maximum depth of approximately 7.5 feet. **The relatively shallow existing fill material will need to be overexcavated and either recompacted or replaced below proposed foundations, but may be suitable for support of proposed floor slabs provided that they are properly evaluated during construction as detailed herein.**
- **Foundations:** Following overexcavation and either recompaction and/or replacement of the existing fill material, the anticipated bearing stratum will be within approved compacted structural fill material within the natural coastal plain deposits. The properly prepared soils will be suitable for conventional shallow foundations. The foundations may be designed to exert a maximum allowable net bearing pressure of 3,000 pounds per square foot.

- **Floor Slabs and Pavements:** Approved existing fill material and/or natural soils are expected to be suitable for support of proposed floor slabs and pavements. These materials will need to be evaluated during construction. Due to the inherent variability of undocumented fill material, portions of these materials may need to be overexcavated and re-compacted or replaced beneath proposed floor slabs and pavements.
- **Use of Site Soils as Structural Fill:** The majority of the on-site soils are expected to be suitable for reuse as structural fill material. The existing fill material was encountered in a loose condition but overall appeared to be suitable for reuse as structural fill material with limited handling. Controlled fill testing and monitoring of construction sequencing by Dynamic Earth will be critical to limit differential settlement.
- **Groundwater Control:** Groundwater was encountered at depths deeper than anticipated foundation and utility excavations. However, temporary construction phase dewatering of trapped or infiltrating surface water may be required.
- **Stormwater Management Evaluation:** Evidence of seasonal high groundwater was encountered within the area of the proposed stormwater management facilities at depths ranging between 9.5 and 10.0 feet below the ground surface and elevations ranging between 6.5 feet above mse and 7.5 feet above mse. The permeability of the soil tested within the area of the proposed stormwater management facility ranged between 1.6 inches per hour (iph) and greater than 20 iph.

Detailed design criteria and construction recommendations for proposed foundations, floor slabs, pavements, stormwater management facilities and related earthwork are discussed in the following report. Dynamic Earth should remain involved to provide consultation and review during the construction phase.

SECTION 2.0

Introduction

2.1 AUTHORIZATION

Dynamic Earth, LLC (Dynamic Earth) was authorized to conduct a geotechnical investigation by Joseph G. Jaworski, P.E. of Dynamic Engineering Consultants PC (Dynamic Engineering) in accordance with our April 6, 2011 email proposal.

2.2 PURPOSE

The purpose of this subsurface exploration and analysis was to:

- ascertain the various soil profile components at test locations;
- estimate the engineering characteristics of the proposed foundation bearing and subgrade materials;
- provide geotechnical criteria for use by the design engineers in preparing the foundations, floor slab, and pavement designs;
- provide recommendations for required earthwork and subgrade preparation;
- record groundwater levels at the time of the investigation and discuss the potential impact on the proposed construction;
- estimate the seasonal high groundwater depth within the area of the proposed stormwater management facilities;
- provide soil permeability rates for proposed stormwater basin design; and
- recommend additional investigation, if warranted.

2.3 SCOPE

The scope of the exploration and analysis included site geologic research and evaluation, subsurface exploration, field testing and sampling, laboratory testing, and geotechnical engineering analysis and evaluation of the subsurface materials. This *Report of Geotechnical Investigation and Stormwater Management Evaluation* is limited to addressing the site conditions as they relate to the physical support of the proposed construction. Environmental considerations were not evaluated by Dynamic Earth.

2.3.1 Field Exploration

Field exploration of the project site was conducted by means of ten soil test borings (identified as borings B-1 through B-10), and excavating four test pits (identified as TP-1 through TP-4). The borings were drilled with a truck-mounted drill rig using hollow stem augers. The test pits were excavated with a track mounted mini-excavator (PC-35). The approximate test locations are shown on the accompanying *Boring and Test Pit Location Plan*. A summary of the test location and termination depths is presented below.

Test Location Summary Table		
Test Identification	Proposed Location	Final Depth (Feet)
B-1	Building	20.0
B-2	Building	20.0
B-3	Building	20.0
B-4	Building	20.0
B-5	Building	20.0
B-6	Stormwater/Pavement	13.0
B-7	Stormwater/Pavement	13.0
B-8	Pavement	10.0
B-9	Pavement	10.0
B-9	Pavement	10.0
B-10	Pavement	10.0
TP-1	Stormwater	11.8
TP-2	Stormwater/Pavement	11.0
TP-3	Stormwater	11.3
TP-4	Building	6.0

The soil borings and test pits were completed in the presence of a Dynamic Earth engineer who performed field tests, recorded visual classifications, and collected samples of the various strata encountered. Boring elevations were based on nearby existing features as detailed on the May 6, 2011 *ALTA/ACSM and Land Title Survey* prepared by Blue Marsh Associates, Inc. (Blue Marsh). The survey references elevations based upon North American Vertical Datum 1988 (NAVO 88) using globalized elevation of 17.11 located within the central portion of the site was used as a reference. The borings and test pits were located in the field using normal taping procedures and estimated right angles. These locations are presumed to be accurate within several feet.

Soil borings and standard penetration tests (SPTs) were conducted in general accordance with ASTM designation D 1586. The SPT resistance value (N) can be used as an indicator of the consistency of

fine-grained soils and the relative density of coarse-grained soils. The N-value for various soil types can be correlated with the engineering behavior of earthworks and foundations.

Groundwater level observations were typically recorded during, and at the completion of field operations prior to backfilling the borings. In relatively impervious soils, the accurate determination of the groundwater elevation may not be possible even after several days of observation. Seasonal variations, temperature effects, man-made effects, and recent rainfall conditions may influence the levels of the groundwater, and the observed levels will depend on the permeability of the soils. Groundwater elevations derived from sources other than seasonally observed groundwater monitoring wells may not be representative of true groundwater levels.

2.3.2 Laboratory Testing Program

Physical/Textural Analysis: Representative samples of selected strata encountered were subjected to a laboratory testing program which included Atterberg limits determinations (ASTM D 4318), moisture content determinations (ASTM D 2216) and washed gradation analyses (ASTM D 422) in order to perform supplementary engineering soil classifications in general accordance with ASTM D 2487. The soil strata tested were classified by the Unified Soil Classification System (USCS) and results of the laboratory testing are summarized in the following table.

CLASSIFICATION TEST RESULTS							
Boring	Sample No.	Depth (feet)	Natural Moisture Content (%)	Percent Passing No. 200 (%)	Liquid Limit (%)	Plastic Index (%)	USCS Classification
B-1	S-1	3-5	8.2	5.7	Non-Plastic		SP-SM
B-5	S-2	3-5	2.5	3.1	Non-Plastic		SP

Permeability Tests: Tube permeameter tests were conducted on samples obtained from the proposed stormwater management infiltration area in accordance with methods outlined in Appendix E of the *September 2009 New Jersey Department of Environmental Protection Best Practices Manual* (NJDEP BMP). These results provide a soil permeability value for the tested samples expressed in units of inches per hour.

Corrosivity Potential Analyses: A select sample of the existing fill stratum encountered during the investigation was tested for corrosivity parameters including pH determination, electrical resistivity, chloride ion content, sulfate ion content and oxidation reduction potential (Redox). Test results are shown in the following table:

CORROSIVITY POTENTIAL ANALYSES								
Boring	Sample	Depth (feet)	Moisture Content (%)	pH	Redox (millivolts)	Resistivity (Ω)	Chloride (ppm)	Sulfate (ppm)
B-3	S-2	3-5	4.7	5.6	2.65	127.0	140	ND*

*ND – not detected

SECTION 3.0

Site Description

3.1 LOCATION AND DESCRIPTION

The subject property is located at 2545 and 2549 Hooper Avenue in the Township of Brick, Ocean County, New Jersey. The subject site is identified as Block 552.01, Lots 18 and 19, and Block 554 Lot 16. The site is generally bounded to the north by residential development; to the east with commercial and residential developments; to the west by Hooper Avenue and commercial development beyond; and to the south by Drum Point Road and a gasoline station beyond. The site of the proposed construction is shown on the *Boring and Test Pit Location Plan*.

3.2 EXISTING CONDITIONS

Surface Cover/Development: At the time of this investigation, the subject site was developed with an existing retail building within the southern portion of the subject site, an existing garage and external freezer unit within the eastern portion of the subject site. An existing residential dwelling was located in the northern portion of the subject site. The retail building and residential dwelling had basements with depths of approximately seven feet below existing grades. The area surrounding the retail building and freezer/garage generally consisted of asphalt concrete pavement and associated utilities and the area surrounding the residential dwelling generally consisted of landscape areas with a lightly wooded area to the north.

Topography: Based on a May 6, 2011, *ALTA/ACSM and Land Title Survey*, prepared by Blue Marsh, the subject site sloped gently downward in the northern direction. Surface elevations ranged between approximately 17 feet above mean sea elevation (mse) throughout the majority of the site and 16 feet above mse along the northern corner of the subject site.

Site Drainage: Surface runoff generally appears to follow existing site topography toward low lying areas of the site.

3.3 PROPOSED CONSTRUCTION

Based on a September 30, 2010 *SK-1 Plan C* prepared by Dynamic Engineering Consultants, PC (Dynamic) the proposed site redevelopment will include construction of a CVS Pharmacy with associated pavements and utilities. The proposed building will have a footprint area of 14,600 square feet. Conceptual grading was not developed at this time; however proposed site grades are expected to be near existing elevations.

The maximum anticipated loads were based on our experience with similar facilities and is expected to be less than the following:

- wall loads – 3.5 kips per linear foot;
- interior column loads – 120 kips;
- exterior column loads – 100 kips;
- floor slab loads – 150 pounds per square foot; and
- pavement loads – 60,000 18-kip Equivalent Single Axle Loads (ESAL).

The scope of Dynamic Earth's investigation and the professional advice contained in this report were generated based on the project details and loading noted herein. Any revisions or additions to the design details enumerated in this report should be brought to the attention of Dynamic Earth for additional evaluation as warranted.

SECTION 4.0

Subsurface Conditions

4.1 SITE GEOLOGY

The subject site is situated within the Atlantic Coastal Plain Physiographic Province of New Jersey. Specifically, the site is underlain by the Tertiary Aged, Cohansey Formation. The Cohansey Formation consists of white to yellow sand with local gravel and clay deposits. Typically, the sand is medium grained and moderately sorted. The sand consists of quartz and siliceous rock fragments. Locally, the sand can be stained red or orange brown by iron oxides and/or cemented into large blocks of ironstone. The overburden material consists of upper stream terrace deposits and manmade fill.

4.2 SUBSURFACE SOIL PROFILE

Details of the subsurface materials encountered are presented on the *Records of Subsurface Exploration* presented in the Appendix of this report. The subsurface soil conditions encountered in the soil test borings consisted of the following generalized strata in order of increasing depth.

Surface Cover Material: Borings performed within existing pavement areas encountered approximately one to four inches of asphaltic concrete. Borings and test pits performed within grass covered areas encountered approximately two inches to six inches of topsoil at the surface.

Existing Fill Material: Beneath the surface cover material or at the surface, existing fill material was typically encountered that consisted of medium to fine sand with variable amounts of silt and gravel. The fill material was encountered to depths ranging between four feet and eight feet below the ground surface and elevations ranging between nine feet above mse and 13 feet mse. Portions of the existing fill material are possible reworked natural soils as detailed below. Standard Penetration Test (SPT) N-values were variable within this stratum and ranged between two blows per foot (bpf) and 11 bpf.

Coastal Plain Deposits: Beneath the existing fill material, each of the borings encountered natural coastal plain deposits that generally consisted of coarse to fine sand (USCS: SP and SP-SM) with variable amounts of silt and gravel. The natural glacial deposits were encountered to boring and test pit termination depths ranging between six feet and 21 feet below the ground surface. SPT N-values within this stratum ranged between approximately 10 bpf and 36 bpf and averaged approximately 18 bpf, generally indicating medium dense conditions.

4.3 GROUNDWATER AND SEASONAL HIGH GROUNDWATER

Groundwater was encountered during this investigation at depths ranging between 10.0 feet and 12.0 feet below the ground surface and elevations ranging between 5.5 feet above mse and 7.5 feet above mse. Evidence of seasonal high groundwater was encountered at depths ranging between 9.5 feet and 10 feet below the ground surface and elevations ranging between 6.5 feet above mse and 7.5 feet above mse. Groundwater levels are expected to fluctuate seasonally and following periods of significant precipitation.

SECTION 5.0

Conclusions and Recommendations

5.1 GENERAL

Existing fill material was encountered within the proposed building footprint that will need to be improved below proposed foundations. Suitable portions may remain below proposed floor slabs and pavements provided that they are properly evaluated during construction. **We anticipate that up to 7.5 feet of existing fill will require overexcavation and recompaction or replacement at proposed foundation locations.** Suitable portions of the existing fill material can be recompacted in controlled lifts provided moisture contents are within tolerable limits and provided that objectionable debris (if encountered) is segregated.

Overexcavation and Supplemental Evaluation of Existing Fill Materials: Existing, undocumented fill materials were noted with sufficient variability to suggest uncontrolled conditions for foundation support. Based on the conditions disclosed by the soil borings and limited test pits within the proposed stormwater management facilities, Dynamic Earth recommends overexcavating unsuitable existing fill where present below footing bearing zones, but anticipates that the majority of fill may remain in place where possible below floor slabs and pavements. A Dynamic Earth geotechnical engineer familiar with this study will be needed to provide careful construction phase inspection to maximize salvageable areas to remain and identify areas that must be removed and replaced. The supplemental evaluation via test pit excavations may be deferred to the demolition and construction phases. At that time, conditions below presently inaccessible areas occupied by the existing building and pavement areas also should be confirmed. The contractor should include an initial unit cost and budget time to perform the soil exchange program.

Existing, undocumented fill materials can not be conclusively evaluated solely based on soil borings because the sampling techniques expose a very small, approximately two inch split spoon sample at widely spaced locations and variable intervals. Therefore, engineering judgment and evaluation of risks needs to be applied to determine how to address the fill condition. Often, small pieces of debris are encountered which in some cases may appear to be the result of simply small fragments of materials intermixed in a well compacted soil matrix. However, in many cases the small pieces of recovered foreign material can be fragments of much larger or more extensive buried objectionable material. In addition, undocumented fill on previously developed sites can vary substantially. Where deep fills would impact the foundation selection or where more definitive earthwork budgets are necessary, it is customary to conduct further exploration with supplemental test pit excavations to expose a larger cross section of the fill material and enable a better evaluation of the presence of voids, debris, organics, and general consistency. The decision as to whether to conduct such further

evaluation during pre-design phases or during initial construction phases also is impacted by the site use and accessibility for larger disturbances, and the owner's risk tolerance for the specific project.

To develop geotechnical recommendations and consult with the client regarding how to address the existing fill on this site based on the information available, Dynamic Earth considered factors that weigh either negatively or positively toward the existing fill condition overall. Factors suggesting unsuitable conditions for foundation support including loose relative density of the existing fill material, which generally indicates that the material was placed or re-worked on site without strict engineering control. Records documenting the fill placement also were not available to Dynamic Earth.

Factors which are generally favorable to the probability that portions of the fill may be at least partially salvageable for reuse include the following: Split spoon samples and test pits excavated within proposed stormwater management areas did not encounter significant amounts of debris and relatively good split spoon sampler recoveries were encountered. These conditions suggest that, except where excessive debris or organics are found, the existing fill will be generally adequate for support of proposed floor slabs and pavements. Depending on a construction phase evaluation, portions of these materials are expected to be at least partially suitable for floor slab support and careful inspection and testing to identify areas which might be salvageable is warranted.

Existing fill material should be overexcavated prior to placing new fill material if site grades are raised. Furthermore, the proposed building footprint and interior column locations should be located by a professional surveyor prior to performing overexcavation operations.

The recommendations presented herein are sufficient to support the initial design and planning phase. These recommendations are contingent on the assumption that Dynamic Earth will remain involved in the final design process and that Dynamic Earth will be engaged to conduct the necessary construction phase geotechnical testing and inspection to ensure these recommendations are properly implemented.

5.2 SITE PREPARATION AND EARTHWORK

Demolition and Surface Cover Stripping: Prior to the start of construction, all utilities should be identified and secured. Existing remnant structural elements, such as concrete foundations, should be removed entirely from below proposed foundations and floor slabs and excavated to at least two feet below pavement subgrade elevations. Remnant structural elements may remain in-place below these depths at pavement locations provided they do not interfere with future construction. Any slabs left in-place should be thoroughly fractured to promote vertical drainage. The resulting excavations and former basements should be backfilled with structural fill in accordance with the recommendations of Section 5.3.

The surface cover materials, including asphaltic concrete pavement, grass, and topsoil, should be removed from within, and at least five feet beyond, the limits of the proposed building and pavement areas as well as any other area which will require fill placement.

Surface Preparation/Proofrolling: Prior to placing any fill or subbase materials to raise or restore grades to the desired building pad or pavement subgrade elevations, the existing exposed soils should be compacted to a firm and unyielding surface with several passes in two perpendicular directions of minimum 10-ton vibratory, smooth drum roller during favorable moisture conditions. The surface then should be proofrolled with a loaded tandem axle truck in the presence of Dynamic Earth's geotechnical engineer to help identify soft or loose pockets. **Existing fill soils were encountered during this investigation which will require removal and recompaction beneath proposed foundations and will need to be evaluated during construction for support of proposed floor slabs and pavements.** Dynamic Earth anticipates at least partial overexcavation of the subgrade maybe required if it is wetted or subjected to repeated construction traffic. Any fill or backfill should be placed and compacted in accordance with Section 5.3.

Subgrade Protection and Inspection: Every effort should be made to minimize disturbance of the on-site soils by construction traffic and surface runoff. Sand soils typically dry relatively quickly following wet weather, and may require wetting to attain proper compaction during hot dry months. Re-wetting and recompaction of poorly graded sands disturbed by traffic also commonly is needed in summer months. Dynamic Earth should be retained as the Geotechnical Engineer of Record to inspect soil conditions during construction and verify the suitability of prepared foundation, floor slab and pavement subgrades for support of design loads.

Dynamic Earth recommends providing defined haul roads and surge stone entrances to reduce the amount and locations of subgrade disturbance. Additional removal and replacement of the subgrade soil will be necessary if schedules do not allow sufficient time to disc and dry site soils, particularly following wet weather. While not needed by design, additional stabilization measures such as the use of geogrids could be necessary if construction occurs following poor weather or without adequate subgrade protection and maintenance. Construction budgets should include an allocation for the use of reinforcing geogrids (such as Tensar BX 1200) if construction will occur following wet weather. The services of Dynamic Earth should be retained to inspect soil conditions during construction and verify the suitability of prepared foundation, floor slab, and pavement subgrades for support of design loads.

5.3 STRUCTURAL FILL AND BACKFILL

Imported Fill Material: Any imported material placed as structural fill or backfill to raise elevations should consist of clean, relatively well graded sand or gravel with a maximum particle size of three inches and five percent to 15 percent of material finer than a #200 sieve. Sandy soils with higher fines

content may be considered subject to Dynamic Earth's on site geotechnical engineer's approval and contingent on the contractor's ability to achieve the required moisture and compaction controls. The material should be free of clay lumps, organics and deleterious material.

On-site Soil Reusability: Based on the conditions disclosed during this investigation, the majority of the on-site soils are expected to be suitable for reuse as compacted fill or backfill below proposed foundations, floor slab and pavements provided these soils are free of organics and deleterious materials and moisture contents are controlled within two percent of the optimum. Due to the existing development, segregation of debris and foreign material should be anticipated for portions of the existing fill material to be suitable for reuse as structural fill. The predominantly sandy soils typically dry relatively quickly, and can require wetting during hot dry periods to attain adequate compaction. Sand soils with higher percentages of silt and clay may require extensive handling and an increased period of drying time.

Compaction and Placement Requirements: Structural fill and backfill should be placed in maximum nine-inch loose lifts and compacted to 95 percent of the maximum dry density within a targeted two percent of the optimum moisture content as determined by ASTM D 1557 (Modified Proctor). Variations in moisture content may be acceptable subject to Dynamic Earth's on site geotechnical engineer's approval if the contractor is able to achieve the necessary compaction. Dynamic Earth recommends using a minimum 10-ton smooth drum roller to compact subgrade soils beneath pavements or slabs and hand operated vibratory jumping jacks and plate compactors within confined excavations for foundations or utilities. Fill material compacted with hand operated equipment may need to be placed in thinner, loose lifts and an increased number of passes may be required to achieve proper compaction.

Structural Fill Testing: Before filling operations begin, representative samples of each proposed fill material (on-site and imported) should be collected. The samples should be tested to determine the maximum dry density, optimum moisture content, natural moisture content, gradation, and plasticity of the soil. These tests are needed for quality control during compaction and also to determine if the fill material is acceptable. The placement of all structural fill and backfill should be monitored by Dynamic Earth's geotechnical engineer or technician to ensure that the specified material and lift thicknesses are properly installed. A sufficient number of in-place density tests should be performed during fill placement to ensure that the specified compaction is achieved throughout the height of the fill or backfill.

5.4 GROUNDWATER CONTROL

Groundwater levels are expected to be deeper than proposed foundation and utility excavations and the need for extensive dewatering or permanent groundwater control is not anticipated for this project.

The contractor should anticipate the use of gravity fed sump pumps for construction phase dewatering of surface runoff, perched and infiltrating water, especially following wet weather periods. Surface water runoff must be controlled and diverted away from construction areas by grading and limiting the exposure of excavations to rainfall.

5.5 FOUNDATIONS

Anticipated Bearing Stratum: The anticipated bearing stratum will be within the approved compacted structural fill material and/or natural coastal plain deposits. **Loose areas of existing fill will need to be overexcavated and recompacted or replaced as discussed in Section 5.1.**

Shallow Foundation Design Criteria: Dynamic Earth recommends supporting the proposed structures on conventional shallow foundations bearing in the materials noted above. Foundations may be designed to impart a maximum allowable net bearing pressure of 3,000 pounds per square foot (psf). Regardless of loading conditions, proposed foundations should be sized no less than minimum dimensions of 24 inches for continuous wall footings and 36 inches for isolated column footings.

Proposed sign any/or canopy footings should be designed so that the maximum toe pressure due to the combined effect of vertical loads and overturning moment does not exceed the recommended maximum allowable net bearing pressure recommended above. In addition, positive contact pressure should be maintained throughout the base of the footings such that no uplift or tension exists between the base of the footings and the supporting soil. Uplift loads should be resisted by the weight of the concrete. Side friction should be neglected when proportioning the footings so that lateral resistance should be provided by friction resistance at the base of the footings. A coefficient of friction against sliding of 0.35 is recommended.

Inspection/Overexcavation Criteria: The suitability of the bearing soils along and below the footing bottoms should be verified by Dynamic Earth's geotechnical engineer prior to placing concrete. Due to the loose existing fill material encountered, a level of inspection higher than a routine footing bottom inspection by a testing laboratory will be required. We recommend performing the overexcavation of unsuitable foundation subgrade soils prior to placing new fill material and subsequent to laying out the proposed building foundations. Any foundation overexcavation to be restored with structural fill must be excavated one foot laterally for each foot of vertical overexcavation. Alternatively, unsuitable existing fill material may be replaced with additional concrete, lean concrete or flowable fill directly below foundations.

Settlement: Dynamic Earth estimates post construction settlements of proposed building foundations to be less than one inch if the recommendations outlined in this report are properly implemented. Differential settlements of building foundations should be less than one-half inch.

Frost Coverage: Footings subject to frost action should be placed at least 30 inches below adjacent exterior grades or as required by the local building code to provide protection from frost penetration. Interior footings not subject to frost action (including during the period of construction) may be placed at a minimum depth of 18 inches below the slab subgrade.

5.6 FLOOR SLAB

Dynamic Earth anticipates that portions of the on-site soils may be suitable for support of the proposed floor slab provided these materials are properly evaluated, compacted and proofrolled in accordance with Sections 5.2 and 5.3 of this report. Due to the variability of the existing fill material, at least partial overexcavation and either recompaction and/or replacement may be required below portions of the proposed floor slab area. Any areas that become softened or disturbed as a result of wetting and/or repeated exposure to construction traffic should be removed and replaced with compacted structural fill. The on-site soils will yield a minimum subgrade modulus (k) of 150 psi/in.

A minimum four-inch layer of stone should be installed below the floor slabs to provide a capillary break. A vapor barrier beneath the floor slab is recommended. Total and post-construction settlements of floor slabs installed in accordance with the recommendations outlined in this report are estimated to be less than one-quarter inch.

5.7 PAVEMENT DESIGN CRITERIA

General: Dynamic Earth anticipates that the majority of the on-site soils will be suitable for support of proposed pavements. However, due to the existing fill material, at least partial overexcavation and replacement should be anticipated. This pavement design is based on the assumed traffic load, as detailed in Section 3.3. If heavier traffic is anticipated, such as more extensive truck traffic, Dynamic Earth should be contacted to provide a specific heavy duty pavement section.

Design Criteria: A design California Bearing Ratio (CBR) value of seven has been assigned to the anticipated properly prepared fill soils for pavement design purposes. This value was correlated with pertinent soil support values and assumed traffic loads to prepare flexible and rigid pavement designs per the AASHTO *Guide for the Design of Pavement Structures*.

Pavement Sections: The recommended flexible pavement section is presented below in tabular format:

RECOMMENDED FLEXIBLE PAVEMENT SECTION		
Layer	Material	Thickness (Inches)
Surface	NJDOT I-5 or I-4 SURFACE	1.5
Base	NJDOT I-2	3.0
Subbase	NJDOT DGA	6.0

A rigid concrete pavement should be used to provide suitable support at areas of high traffic or severe turns (such as driveway aprons or loading areas). The recommended rigid pavement is presented below in tabular format:

RECOMMENDED RIGID PAVEMENT		
Layer	Material	Thickness (Inches)
Surface	4,000 psi air-entrained concrete	5.0
Base	NJDOT DGA	6.0

Additional Design Considerations: The pavement section thickness designs presented in this report are based on the design parameters detailed herein and are contingent on proper construction, inspection, and maintenance. The designs are contingent on achieving the minimum soil support value in the field. To accomplish this requirement, all subgrade soil and supporting fill or backfill must be placed, prepared, and evaluated as detailed in Sections 5.2 and 5.3 of this report. Proper drainage must be provided for the pavement structure including appropriate grading and surface water control, as well as measures to drain water from the subgrade such as bleeder drains at inlets.

The performance of the pavement also will depend on the quality of materials and workmanship. Dynamic Earth recommends that New Jersey State Department of Transportation (NJDOT) standards for materials, workmanship, and maintenance be applied to this site. Project specifications should include verifying that the installed asphaltic concrete material composition is within tolerance for the specified materials and that the percentage of air voids of the installed pavement is within specified ranges for the respective materials. All rigid concrete pavements should be suitably air-entrained, jointed, and reinforced.

5.8 RETAINING WALLS AND LATERAL EARTH PRESSURES

Retaining walls or structures are not proposed for this project. Dynamic Earth should be notified if structures requiring lateral earth pressure estimates subsequently are proposed.

5.9 SEISMIC AND LIQUEFACTION CONSIDERATIONS

The soils are most consistent with a Site Class D defined by the *International Building Code*. Based on the seismic zone and soil profile, liquefaction considerations are not expected to have a substantial impact on design.

5.10 TEMPORARY EXCAVATIONS

The natural sand soils encountered during the investigation are consistent with Type C Soil Conditions as defined by 29 CFR Part 1926 (OSHA) which require a maximum unbraced excavation angle of 1.5:1 (horizontal:vertical). Running sand conditions should be anticipated if excavations extend below groundwater. Actual conditions encountered during construction should be evaluated by a competent person (as defined by OSHA) to ensure that safe excavation methods and/or shoring and bracing requirements are implemented.

5.11 STORMWATER MANAGEMENT EVALUATION

Seasonal High Groundwater and Soil Permeability: Evidence of seasonal high groundwater was encountered at depths ranging between and 9.5 feet and 10.0 feet below the ground surface and elevations ranging between 6.5 feet above mse and 7.5 feet above mse. Permeability testing on representative samples indicates permeability rates ranged between 1.33 inches per hour (iph) and greater than 20 iph. A summary of the seasonal high groundwater levels and permeability test results is presented in the following table:

SEASONAL HIGH GROUNDWATER AND PERMEABILITY TEST SUMMARY						
Location	Surface Elevation (mse)	Estimated Seasonal High Groundwater		Permeability Test Results		
		Depth (feet)	Elevation (mse)	Sample Depth (inches)	Permeability (inches/hour)	
					Replicate A	Replicate B
TP-1	17.0	9.5	7.5	60.0	2.7	2.9
TP-2	17.0	9.6	7.4	75.0	>20	7.4
TP-3	16.0	9.5	6.5	72.0	6.6	6.6
B-6	17.5	10.0	7.5	72.0	>20	>20
B-7	17.0	10.0	7.0	84.0	1.7	1.6

5.12 CORROSIVITY POTENTIAL

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The

steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer. The rate of corrosion of concrete is based mainly on the sulfate content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe corrosion hazard.

In general, soil with sulfate ion contents less than 150 parts per million (ppm) are considered to have a negligible risk of corrosion to concrete. Based on the laboratory test results, sulfate ion content was not detected; therefore, this risk of corrosion to concrete is considered to be relatively low. Special design considerations for concrete exposed to the soil type tested are not anticipated for this project. Dynamic Earth should be notified and additional corrosivity testing may be required if the composition of soil in contact with concrete is different than the material tested as part of this investigation.

Typically, soils with sulfate ion and chloride ion contents greater than 150 ppm and/or resistivities less than 10,000 Ohm-cm are considered corrosive to steel. Furthermore, soil pH less than five accelerates steel corrosion. Based on the test results, the on-site soil has a pH of 5.6 and a resistivity of 127,000 ohm-cm which indicates that the on-site soils have a relatively low risk of corrosion to uncoated steel. As such, specialty design considerations for potential of corrosion to uncoated steel are not anticipated. Dynamic Earth should be notified if the composition of the material in contact with buried steel is different than the material tested as part of this investigation.

5.13 SUPPLEMENTAL POST-INVESTIGATION SERVICES

Construction Phase Inspection of Existing Fill Soils: The conditions disclosed by the soil borings and test pits for stormwater management evaluation preliminarily indicate that the existing fill materials are expected to be suitable for floor slabs and pavement support if evaluated and prepared as described herein. Existing fill material beneath proposed foundations will need to be overexcavated and replaced (or recompacted) with structural backfill in a controlled manner. However, there is a potential risk of variability in existing fill which may not be disclosed solely by soil borings because conventional augering and split-spoon sampling only reveal a very limited section of subsurface materials. Therefore, the composition of the existing fill should be verified by visual observation and test pit excavations prior to or during the early phase of construction to enable further assessment of the depth, possible presence of voids, uncontrolled conditions, or possible deleterious materials. If unsuitable conditions are encountered, alternative recommendations, possibly including additional overexcavation and replacement, may be required.

Construction Monitoring and Testing: The recommendations presented herein are contingent on the owner retaining Dynamic Earth to perform inspection, testing, and consultation during construction as described in previous sections of this report. **Construction phase consulting will be**

necessary to further evaluate the existing fill material and/or natural soils for floor slab and pavement support and to identify potential salvageable areas or stabilization measures. Monitoring and testing should also be performed to verify that suitable materials are used for controlled fill, and that they are properly placed and compacted over suitable subgrade soils. Testing of fill placement will also be critical to limiting differential settlement.

SECTION 6.0

General Comments

Supplemental recommendations may be required upon finalization of construction plans or if significant changes are made in the characteristics or location of the proposed structure. Dynamic Earth should be included as a consultant to the design team and should be provided final plans for review to confirm these criteria apply or to modify recommendations as necessary.

The recommendations presented herein should be utilized by a qualified engineer in preparing the project plans and specifications. The engineer should consider these recommendations as minimum physical standards that may be superseded by local and regional building codes and structural considerations. These recommendations are prepared for the use of the client for the specific project detailed and should not be used by any third party. These recommendations are relevant to the design phase and should not be substituted for construction specifications.

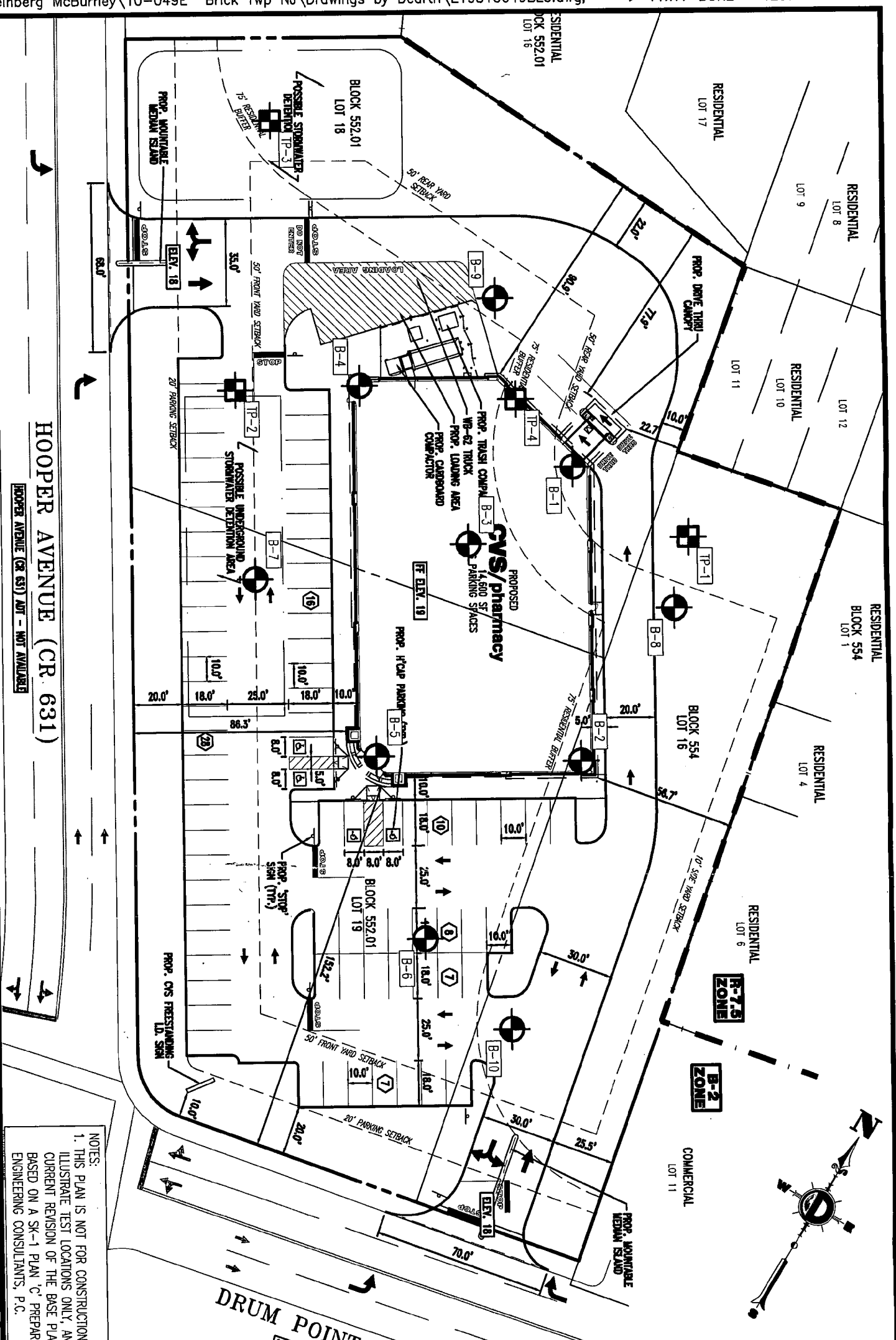
The possibility exists that conditions between borings may differ from those at specific boring locations, and conditions may not be as anticipated by the designers or contractors. In addition, the construction process may itself alter soil conditions. Therefore, Dynamic Earth geotechnical engineers or their representatives should observe and document the construction procedures used and the conditions encountered, as well as conduct testing and inspection to ensure the design criteria are met or recommendations to address deviations are implemented.

Dynamic Earth assumes that a qualified contractor will be employed to perform the construction work, and that the contractor will be required to exercise care to ensure all excavations are performed in accordance with applicable regulations and good practice. Particular attention should be paid to avoiding damaging or undermining adjacent properties and maintaining slope stability.

The exploration and analysis of the foundation conditions reported herein are presented to form a reasonable basis for foundation design. The recommendations submitted for the proposed construction are based on the available soil information and the preliminary design details furnished or assumed. Deviations from the noted subsurface conditions encountered during construction should be brought to the attention of the geotechnical engineer.

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been promulgated after being prepared in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology. No other warranties are implied or expressed.

Boring and Test Pit Location Plan



Subsurface Conditions Summary Table			
Boring and Test Pit Location	Fill Depth (ft)	Groundwater Depth (ft)	ESHGW* (ft)
B-1	7.5	11.0	N/A
B-2	7.0	10.0	N/A
B-3	5.0	11.5	N/A
B-4	6.5	11.0	N/A
B-5	NE**	11.0	N/A
B-6	4.5	12.0	10.0
B-7	6.0	11.5	10.0
B-8	5.0	NE	N/A
B-9	4.0	NE	N/A
B-10	8.0	NE	N/A
TP-1	NE	10.8	9.5
TP-2	NE	10.0	9.6
TP-3	NE	10.0	9.5
TP-4	6.0	NE	N/A

* Estimated Seasonal High Groundwater
 ** Not Encountered

SCALE: (H) NOT TO (V) SCALE		JOB No: 0195-10-049E	
SHEET No:		DRAWN BY: AJW	
OF 1		DESIGNED BY: PHH	
1		CHECKED BY: JWS	
DATE: 04/26/11			

TITLE: BORING & TEST PIT LOCATION PLAN	
PROJECT:	FEINBURG & MCBURNEY <i>PROPOSED CVS PHARMACY</i> BLOCK 552.01, LOTS 18 & 19 AND BLOCK 554, LOT 16 2545 AND 2549 HOOPER AVENUE TOWNSHIP OF BRICK, OCEAN COUNTY, NEW JERSEY
Rev. #	0
DEC Client Code:	0195

JEFFREY W. SCHAUMBURG

PROFESSIONAL ENGINEER

NEW JERSEY LICENSE No. 25679
CONNECTICUT LICENSE No. 14888
DELAWARE LICENSE No. P90447
DISTRICT OF COLUMBIA LICENSE No. 11263
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 **DYNAMIC
EARTH**

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NOTES:

1. THIS PLAN IS NOT FOR CONSTRUCTION AND WAS PREPARED TO ILLUSTRATE TEST LOCATIONS ONLY, AND MAY NOT REFLECT THE MOST CURRENT REVISION OF THE BASE PLAN. THIS PLAN HAS BEEN PREPARED BASED ON A SK-1 PLAN 'C' PREPARED ON 09/30/10 BY DYNAMIC ENGINEERING CONSULTANTS, P.C.

LEGEND:

 [B-XX] APPROXIMATE
BORING LOCATION

 [TP-XX] APPROXIMATE
PIT LOCATION

Records of Subsurface Exploration



**DYNAMIC
EARTH**

BORING LOG

Boring No.: B-1

Page 1 of 1

Project: Proposed CVS Pharmacy										Proj. No.: 0195-10-049E											
Location: 2545 and 2549 Hooper Avenue Township of Brick, Ocean County, New Jersey										Client: DECPC/Feinberg & McBurney											
Surface Elevation: 17 mse					Date Started: 4/21/2011					Ground Water Data		Depth		EL.		Additional Ground Water Data		Depth		EL.	
Termination Depth: 20 feet					Date Completed: 4/21/2011							(ft)		(mse)				(ft)		(mse)	
Proposed Location: Building					Logged by: S. Everest					While Drilling:		11.0		6.0							
Drill/Test Method: HSA/SPT					Contractor: Hawk					At Completion:											
Hammer Type: Safety/Trip					Rig Type: Ingersoll Ran PH 12					Additional											

Sample Information							Depth (ft)	Strata	DESCRIPTION OF MATERIALS (Classification)	Remarks
Depth (Feet)	Number	Type	Rec (in)	RQD %	Blows per 6" or drill time (min/ft)	N				
1 - 3	S1	SS	12	--	5 5 4 1	9	5	Fill	Grayish brown, medium to fine sand, little medium to fine rounded gravel, moist (FILL)	Gravel Cover
3 - 5	S2	SS	16	--	3 1 1 1	2				
5 - 7	S3	SS	10	--	1 1 4 7	5				
7 - 9	S4	SS	18	--	3 4 6 7	10				
9 - 11	S5	SS	18	--	3 7 10 8	17	10	Coastal Plain Deposits	Yellowish brown medium to fine sand, trace silt, moist, medium dense (SP)	Tip of spoon wet at 11'
14 - 16	S6	SS	20	--	8 9 9 11	18				
18 - 20	S7	SS	20	--	8 10 11 11	21				
							20		As above, red (SP)	
							25		As above, yellowish red, wet (SP)	
									As above, coarse to fine sand (SP)	
									Boring B-1 was terminated at 20 feet	



BORING LOG

Boring No.: B-2

Page 1 of 1

Project: Proposed CVS Pharmacy										Proj. No.: 0195-10-049E											
Location: 2545 and 2549 Hooper Avenue Township of Brick, Ocean County, New Jersey										Client: DECPC/Feinberg & McBurney											
Surface Elevation: 17.5 mse					Date Started: 4/21/2011					Ground Water Data		Depth		EL		Additional Ground Water Data		Depth		EL	
Termination Depth: 20 feet					Date Completed: 4/21/2011							(ft)		(mse)				(ft)		(mse)	
Proposed Location: Building					Logged by: S. Everest					While Drilling:		13.0		4.5							
Drill/Test Method: HSA/SPT					Contractor: Hawk					At Completion:		10.0		7.5							
Hammer Type: Safety/Trip					Rig Type: Ingersol Ran PH 12					Additional											

Sample Information							Depth (ft)	Strata	DESCRIPTION OF MATERIALS (Classification)	Remarks
Depth (Feet)	Number	Type	Rec (in)	RQD %	Blows per 6" or drill time (min/ft)	N				
								Pavement	3" asphalt 1" subbase	Gravel cover
1 - 3	S1	SS	22	--	7 7 3 4	10		Fill	Brown, coarse to fine sand, little coarse to fine gravel, trace silt, moist (FILL)	Possible backfilled former septic tank
3 - 5	S2	SS	23	--	3 3 2 2	5			Yellowish brown, medium to fine sand, trace silt, moist (FILL)	
5 - 7	S3	SS	22	--	3 3 3 2	6			As above (FILL)	
7 - 9	S4	SS	22	--	7 7 7 9	14			As above (FILL)	
							10	Coastal Plain Deposits	As above, yellowish red, medium dense (SP)	
13 - 15	S5	SS	20	--	5 7 7 9	14			As above, wet (SP)	
							15			
18 - 20	S6	SS	20	--	11 7 6 10	13			As above, reddish yellow (SP)	
							20		Boring B-2 was terminated at 20 feet	
							25			



**DYNAMIC
EARTH**

BORING LOG

Boring No.: B-4

Page 1 of 1

Project: Proposed CVS Pharmacy										Proj. No.: 0195-10-049E											
Location: 2545 and 2549 Hooper Avenue Township of Brick, Ocean County, New Jersey										Client: DECPC/Feinberg & McBurney											
Surface Elevation: 17 mse					Date Started: 4/21/2011					Ground Water Data		Depth (ft)		EL. (mse)		Additional Ground Water Data		Depth (ft)		EL. (mse)	
Termination Depth: 20 feet					Date Completed: 4/21/2011																
Proposed Location: Building					Logged by: S. Everest					While Drilling:		11.0		6.0							
Drill/Test Method: HSA/SPT					Contractor: Hawk					At Completion:		11.0		6.0							
Hammer Type: Safety/Trip					Rig Type: Ingersol Ran PH 12					Additional											

Sample Information							Depth (ft)	Strata	DESCRIPTION OF MATERIALS (Classification)	Remarks
Depth (Feet)	Number	Type	Rec (in)	RQD %	Blows per 6" or drill time (min/ft)	N				
0 - 2	S1	SS	23	--	4 3 2 2	5		Topsoil	3" topsoil	Grass Cover
								Fill	Gray fine sand, trace silt, moist, some coarse to fine gravel (FILL)	
2 - 4	S2	SS	20	--	2 2 2 3	4			Yellowish brown, medium to fine sand, trace silt, moist (FILL)	
									As above (FILL)	
4 - 6	S2	SS	20	--	3 3 3 3	6			As above, little silt (FILL)	
6 - 8	S3	SS	22	--	3 6 6 9	12			As above (FILL)	
								Coastal Plain Deposits	Brownish yellow, medium to fine sand, trace silt, moist, medium dense (SP)	
10 - 12	S4	SS	20	--	6 5 6 8	11				As above, red, wet (SP)
15 - 17	S5	SS	24	--	9 13 13 10	24			As above, brownish yellow (SP)	
18 - 20	S6	SS	20	--	7 5 8 12	13			Light brown, coarse to fine sand, trace silt, wet, medium dense (SP)	
										Running sand at 18'
									Boring B-4 was terminated at 20 feet	



Boring No.: B-5

Page 1 of 1

P:\EARTH Projects\0195 Feinberg McBurney\10-049E Brick Twp NJ\Soil Logs\Borings B-1 thru B-10



Boring No.: B-6

Page 1 of 1

P:\EARTH Projects\0195 Feinberg McBurney\10-049E Brick Twp NJ\Soil Logs\Borings B-1 thru B-10



**DYNAMIC
EARTH**

BORING LOG

Boring No.: B-8

Page 1 of 1

Project: Proposed CVS Pharmacy										Proj. No.: 0195-10-049E											
Location: 2545 and 2549 Hooper Avenue Township of Brick, Ocean County, New Jersey										Client: DECPC/Feinberg & McBurney											
Surface Elevation: 17.5 mse					Date Started: 4/21/2011					Ground Water Data		Depth (ft)		El. (mse)		Additional Ground Water Data		Depth (ft)		El. (mse)	
Termination Depth: 10 feet					Date Completed: 4/21/2011																
Proposed Location: Pavement					Logged by: S. Everest					While Drilling: NE											
Drill/Test Method: HSA/SPT					Contractor: Hawk					At Completion: NE											
Hammer Type: Safety/Trip					Rig Type: Ingersol Ran PH 12					Additional											

Sample Information							Depth (ft)	Strata	DESCRIPTION OF MATERIALS (Classification)	Remarks
Depth (Feet)	Number	Type	Rec (in)	RQD %	Blows per 6" or drill time (min/ft)	N				
								Pavement	1" asphalt, no subbase	
1 - 3	S1	SS	12	--	4 3 2 3	5		Fill	Grayish brown, medium to fine sand, trace silt, moist (FILL)	
3 - 5	S2	SS	20	--	1 1 3 8	3			Brownish yellow, coarse to fine sand, trace silt, moist (FILL)	
5 - 7	S3	SS	20	--	10 11 8 6	19		Coastal Plain Deposits	Brownish yellow, medium to fine sand, trace silt, moist, medium dense (SP)	
8 - 10	S4	SS	21	--	7 7 16 17	23			As above (SP)	
									Boring B-10 was terminated at 10 feet	



BORING LOG

Boring No.: B-9

Page 1 of 1

Project: Proposed CVS Pharmacy										Proj. No.: 0195-10-049E											
Location: 2545 and 2549 Hooper Avenue Township of Brick, Ocean County, New Jersey										Client: DECPC/Feinberg & McBurney											
Surface Elevation: 16.5 mse					Date Started: 4/21/2011					Ground Water Data		Depth (ft)		El. (mse)		Additional Ground Water Data		Depth (ft)		El. (mse)	
Termination Depth: 10 feet					Date Completed: 4/21/2011																
Proposed Location: Pavement					Logged by: S. Everest					While Drilling: NE											
Drill/Test Method: HSA/SPT					Contractor: Hawk					At Completion: NE											
Hammer Type: Safety/Trip					Rig Type: Ingersol Ran PH 12					Additional											

Sample Information							Depth (ft)	Strata	DESCRIPTION OF MATERIALS (Classification)	Remarks
Depth (Feet)	Number	Type	Rec (in)	RQD %	Blows per 6" or drill time (min/ft)	N				
0 - 2	S1	SS	16	--	1 2 2 3	4		Topsoil	2" topsoil	Grass Cover
2 - 4	S2	SS	18	--	2 1 3 3	4		Fill	Light brown, medium to fine sand, trace silt, moist (FILL)	
						Brownish yellow, medium to fine sand, trace silt, moist (FILL)				
4 - 6	S3	SS	22	--	8 6 8 6	14			Brownish yellow, coarse to fine sand, little medium to fine gravel, trace silt, moist, medium dense (SP)	
8 - 10	S4	SS	23	--	13 11 11 11	22		Coastal Plain Deposits	As above (SP)	
									Red, medium to fine sand, little silt, wet, medium dense (SM)	
Boring B-9 was terminated at 10 feet										



**DYNAMIC
EARTH**

BORING LOG

Boring No.: B-10

Page 1 of 1

Project: Proposed CVS Pharmacy										Proj. No.: 0195-10-049E											
Location: 2545 and 2549 Hooper Avenue Township of Brick, Ocean County, New Jersey										Client: DECPC/Feinberg & McBurney											
Surface Elevation: 17 mse					Date Started: 4/21/2011					Ground Water Data		Depth (ft)		EL. (mse)		Additional Ground Water Data		Depth (ft)		EL. (mse)	
Termination Depth: 10 feet					Date Completed: 4/21/2011																
Proposed Location: Pavement					Logged by: S. Everest					While Drilling: NE											
Drill/Test Method: HSA/SPT					Contractor: Hawk					At Completion: NE											
Hammer Type: Safety/Trip					Rig Type: Ingersol Ran PH 12					Additional											

Sample Information							Depth (ft)	Strata	DESCRIPTION OF MATERIALS (Classification)	Remarks
Depth (Feet)	Number	Type	Rec (in)	RQD %	Blows per 6" or drill time (min/ft)	N				
								Pavement	1" asphalt	
1 - 3	S1	SS	20	--	1 2 2 2	4		Fill	Light gray and yellowish brown, medium to fine sand, trace silt, moist (FILL)	
3 - 5	S2	SS	20	--	1 2 2 2	4			Yellowish brown, medium to fine sand, trace silt, moist (FILL)	
5 - 7	S3	SS	22	--	3 3 4 3	7			As above, moist (FILL)	
8 - 10	S4	SS	22	--	5 7 9 9	16		Coastal Plain Deposits	Yellowish brown, medium to fine sand, moist, medium dense (SP)	
Boring B-10 was terminated at 10 feet										



TEST PIT LOG

Test Pit: IP-1

Page 1 of 2

Project: Proposed CVS Pharmacy									
Location: 2545 and 2549 Hopper Avenue, Township of Brick, Ocean County, New Jersey									
Surface Elevation: 17.0 Date Started: 4/21/11									
Termination Depth: 11.8 Date Completed: 4/21/11									
Proposed Location: SVM Logged by: S. Everest									
Excavation/ Visual Contractor: AJH									
Test Method: Visual Observation									
Rig Type: PC-35									
Seasonal High Ground Water									
Project No.: 0195-10.049E									
Client: DECPC/Feinberg & McBurney									
Ground Water Comments									
FL (msl)									
7.5									
6.2									
7.5									
11.4"									
130"									
114"									
Depth (inches)									
Ground Water Data									
Scrapage									
Ground Water									
STRUCTURE									
WATER CONTENT									
CONSISTENCY									
BOUNDARY									
ROOTS									
MOTTILING									
SAMPLE									
Type									
No.									
LAB RESULTS									
0 - 2"									
10 YR 3/2									
SAND									
0 0 0									
WEAK									
FINE									
CRUMB									
MOIST									
FRIABLE									
SMOOTH									
NONE									
FINE									
BAG 2' S1									
2" - 7"									
10 YR 4/1									
SAND									
0 0 0									
WEAK									
FINE									
SUBANGULAR BLOCKY									
MOIST									
FRIABLE									
SMOOTH									
NONE									
NONE									
BAG 5' S2									
7" - 53"									
10 YR 5/6									
SAND									
10 0 0									
WEAK									
FINE									
SUBANGULAR BLOCKY									
MOIST									
FRIABLE									
SMOOTH									
NONE									
NONE									
BAG 40" S3									
53" - 70"									
10 YR 6/8									
SAND									
10 0 0									
WEAK									
FINE									
SUBANGULAR BLOCKY									
MOIST									
FRIABLE									
SMOOTH									
NONE									
NONE									
BAG 60" S4									
70" - 115"									
10 YR 6/6									
SAND									
0 0 0									
MODERATE									
MEDIUM									
SUBANGULAR BLOCKY									
MOIST									
FRIABLE									
SMOOTH									
NONE									
NONE									
BAG 110" S5									
115" - 130"									
7.5 YR 6/8									
SAND									
0 0 0									
WEAK									
FINE									
SUBANGULAR BLOCKY									
MOIST									
FRIABLE									
SMOOTH									
NONE									
NONE									
BAG 110" S6									
2.7 lph @ 75 inches									
2.9 lph @ 75 inches									

Additional Remarks: Cave-in at 8', 10' and 11'

Test Pit: TP-1

Page 2 of 2

Additional Remarks:



TEST PIT LOG

Test Pit: TP-2

Page 1 of 2

Project: Proposed CVS Pharmacy										Project No.: 0195-10-049E							
Location: 2545 and 2549 Hopper Avenue, Township of Brick, Ocean County, New Jersey										Client: DEPCO/Feinberg & McBurney							
Surface Elevation: 17.0		Date Started: 4/21/11		Ground Water Data		Depth (inches)		EL (m)		Ground Water Comments							
Termination Depth: 11.0		Date Completed: 4/21/11		Seepage		120"		7									
Proposed Location: SWM		Logged by: S. Everest		Ground Water		120"		7.0									
Excavation/ Visual Observation		Contractor: AJH		Seasonal High Ground Water		116"		7.4									
Test Method:		Rig Type: PC-35															
DEPTH (ft)	COLOR	SOIL TEXTURE	COARSE FRAGMENTS (%)			STRUCTURE	WATER CONTENT	CONSISTENCY	BOUNDARY	ROOTS	MOTTLING	SAMPLE		LAB RESULTS			
			GRAVEL	COBBLES	BOULDERS							Type	No.				
0 - 2'	10 YR 3/2	SAND	0	0	0	WEAK	FINE	CRUMB	MOIST	LOOSE	ABRUPT <1"	SMOOTH	CMN 20%	FINE	NONE		
2' - 15'	10 YR 4/1	SAND	5	0	0	WEAK	FINE	CRUMB	MOIST	FRIABLE	ABRUPT <1"	SMOOTH	CMN 20%	FINE	NONE		
15' - 27'	10 YR 6/2	SAND	0	0	0	WEAK	FINE	SUBANGULAR BLOCKY	MOIST	FRIABLE	CLEAR <2.5"	SMOOTH	FEW 5%	COARSE	NONE		
27' - 72'	10 YR 4/6	SAND	5	0	0	MODERATE	MEDIUM	SUBANGULAR BLOCKY	MOIST	FIRM	CLEAR <2.5"	SMOOTH	NONE		NONE		
72' - 99'	10 YR 6/6	SAND	0	0	0	WEAK	FINE	SUBANGULAR BLOCKY	MOIST	FRIABLE	CLEAR <2.5"	SMOOTH	NONE		NONE		20 lb @ 75 inches 44 lb @ 75 inches
99' - 116'	7.5 YR 5/8	SAND	0	0	0	WEAK	FINE	SUBANGULAR BLOCKY	MOIST	FRIABLE	CLEAR <2.5"	SMOOTH	NONE		NONE		

Additional Remarks: Cave-in 10' and 11'



TEST PIT LOG

Test Pit: TP-2

Page 2 of 2

[illegible]

Additional Remarks:



TEST PIT LOG

Test Pit: **TP-3**

Page 1 of 1

Project: Proposed CVS Pharmacy										Project No.: 0195-10-049E								
Location: 2545 and 2549 Hooper Avenue, Township of Brick, Ocean County, New Jersey										Client: DECPC/Feinberg & McBurney								
Surface Elevation: 16.0		Date Started: 4/21/11		Ground Water Data		Depth (inches)		EL (m)		Ground Water Comments								
Termination Depth: 11.3		Date Completed: 4/21/11		Seepage		114"		6.5										
Proposed Location: SWM		Logged by: S. Everest		Ground Water		120"		6.0										
Excavation/ Visual Test		Contractor: AJH		Seasonal High Ground Water		114"		6.5										
Method: Observation		Rig Type: PC - 35																
DEPTH (IN)	COLOR	SOIL TEXTURE	COARSE FRAGMENTS			STRUCTURE	WATER CONTENT	CONSISTENCY	BOUNDARY	ROOTS	MOTTLING	SAMPLE		LAB RESULTS				
			GRAVEL	COBBLES	BOULDERS							Type	No.					
0 - 6"	Tan 10 YR 3/2	SAND	0	0	0	WEAK	FINE	CRUMB	MOIST	LOOSE	CLEAR <2.5"	SMOOTH	FEW 20%	MEDIUM	NONE			
6" - 22"	10 YR 4/2	SAND	10	0	0	WEAK	FINE	SUBANGULAR BLOCKY	MOIST	FRIABLE	CLEAR <2.5"	SMOOTH	FEW 5%	FINE	NONE	Bag	12"	S1
22" - 60"	10 YR 6/6	SAND	10	0	0	WEAK	FINE	SUBANGULAR BLOCKY	MOIST	FRIABLE	Gravel <2.5"	SMOOTH	NONE	NONE	NONE	Bag	36"	S2
60" - 97"	7.5 YR 5/8	SAND	10	0	0	MODERATE	MEDIUM	SUBANGULAR BLOCKY	MOIST	FRIABLE	Gravel <2.5"	SMOOTH	NONE	NONE	NONE	Bag	72"	S3
97" - 135"	10 YR 6/6	SAND	0	0	0	WEAK	FINE	SUBANGULAR BLOCKY	WET	FRIABLE	CLEAR <2.5"	SMOOTH	NONE	MANY >20%	MEDIUM	Bag	125"	S4

Additional Remarks: Cave-in at 6', 10', 11" Mottled at 114"



Test Pit: TP-4

Page 1 of 1

[illegible]

Laboratory Test Results

Boring No.	Sample No.	Sample ID	Resistivity Tests			Chemical Tests										Remarks
			As Received		@ Minimum	pH		Oxidation Reduction Potential				Chloride (1)		Sulfate (1)		
			Water Content (%)	Resistivity ASTM G57 (kΩ - cm)		Water Content (%)	Resistivity ASTM G57 (kΩ - cm)	ASTM G-51 (pH units)	R1 (mV)	R2 (mV)	R3 (mV)	Average (mV)	Result SW 9056 (mg/kg)	Reporting Limit (mg/kg)	Result SW 9056 (mg/kg)	
B-3	S-2		4.7	127.0	27.4	22.8	5.6	2.53	2.77	2.64	2.65	140	100	ND	100	

KEY: (1) Tests according to specification of ASTM.

KEY: (1) Test results provided by Hampton-Clarke Veritech Laboratories.

ND = Not Detected

TerraSense, LLC
45H Commerce Way
Totowa, NJ 07512
(973) 812-1818

Prepared by: JR/CMJ
Reviewed by: GET 
Date: 5/6/2011

Project No.: 7922-11006
File: Corrosion6.xls
Page 1 of 1

Dynamic Earth #0195-10-49
CVS Brick, NJ
LABORATORY TESTING DATA SUMMARY

BORING NO.	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS			REMARKS
			WATER CONTENT (%)	USCS SYMB. (1)	SIEVE MINUS NO. 200 (%)	
B-1	S-2	3-5	8.2	SP-SM	5.7	
B-3	S-2	3-5		See Corrosion test summary		
B-5	S-2	3-5	2.5	SP	3.1	

Note: (1) USCS symbol based on visual observation and Sieve reported.

Prepared by: JR
Reviewed by: GET 
Date: 5/6/2011

TerraSense, LLC
45H Commerce Way
Totowa, NJ 07512

Project No.: 7922-11006
File: Indx6.xls
Page 1 of 1

Soil Permeability Test Results

Job Number: 0195-10-049E
Project: Proposed CVS Pharmacy
Client: DECPC/Feinberg & McBumey
Lab Tech: SBE

☒ NONE

☐ Soil/Tube Contact ☐ Large Gravel ☐ Large Roots

☐ Dry Soil ☐ Smearing ☐ Compaction

☐ Other - Specify _____

Job Number: 0195-10-049E
Project: Proposed CVS Pharmacy
Client: DECPC/Feinberg & McBurney
Lab Tech: SBE

X NONE _____
_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots
_____ Dry Soil _____ Smearing _____ Compaction
_____ Other - Specify _____

Job Number: 0195-10-049E
Project: Proposed CVS Pharmacy
Client: DECPC/Feinberg & McBumey
Lab Tech: SBE

☒ NONE

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: 0195-10-049E
Project: Proposed CVS Pharmacy
Client: DECPC/Feinberg & McBurney
Lab Tech: SBE

Sample ID: **Boring/Test Pit No.:** TP-3 **Sample No.:** S-3 **Depth:** 72"

Lab Tech: SBE

Other - Specify _____

Job Number: 0195-10-049E

Project: Proposed CVS Pharmacy
Client: DECPC/Feinberg & McBurney
Lab Tech: SBE

1. Test Number	Replicate (letter)	B	Date Collected	4/21/2011
----------------	--------------------	---	----------------	-----------

2. Material Tested:	Fill	x	Test in Native Soil-Indicate Depth
---------------------	------	---	------------------------------------

3. Type of Sample: Undisturbed x Disturbed

4. Sample Dimensions:	Inside Radius of Sample Tube, R, in cm	1.9
	Length of Sample, L, in inches	2.00

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams	90.57
--	-------

Wt. of Tube Containing Sample 175.83

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 57.58383

Wt. of Empty Tube	85.26
-------------------	-------

8. Bulk Density (Sample Wt./Sample Volume), grams/cc.	1.6	> 1.2
---	-----	-------

9. Standpipe Used: X No Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 3.25

At the End of Each Test Interval, H2	2.25
--------------------------------------	------

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
----------------------------------	------------------------------	-------------------------------------

		6.67
		6.63
		6.7

12. Calculation of Permeability: $K, (\text{in/hr}) = 60 \text{ min/hr} \times r_2/R_2 \times L(\text{in})/T(\text{min}) \times \ln (H_1/H_2)$ $T = \underline{6.70}$

K = 6.6 **Classification:**

13. Defects in the Sample (Check appropriate items):

 X NONE

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

Other - Specify _____

Tube Permeameter Test Data

Job Number: 0195-10-049E

Project: Proposed CVS Pharmacy

Client: DECPC/Feinberg & McBurney

Lab Tech: SBE

Sample ID: Boring/Test Pit No.: B-6 Sample No.: S-3 Depth: 72"

MUNICIPALITY Township of Brick BLOCK 552 & 554.35 LOTS 16, 18, & 19

1. Test Number Replicate (letter) A Date Collected 4/21/2011

2. Material Tested: Fill x Test in Native Soil-Indicate Depth

3. Type of Sample: Undisturbed x Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.9
Length of Sample, L, in inches 2.00

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams 85.99

Wt. of Tube Containing Sample 171.45

Wt. of Empty Tube 85.46

7. Sample Volume (L x 2.54 cm./inch x 3.14R²), cc. 57.58383

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. 1.5 > 1.2

9. Standpipe Used: X No Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 3.75

At the End of Each Test Interval, H2 2.75

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
		1.78
		1.83
		1.82

12. Calculation of Permeability: $K, (\text{in/hr}) = 60 \text{ min/hr} \times r^2/R^2 \times L(\text{in})/T(\text{min}) \times \ln(H1/H2)$ T= 1.82

K = 20.4

Classification:

13. Defects in the Sample (Check appropriate items):

X NONE

Soil/Tube Contact Large Gravel Large Roots

Dry Soil Smearing Compaction

Other - Specify

Job Number: 0195-10-049E
Project: Proposed CVS Pharmacy
Client: DECPC/Feinberg & McBurney
Lab Tech: SBE

MUNICIPALITY Township of Brick **BLOCK 552 & 554.35** **LOTS 16, 18, &19**

1. Test Number	Replicate (letter)	B	Date Collected	4/21/2011
----------------	--------------------	---	----------------	-----------

2. Material Tested: Fill x Test in Native Soil-Indicate Depth

3. Type of Sample: Undisturbed x Disturbed

4. Sample Dimensions:	Inside Radius of Sample Tube, R, in cm	1.9
	Length of Sample, L, in inches	2.00

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams	95.25
--	-------

Wt. of Tube Containing Sample 180.09

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 57.58383

Wt. of Tube Containing Sample	100.00
Wt. of Empty Tube	<u>84.84</u>

8. Bulk Density (Sample Wt./Sample Volume), grams/cc.	1.7	> 1.2
---	-----	-------

9. Standpipe Used: X No Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1	3.50
--	------

At the Beginning of Each Test Interval, H1	0.00
At the End of Each Test Interval, H2	2.50

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
----------------------------------	------------------------------	-------------------------------------

		1.33
		1.16
		1.33
		1.33

12. Calculation of Permeability: K_i (in/hr) = $60 \text{ min/hr} \times r_2/R_2 \times L(\text{in})/T(\text{min}) \times \ln (H_1/H_2)$ $T=$ 1.33

K = 30.4 **Classification:**

13. Defects in the Sample (Check appropriate items):

X NONE

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

Other - Specify _____

Tube Permeameter Test Data

Job Number: 0195-10-049E

Project: Proposed CVS Pharmacy

Client: DECPC/Feinberg & McBurney

Lab Tech: SBE

Sample ID: Boring/Test Pit No.: B-7 Sample No.: S-4 Depth: 84"

MUNICIPALITY Township of Brick BLOCK 552 & 554.35 LOTS 16, 18, & 19

1. Test Number Replicate (letter) A Date Collected 4/21/2011

2. Material Tested: Fill x Test in Native Soil-Indicate Depth

3. Type of Sample: Undisturbed x Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.9
Length of Sample, L, in inches 2.50

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams 91.25

Wt. of Tube Containing Sample 175.79

Wt. of Empty Tube 84.54

7. Sample Volume (L x 2.54 cm./inch x 3.14R²), cc. 71.97979

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. 1.3 > 1.2

9. Standpipe Used: X No Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 3.50

At the End of Each Test Interval, H2 2.50

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
		29
		29
		30

12. Calculation of Permeability: $K, (in/hr) = 60 \text{ min/hr} \times r^2/R^2 \times L(in)/T(min) \times \ln (H1/H2)$ T= 30.00

K = 1.7 Classification:

13. Defects in the Sample (Check appropriate items):

X NONE

 Soil/Tube Contact Large Gravel Large Roots

 Dry Soil Smearing Compaction

 Other - Specify

Job Number: 0195-10-049E
Project: Proposed CVS Pharmacy
Client: DECPC/Feinberg & McBurney
Lab Tech: SBE

MUNICIPALITY Township of Brick **BLOCK 552 & 554.35** **LOTS 16, 18, & 19**

1. Test Number	Replicate (letter)	B	Date Collected	4/21/2011
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2. Material Tested:	Fill	x	Test in Native Soil-Indicate Depth
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3. Type of Sample: Undisturbed x Disturbed

4. Sample Dimensions:	Inside Radius of Sample Tube, R, in cm	<u>1.9</u>
	Length of Sample, L, in inches	<u>2.00</u>

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams	75.15
--	-------

Wt. of Tube Containing Sample 159.14

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc.	57.58383
--	----------

Wt. of Empty Tube	83.99
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8. Bulk Density (Sample Wt./Sample Volume), grams/cc.	1.3	> 1.2
---	-----	-------

9. Standpipe Used: X No Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1	3.50
--	------

At the Beginning of Each Test Interval, H1	3.50
At the End of Each Test Interval, H2	2.50

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
-------------------------------------	---------------------------------	--

		24
		25
		25

12. Calculation of Permeability: $K, (\text{in/hr}) = 60 \text{ min/hr} \times r_2/R_2 \times L(\text{in})/T(\text{min}) \times \ln (H_1/H_2)$ $T = 25.00$

K = 1.6 Classification:

13. Defects in the Sample (Check appropriate items):

X NONE

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

Other - Specify _____

Geotechnical Terms and Symbols



245 Main Street; Suite 204
Chester, NJ 07930
908-879-9229; Fax 908-879-0222

GEOTECHNICAL TERMS AND SYMBOLS

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

- N: Standard Penetration Value: Blows per ft. or a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.
Qu: Unconfined compressive strength, TSF.
Qp: Penetrometer value, unconfined compressive strength, TSF.
Mc: Moisture content, %
LL: Liquid limit, %
PI: Plasticity index, %
δd: Natural dry density, PCF.
▼: Apparent groundwater level at time noted after completion of boring.
=

DRILLING AND SAMPLING SYMBOLS

- NE: Not Encountered (Groundwater was not encountered)
SS: Split-Spoon – 1½" I.D., 2" O.D., except where noted
ST: Shelby Tube – 3" O.D., except where noted
AU: Auger Sample
OB: Diamond Bit
CB: Carbide Bit
WS: Washed Sample

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

<u>Term (Non-Cohesive Soils)</u>	<u>Standard Penetration Resistance</u>
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

<u>Term (Cohesive Soils)</u>	<u>Qu (TSF)</u>
Very Soft	0-0.25
Soft	0.25-0.50
Firm (Medium)	0.50-1.00
Stiff	1.00-2.00
Very Stiff	2.00-4.00
Hard	4.00 +

PARTICLE SIZE

Boulders	8 in. +	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005mm
Cobbles	8 in. – 3 in.	Medium Sand	0.6mm-0.2mm	Clay	- 0.005mm
Gravel	3 in. – 5mm	Fine Sand	0.2mm – 0.074mm		

USCS Standard Classification System

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

NOTES:

- 1) Sample descriptions are based on visual field and laboratory observations using classification methods of ASTM D2488. Where laboratory data are available, classifications are in accordance with ASTM D2487.
- 2) Solid lines between soil descriptions indicate change in interpreted geologic unit. Dashed lines indicate stratigraphic change within the unit.
- 3) Fines are material passing the U.S. Std. #200 Sieve.

SPRINKLER SYSTEM ANALYSIS (IMPERIAL)
CALCULATION #1

Contractor : AAA FIRE PROTECTION
Company Address: 459 TOMPKINS PLACE ORANGE, NJ 07050

PAGE: 1 OF 9
DATE: 05.10.2012

JOB NAME : CVS STORE #2284

ADDRESS : 2545 HOOPER AVE. BRICK, NJ

Description: RETAIL

DESIGNER : JIM WYNNE

Authority : BRICK

CONTRACT #* REF. TO DRAWING #FP-1

HAZARD DESCRIPTION: ORDINARY GROUP 2
*

CALCULATION CRITERIA:-

TOTAL AREA : 1500.0 SQ.FT.
DENSITY : 0.200 USGPM/SQ.FT.
Max.AREA/SPRINKLER : 120.0 SQ.FT.
OF SPRINKLER : 16
Min. Safety : 0 PSI

SYSTEM REQUIREMENT:-

Node	System GPM	Hose GPM	Hydrant GPM	Total GPM	Pressure PSI
41	435.76	0.00	250.00	685.76	51.08

SOURCE INFORMATION:-

SUPPLY	STATIC PRESSURE	RESIDUAL PRESSURE	RESIDUAL FLOW
41	70.00 PSI	65.00 PSI	1062.0 GPM

FIRE PUMP RATING:

PUMP	PRESSURE	FLOW
------	----------	------

SPRINKLER K= 5.60
OVERHEAD PIPE C= 120
UNDERGROUND C= 140

TOTAL SAFETY = 16.70 PSI Below Supply

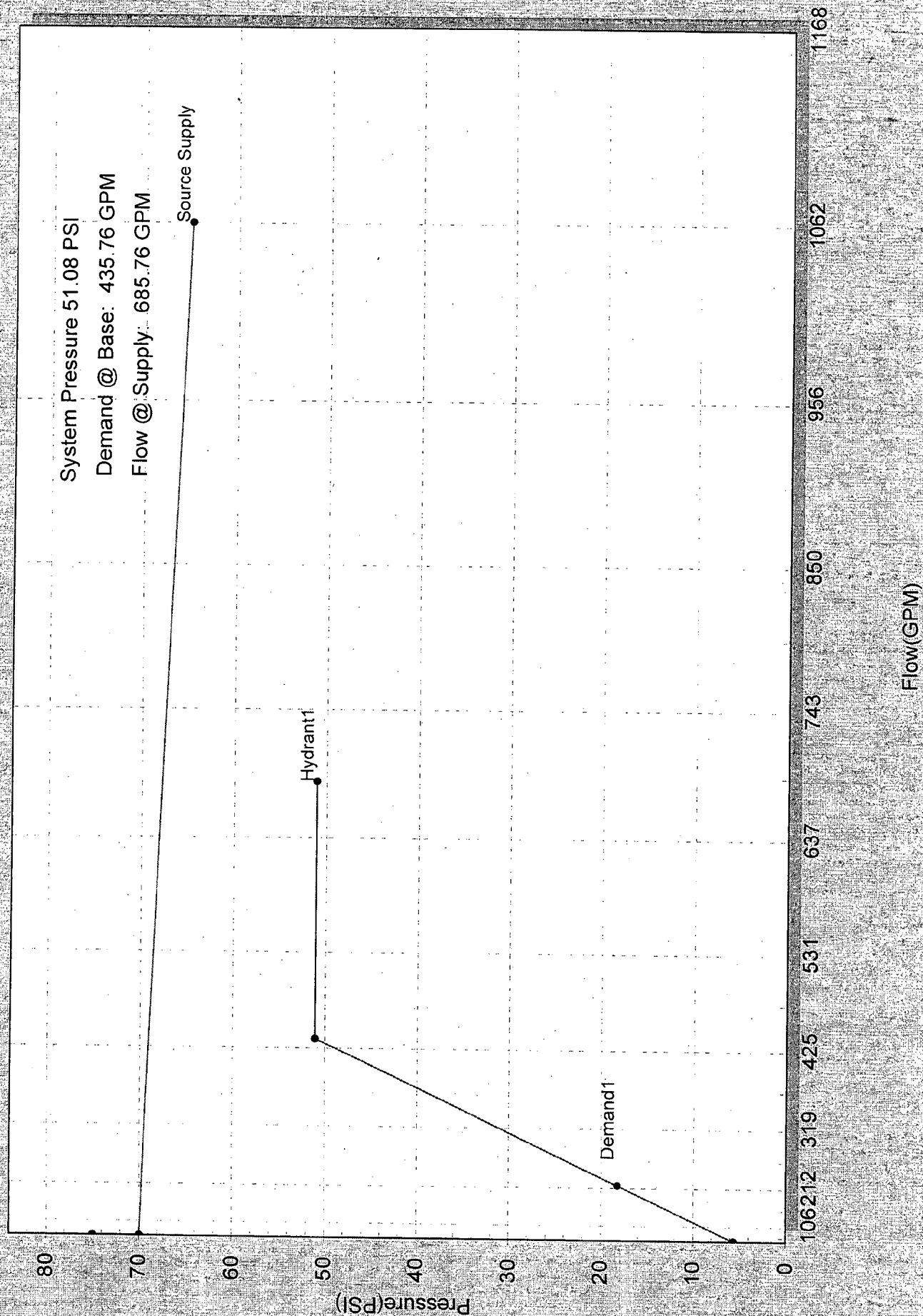
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YH
6/13/12

Handwritten signature
6-8-12

Water Graph

FireAcad



AAA FIRE PROTECTION

SPRINKLER SYSTEM ANALYSIS (IMPERIAL)

JOB NAME: CVS STORE #2284

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NODE	ELEVATION FT.	PRESSURE PSI	DISCHARGE GPM	WASTAGE %
1	8.0	19.61	24.8	3.3
2	12.0	18.37	24.0	0.0
3	12.0	19.70	24.9	3.6
4	8.0	21.65	26.1	8.6
5	12.0	23.80	27.3	13.8
6	8.0	21.03	25.7	7.0
7	12.0	19.80	24.9	3.8
8	12.0	21.23	25.8	7.5
9	12.0	25.84	28.5	18.6
10	12.0	21.35	25.9	7.8
11	12.0	23.12	26.9	12.2
12	12.0	25.44	28.2	17.7
13	12.0	29.58	30.5	26.9
14	12.0	29.84	30.6	27.5
15	12.0	30.24	30.8	28.3
16	12.0	30.42	30.9	28.7
17	13.0	18.61		
18	13.0	19.59		
19	13.0	21.03		
20	13.0	21.41		
21	13.0	25.23		
22	13.0	19.90		
23	13.0	20.94		
24	13.0	22.47		
25	13.0	27.42		
26	13.0	21.97		
27	13.0	24.50		
28	13.0	26.99		
29	13.0	31.71		
30	13.0	31.71		
31	13.0	32.14		
32	13.0	32.33		
33	13.0	32.21		
34	13.0	32.21		
35	13.0	32.31		
36	13.0	32.51		
37	13.0	37.27		
38	13.0	40.31		
39	3.0	45.68		
40	3.0	46.35		
41	-5.0	51.08	250.0	HOSE

JOB NAME: CVS STORE #2284
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PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
1	1	QN=24.8	D=1.049	L=2.0	0.195	PT=19.61	K=5.60
				F=4.0		PF=1.17	V=9.21
				FT=EE		PE=-2.17	C=120.00
	17	QP=24.8		LT=6.0		PT=18.61	Pv=0.57
2	2	QN=24.0	D=1.049	L=2.0	0.183	PT=18.37	K=5.60
				F=7.0		PF=1.65	V=8.91
				FT=ET		PE=-0.43	C=120.00
	18	QP=24.0		LT=9.0		PT=19.59	Pv=0.53
3	3	QN=24.9	D=1.049	L=2.0	0.196	PT=19.70	K=5.60
				F=7.0		PF=1.76	V=9.23
				FT=ET		PE=-0.43	C=120.00
	19	QP=24.9		LT=9.0		PT=21.03	Pv=0.57
4	4	QN=26.1	D=1.049	L=2.0	0.214	PT=21.65	K=5.60
				F=7.0		PF=1.92	V=9.68
				FT=ET		PE=-2.17	C=120.00
	20	QP=26.1		LT=9.0		PT=21.41	Pv=0.63
5	5	QN=27.3	D=1.049	L=1.0	0.233	PT=23.80	K=5.60
				F=7.0		PF=1.87	V=10.14
				FT=ET		PE=-0.43	C=120.00
	21	QP=27.3		LT=8.0		PT=25.23	Pv=0.69
6	6	QN=25.7	D=1.049	L=1.0	0.208	PT=21.03	K=5.60
				F=4.0		PF=1.04	V=9.53
				FT=EE		PE=-2.17	C=120.00
	22	QP=25.7		LT=5.0		PT=19.90	Pv=0.61
7	7	QN=24.9	D=1.049	L=1.0	0.197	PT=19.80	K=5.60
				F=7.0		PF=1.57	V=9.25
				FT=ET		PE=-0.43	C=120.00
	23	QP=24.9		LT=8.0		PT=20.94	Pv=0.58
8	8	QN=25.8	D=1.049	L=1.0	0.210	PT=21.23	K=5.60
				F=7.0		PF=1.68	V=9.58
				FT=ET		PE=-0.43	C=120.00
	24	QP=25.8		LT=8.0		PT=22.47	Pv=0.62
9	9	QN=28.5	D=1.049	L=1.0	0.252	PT=25.84	K=5.60
				F=7.0		PF=2.01	V=10.57
				FT=ET		PE=-0.43	C=120.00
	25	QP=28.5		LT=8.0		PT=27.42	Pv=0.75
10	10	QN=25.9	D=1.049	L=1.0	0.211	PT=21.35	K=5.60
				F=4.0		PF=1.05	V=9.61
				FT=EE		PE=-0.43	C=120.00
	26	QP=25.9		LT=5.0		PT=21.97	Pv=0.62

JOB NAME: CVS STORE #2284

FILE: C:\fireacad\calc\CVS - Brick.mdb

PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
11	11	QN=26.9	D=1.049	L=1.0	0.227	PT=23.12	K=5.60
				F=7.0		PF=1.82	V=10.00
				FT=ET		PE=-0.43	C=120.00
	27	QP=26.9		LT=8.0		PT=24.50	Pv=0.67
12	12	QN=28.2	D=1.049	L=1.0	0.248	PT=25.44	K=5.60
				F=7.0		PF=1.98	V=10.49
				FT=ET		PE=-0.43	C=120.00
	28	QP=28.3		LT=8.0		PT=26.99	Pv=0.74
13	13	QN=30.5	D=1.049	L=2.0	0.285	PT=29.58	K=5.60
				F=7.0		PF=2.57	V=11.31
				FT=ET		PE=-0.43	C=120.00
	29	QP=30.5		LT=9.0		PT=31.71	Pv=0.86
14	14	QN=30.6	D=1.049	L=1.0	0.288	PT=29.84	K=5.60
				F=7.0		PF=2.30	V=11.36
				FT=ET		PE=-0.43	C=120.00
	30	QP=30.6		LT=8.0		PT=31.71	Pv=0.87
15	15	QN=30.8	D=1.049	L=1.0	0.291	PT=30.24	K=5.60
				F=7.0		PF=2.33	V=11.43
				FT=ET		PE=-0.43	C=120.00
	31	QP=30.8		LT=8.0		PT=32.14	Pv=0.88
16	16	QN=30.9	D=1.049	L=1.0	0.293	PT=30.42	K=5.60
				F=7.0		PF=2.34	V=11.47
				FT=ET		PE=-0.43	C=120.00
	32	QP=30.9		LT=8.0		PT=32.33	Pv=0.89
17	17	QN=0.0	D=1.049	L=5.0	0.195	PT=18.61	K=0.00
				F=0.0		PF=0.97	V=9.21
				FT=0		PE=0.00	C=120.00
	18	QP=24.8		LT=5.0		PT=19.59	Pv=0.57
18	18	QN=0.0	D=1.380	L=8.0	0.180	PT=19.59	K=0.00
				F=0.0		PF=1.44	V=10.47
				FT=0		PE=0.00	C=120.00
	19	QP=48.8		LT=8.0		PT=21.03	Pv=0.74
19	19	QN=0.0	D=1.380	L=1.0	0.385	PT=21.03	K=0.00
				F=0.0		PF=0.38	V=15.80
				FT=0		PE=0.00	C=120.00
	20	QP=73.7		LT=1.0		PT=21.41	Pv=1.68
20	20	QN=0.0	D=1.610	L=12.0	0.318	PT=21.41	K=0.00
				F=0.0		PF=3.82	V=15.72
				FT=0		PE=0.00	C=120.00
	21	QP=99.7		LT=12.0		PT=25.23	Pv=1.66

* JOB NAME: CVS STORE #2284

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PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
21	21	QN=0.0		L=6.0		PT=25.23	K=0.00
			D=1.610	F=8.0	0.498	PF=6.98	V=20.02
				FT=T		PE=0.00	C=120.00
	34	QP=127.1		LT=14.0		PT=32.21	Pv=2.70
22	22	QN=0.0		L=5.0		PT=19.90	K=0.00
			D=1.049	F=0.0	0.208	PF=1.04	V=9.53
				FT=0		PE=0.00	C=120.00
	23	QP=25.7		LT=5.0		PT=20.94	Pv=0.61
23	23	QN=0.0		L=8.0		PT=20.94	K=0.00
			D=1.380	F=0.0	0.192	PF=1.54	V=10.86
				FT=0		PE=0.00	C=120.00
	24	QP=50.6		LT=8.0		PT=22.47	Pv=0.79
24	24	QN=0.0		L=12.0		PT=22.47	K=0.00
			D=1.380	F=0.0	0.412	PF=4.94	V=16.39
				FT=0		PE=0.00	C=120.00
	25	QP=76.4		LT=12.0		PT=27.42	Pv=1.81
25	25	QN=0.0		L=6.0		PT=27.42	K=0.00
			D=1.610	F=8.0	0.349	PF=4.89	V=16.53
				FT=T		PE=0.00	C=120.00
	35	QP=104.9		LT=14.0		PT=32.31	Pv=1.84
26	26	QN=0.0		L=12.0		PT=21.97	K=0.00
			D=1.049	F=0.0	0.211	PF=2.53	V=9.61
				FT=0		PE=0.00	C=120.00
	27	QP=25.9		LT=12.0		PT=24.50	Pv=0.62
27	27	QN=0.0		L=12.0		PT=24.50	K=0.00
			D=1.380	F=0.0	0.208	PF=2.49	V=11.33
				FT=0		PE=0.00	C=120.00
	28	QP=52.8		LT=12.0		PT=26.99	Pv=0.86
28	28	QN=0.0		L=6.0		PT=26.99	K=0.00
			D=1.380	F=6.0	0.459	PF=5.51	V=17.39
				FT=T		PE=0.00	C=120.00
	36	QP=81.1		LT=12.0		PT=32.51	Pv=2.03
29	29	QN=0.0		L=6.0		PT=31.71	K=0.00
			D=1.610	F=8.0	0.035	PF=0.50	V=4.80
				FT=T		PE=0.00	C=120.00
	33	QP=30.5		LT=14.0		PT=32.21	Pv=0.16
30	30	QN=0.0		L=6.0		PT=31.71	K=0.00
			D=1.610	F=8.0	0.036	PF=0.50	V=4.82
				FT=T		PE=0.00	C=120.00
	34	QP=30.6		LT=14.0		PT=32.21	Pv=0.16

• JOB NAME: CVS STORE #2284

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PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
31	32	QN=0.0	D=2.067	L=6.0	0.011	PT=32.33	K=0.00
				F=10.0		PF=0.17	V=2.95
				FT=T		PE=0.00	C=120.00
	36	QP=30.9		LT=16.0		PT=32.51	Pv=0.06
32	33	QN=0.0	D=4.260	L=4.5	0.000	PT=32.21	K=0.00
				F=0.0		PF=0.00	V=0.69
				FT=0		PE=0.00	C=120.00
	34	QP=30.5		LT=4.5		PT=32.21	Pv=0.00
33	34	QN=0.0	D=4.260	L=11.0	0.009	PT=32.21	K=0.00
				F=0.0		PF=0.10	V=4.23
				FT=0		PE=0.00	C=120.00
	35	QP=188.1		LT=11.0		PT=32.31	Pv=0.12
34	35	QN=0.0	D=4.260	L=8.0	0.025	PT=32.31	K=0.00
				F=0.0		PF=0.20	V=7.29
				FT=0		PE=0.00	C=120.00
	36	QP=323.8		LT=8.0		PT=32.51	Pv=0.36
35	36	QN=0.0	D=4.260	L=85.0	0.043	PT=32.51	K=0.00
				F=26.4		PF=4.76	V=9.81
				FT=T		PE=0.00	C=120.00
	37	QP=435.8		LT=111.4		PT=37.27	Pv=0.65
36	37	QN=0.0	D=4.260	L=58.0	0.043	PT=37.27	K=0.00
				F=13.2		PF=3.04	V=9.81
				FT=E		PE=0.00	C=120.00
	38	QP=435.8		LT=71.2		PT=40.31	Pv=0.65
37	38	QN=0.0	D=4.260	L=11.0	0.043	PT=40.31	K=0.00
				F=13.2		PF=1.03	V=9.81
				FT=E		PE=4.33	C=120.00
	39	QP=435.8		LT=24.2		PT=45.68	Pv=0.65
38	39	QN=0.0	D=6.357	L=5.0	0.006	PT=45.68	K=0.00
				F=105.8		PF=0.67	V=4.40
				FT=GCCGE		PE=0.00	C=120.00
	40	QP=435.8		LT=110.8		PT=46.35	Pv=0.13
39	40	QN=0.0	D=6.280	L=150.0	0.005	PT=46.35	K=0.00
				F=110.4		PF=1.26	V=4.51
				FT=EELTG		PE=3.46	C=140.00
	41	QP=435.8		LT=260.4		PT=51.08	Pv=0.14
40	31	QN=0.0	D=2.067	L=6.0	0.011	PT=32.14	K=0.00
				F=10.0		PF=0.17	V=2.94
				FT=T		PE=0.00	C=120.00
	35	QP=30.8		LT=16.0		PT=32.31	Pv=0.06

LEGEND

S = Standard 45 degree elbow	QN = Normal flow discharge
E = Standard 90 degree elbow	QP = Flow; in; pipe
L = Long turn degree elbow	D = Pipe inside diameter
T = Standard tee	L = Pipe length
B = Butterfly valve	F = Fitting equivalence
G = Gate valve	FT = Fitting type
C = Check valve	LT = Total length
A = Alarm valve	PT = Total node pressure
D = Dry pipe valve	PF = Pressure friction loss
W = Deluge valve	PE = Pressure elevation loss
P = Pre-action valve	K = Sprinkler K-factor
F = Back flow preventer	V = Velocity
F,x = Constant pressure x in PSI for fitting F	C = C-factor
	PV = Velocity pressure

SIGNIFICANT HYDRAULICAL NOTES:

Maximum velocity of 20.02 FT/SEC at pipe 21
Most remote sprinkler @ node 2

SPRINKLER SYSTEM ANALYSIS (IMPERIAL)
CALCULATION #1

Contractor : AAA FIRE PROTECTION
Company Address: 459 TOMPKINS PLACE ORANGE, NJ 07050

PAGE: 1 OF 9
DATE: 05.10.2012

JOB NAME : CVS STORE #2284

ADDRESS : 2545 HOOPER AVE. BRICK, NJ

Description: RETAIL

DESIGNER : JIM WYNNE

Authority : BRICK

CONTRACT #* REF. TO DRAWING #FP-1

HAZARD DESCRIPTION: ORDINARY GROUP 2

*

CALCULATION CRITERIA:-

TOTAL AREA : 1500.0 SQ.FT.
DENSITY : 0.200 USGPM/SQ.FT.
Max.AREA/SPRINKLER : 120.0 SQ.FT.
OF SPRINKLER : 16
Min. Safety : 0 PSI

SYSTEM REQUIREMENT:-

Node	System GPM	Hose GPM	Hydrant GPM	Total GPM	Pressure PSI
41	435.76	0.00	250.00	685.76	51.08

SOURCE INFORMATION:-

SUPPLY	STATIC PRESSURE	RESIDUAL PRESSURE	RESIDUAL FLOW
41	70.00 PSI	65.00 PSI	1062.0 GPM

FIRE PUMP RATING:

PUMP	PRESSURE	FLOW
------	----------	------

SPRINKLER K= 5.60
OVERHEAD PIPE C= 120
UNDERGROUND C= 140

TOTAL SAFETY = 16.70 PSI Below Supply

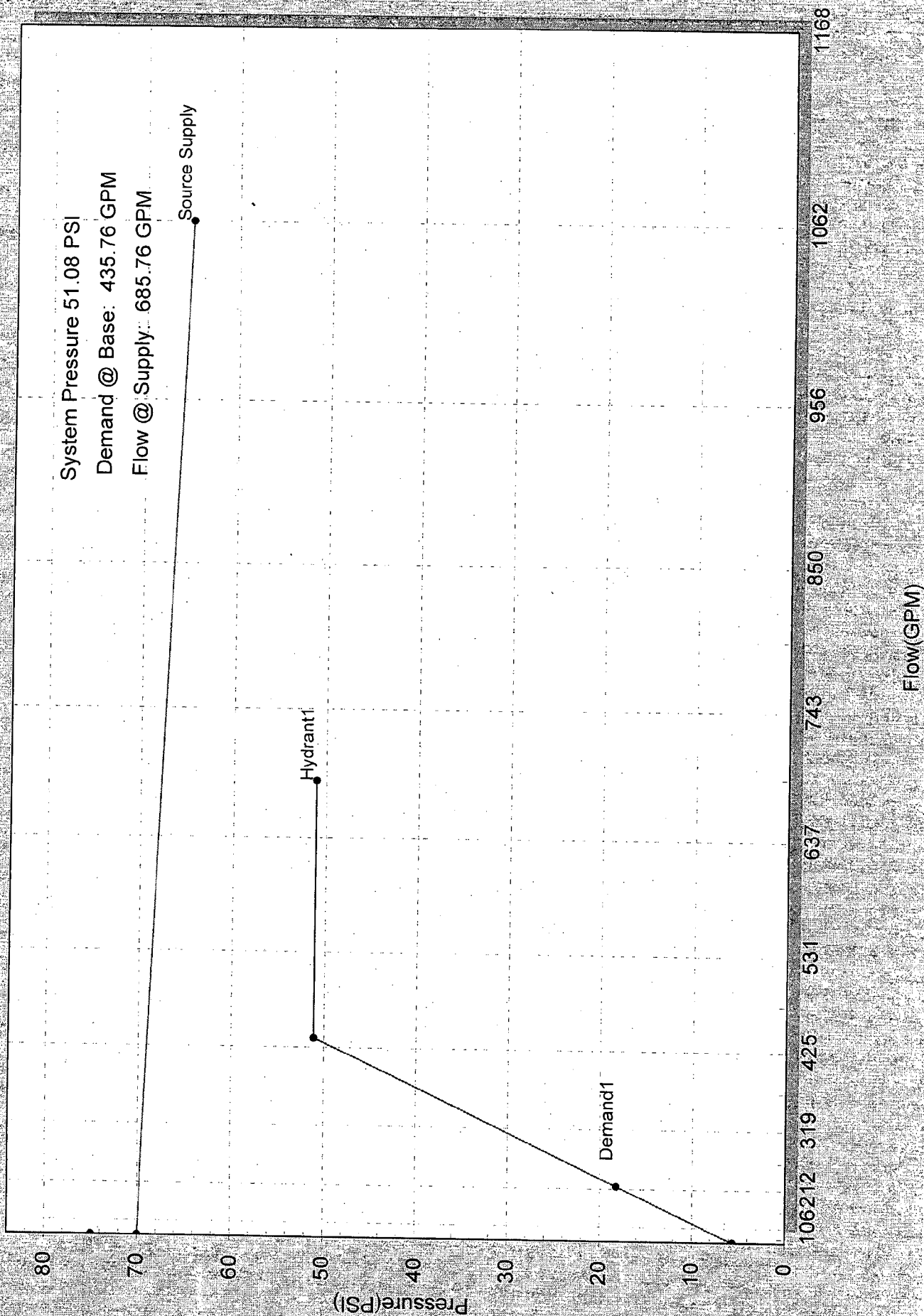
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6/13/12
JST

[Signature]
6-8-12

Water Graph

FireAcad



AAA FIRE PROTECTION

SPRINKLER SYSTEM ANALYSIS (IMPERIAL)

JOB NAME: CVS STORE #2284

FILE: C:\fireacad\calc\CVS - Brick.mdb

NODE	ELEVATION FT.	PRESSURE PSI	DISCHARGE GPM	WASTAGE %
1	8.0	19.61	24.8	3.3
2	12.0	18.37	24.0	0.0
3	12.0	19.70	24.9	3.6
4	8.0	21.65	26.1	8.6
5	12.0	23.80	27.3	13.8
6	8.0	21.03	25.7	7.0
7	12.0	19.80	24.9	3.8
8	12.0	21.23	25.8	7.5
9	12.0	25.84	28.5	18.6
10	12.0	21.35	25.9	7.8
11	12.0	23.12	26.9	12.2
12	12.0	25.44	28.2	17.7
13	12.0	29.58	30.5	26.9
14	12.0	29.84	30.6	27.5
15	12.0	30.24	30.8	28.3
16	12.0	30.42	30.9	28.7
17	13.0	18.61		
18	13.0	19.59		
19	13.0	21.03		
20	13.0	21.41		
21	13.0	25.23		
22	13.0	19.90		
23	13.0	20.94		
24	13.0	22.47		
25	13.0	27.42		
26	13.0	21.97		
27	13.0	24.50		
28	13.0	26.99		
29	13.0	31.71		
30	13.0	31.71		
31	13.0	32.14		
32	13.0	32.33		
33	13.0	32.21		
34	13.0	32.21		
35	13.0	32.31		
36	13.0	32.51		
37	13.0	37.27		
38	13.0	40.31		
39	3.0	45.68		
40	3.0	46.35		
41	-5.0	51.08	250.0	HOSE

JOB NAME: CVS STORE #2284

FILE: C:\fireacad\calc\CVS - Brick.mdb

PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
1	1	QN=24.8	D=1.049	L=2.0	0.195	PT=19.61	K=5.60
				F=4.0		PF=1.17	V=9.21
				FT=EE		PE=-2.17	C=120.00
	17	QP=24.8		LT=6.0		PT=18.61	Pv=0.57
2	2	QN=24.0	D=1.049	L=2.0	0.183	PT=18.37	K=5.60
				F=7.0		PF=1.65	V=8.91
				FT=ET		PE=-0.43	C=120.00
	18	QP=24.0		LT=9.0		PT=19.59	Pv=0.53
3	3	QN=24.9	D=1.049	L=2.0	0.196	PT=19.70	K=5.60
				F=7.0		PF=1.76	V=9.23
				FT=ET		PE=-0.43	C=120.00
	19	QP=24.9		LT=9.0		PT=21.03	Pv=0.57
4	4	QN=26.1	D=1.049	L=2.0	0.214	PT=21.65	K=5.60
				F=7.0		PF=1.92	V=9.68
				FT=ET		PE=-2.17	C=120.00
	20	QP=26.1		LT=9.0		PT=21.41	Pv=0.63
5	5	QN=27.3	D=1.049	L=1.0	0.233	PT=23.80	K=5.60
				F=7.0		PF=1.87	V=10.14
				FT=ET		PE=-0.43	C=120.00
	21	QP=27.3		LT=8.0		PT=25.23	Pv=0.69
6	6	QN=25.7	D=1.049	L=1.0	0.208	PT=21.03	K=5.60
				F=4.0		PF=1.04	V=9.53
				FT=EE		PE=-2.17	C=120.00
	22	QP=25.7		LT=5.0		PT=19.90	Pv=0.61
7	7	QN=24.9	D=1.049	L=1.0	0.197	PT=19.80	K=5.60
				F=7.0		PF=1.57	V=9.25
				FT=ET		PE=-0.43	C=120.00
	23	QP=24.9		LT=8.0		PT=20.94	Pv=0.58
8	8	QN=25.8	D=1.049	L=1.0	0.210	PT=21.23	K=5.60
				F=7.0		PF=1.68	V=9.58
				FT=ET		PE=-0.43	C=120.00
	24	QP=25.8		LT=8.0		PT=22.47	Pv=0.62
9	9	QN=28.5	D=1.049	L=1.0	0.252	PT=25.84	K=5.60
				F=7.0		PF=2.01	V=10.57
				FT=ET		PE=-0.43	C=120.00
	25	QP=28.5		LT=8.0		PT=27.42	Pv=0.75
10	10	QN=25.9	D=1.049	L=1.0	0.211	PT=21.35	K=5.60
				F=4.0		PF=1.05	V=9.61
				FT=EE		PE=-0.43	C=120.00
	26	QP=25.9		LT=5.0		PT=21.97	Pv=0.62

JOB NAME: CVS STORE #2284

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PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
11	11	QN=26.9	D=1.049	L=1.0	0.227	PT=23.12	K=5.60
				F=7.0		PF=1.82	V=10.00
				FT=ET		PE=-0.43	C=120.00
	27	QP=26.9		LT=8.0		PT=24.50	Pv=0.67
12	12	QN=28.2	D=1.049	L=1.0	0.248	PT=25.44	K=5.60
				F=7.0		PF=1.98	V=10.49
				FT=ET		PE=-0.43	C=120.00
	28	QP=28.3		LT=8.0		PT=26.99	Pv=0.74
13	13	QN=30.5	D=1.049	L=2.0	0.285	PT=29.58	K=5.60
				F=7.0		PF=2.57	V=11.31
				FT=ET		PE=-0.43	C=120.00
	29	QP=30.5		LT=9.0		PT=31.71	Pv=0.86
14	14	QN=30.6	D=1.049	L=1.0	0.288	PT=29.84	K=5.60
				F=7.0		PF=2.30	V=11.36
				FT=ET		PE=-0.43	C=120.00
	30	QP=30.6		LT=8.0		PT=31.71	Pv=0.87
15	15	QN=30.8	D=1.049	L=1.0	0.291	PT=30.24	K=5.60
				F=7.0		PF=2.33	V=11.43
				FT=ET		PE=-0.43	C=120.00
	31	QP=30.8		LT=8.0		PT=32.14	Pv=0.88
16	16	QN=30.9	D=1.049	L=1.0	0.293	PT=30.42	K=5.60
				F=7.0		PF=2.34	V=11.47
				FT=ET		PE=-0.43	C=120.00
	32	QP=30.9		LT=8.0		PT=32.33	Pv=0.89
17	17	QN=0.0	D=1.049	L=5.0	0.195	PT=18.61	K=0.00
				F=0.0		PF=0.97	V=9.21
				FT=0		PE=0.00	C=120.00
	18	QP=24.8		LT=5.0		PT=19.59	Pv=0.57
18	18	QN=0.0	D=1.380	L=8.0	0.180	PT=19.59	K=0.00
				F=0.0		PF=1.44	V=10.47
				FT=0		PE=0.00	C=120.00
	19	QP=48.8		LT=8.0		PT=21.03	Pv=0.74
19	19	QN=0.0	D=1.380	L=1.0	0.385	PT=21.03	K=0.00
				F=0.0		PF=0.38	V=15.80
				FT=0		PE=0.00	C=120.00
	20	QP=73.7		LT=1.0		PT=21.41	Pv=1.68
20	20	QN=0.0	D=1.610	L=12.0	0.318	PT=21.41	K=0.00
				F=0.0		PF=3.82	V=15.72
				FT=0		PE=0.00	C=120.00
	21	QP=99.7		LT=12.0		PT=25.23	Pv=1.66

•JOB NAME: CVS STORE #2284

FILE: C:\fireacad\calc\CVS - Brick.mdb

PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
21	21	QN=0.0	D=1.610	L=6.0	0.498	PT=25.23	K=0.00
				F=8.0		PF=6.98	V=20.02
				FT=T		PE=0.00	C=120.00
	34	QP=127.1		LT=14.0		PT=32.21	Pv=2.70
22	22	QN=0.0	D=1.049	L=5.0	0.208	PT=19.90	K=0.00
				F=0.0		PF=1.04	V=9.53
				FT=0		PE=0.00	C=120.00
	23	QP=25.7		LT=5.0		PT=20.94	Pv=0.61
23	23	QN=0.0	D=1.380	L=8.0	0.192	PT=20.94	K=0.00
				F=0.0		PF=1.54	V=10.86
				FT=0		PE=0.00	C=120.00
	24	QP=50.6		LT=8.0		PT=22.47	Pv=0.79
24	24	QN=0.0	D=1.380	L=12.0	0.412	PT=22.47	K=0.00
				F=0.0		PF=4.94	V=16.39
				FT=0		PE=0.00	C=120.00
	25	QP=76.4		LT=12.0		PT=27.42	Pv=1.81
25	25	QN=0.0	D=1.610	L=6.0	0.349	PT=27.42	K=0.00
				F=8.0		PF=4.89	V=16.53
				FT=T		PE=0.00	C=120.00
	35	QP=104.9		LT=14.0		PT=32.31	Pv=1.84
26	26	QN=0.0	D=1.049	L=12.0	0.211	PT=21.97	K=0.00
				F=0.0		PF=2.53	V=9.61
				FT=0		PE=0.00	C=120.00
	27	QP=25.9		LT=12.0		PT=24.50	Pv=0.62
27	27	QN=0.0	D=1.380	L=12.0	0.208	PT=24.50	K=0.00
				F=0.0		PF=2.49	V=11.33
				FT=0		PE=0.00	C=120.00
	28	QP=52.8		LT=12.0		PT=26.99	Pv=0.86
28	28	QN=0.0	D=1.380	L=6.0	0.459	PT=26.99	K=0.00
				F=6.0		PF=5.51	V=17.39
				FT=T		PE=0.00	C=120.00
	36	QP=81.1		LT=12.0		PT=32.51	Pv=2.03
29	29	QN=0.0	D=1.610	L=6.0	0.035	PT=31.71	K=0.00
				F=8.0		PF=0.50	V=4.80
				FT=T		PE=0.00	C=120.00
	33	QP=30.5		LT=14.0		PT=32.21	Pv=0.16
30	30	QN=0.0	D=1.610	L=6.0	0.036	PT=31.71	K=0.00
				F=8.0		PF=0.50	V=4.82
				FT=T		PE=0.00	C=120.00
	34	QP=30.6		LT=14.0		PT=32.21	Pv=0.16

* JOB NAME: CVS STORE #2284

FILE: C:\fireacad\calc\CVS - Brick.mdb

PIPE No.	NODE No.	FLOW GPM	DIA. IN.	LENGTH FT.	FRICTION PSI/FT.	PRESSURE PSI	
31	32	QN=0.0	D=2.067	L=6.0	0.011	PT=32.33	K=0.00
				F=10.0		PF=0.17	V=2.95
				FT=T		PE=0.00	C=120.00
	36	QP=30.9		LT=16.0		PT=32.51	Pv=0.06
32	33	QN=0.0	D=4.260	L=4.5	0.000	PT=32.21	K=0.00
				F=0.0		PF=0.00	V=0.69
				FT=0		PE=0.00	C=120.00
	34	QP=30.5		LT=4.5		PT=32.21	Pv=0.00
33	34	QN=0.0	D=4.260	L=11.0	0.009	PT=32.21	K=0.00
				F=0.0		PF=0.10	V=4.23
				FT=0		PE=0.00	C=120.00
	35	QP=188.1		LT=11.0		PT=32.31	Pv=0.12
34	35	QN=0.0	D=4.260	L=8.0	0.025	PT=32.31	K=0.00
				F=0.0		PF=0.20	V=7.29
				FT=0		PE=0.00	C=120.00
	36	QP=323.8		LT=8.0		PT=32.51	Pv=0.36
35	36	QN=0.0	D=4.260	L=85.0	0.043	PT=32.51	K=0.00
				F=26.4		PF=4.76	V=9.81
				FT=T		PE=0.00	C=120.00
	37	QP=435.8		LT=111.4		PT=37.27	Pv=0.65
36	37	QN=0.0	D=4.260	L=58.0	0.043	PT=37.27	K=0.00
				F=13.2		PF=3.04	V=9.81
				FT=E		PE=0.00	C=120.00
	38	QP=435.8		LT=71.2		PT=40.31	Pv=0.65
37	38	QN=0.0	D=4.260	L=11.0	0.043	PT=40.31	K=0.00
				F=13.2		PF=1.03	V=9.81
				FT=E		PE=4.33	C=120.00
	39	QP=435.8		LT=24.2		PT=45.68	Pv=0.65
38	39	QN=0.0	D=6.357	L=5.0	0.006	PT=45.68	K=0.00
				F=105.8		PF=0.67	V=4.40
				FT=GCCGE		PE=0.00	C=120.00
	40	QP=435.8		LT=110.8		PT=46.35	Pv=0.13
39	40	QN=0.0	D=6.280	L=150.0	0.005	PT=46.35	K=0.00
				F=110.4		PF=1.26	V=4.51
				FT=EELTG		PE=3.46	C=140.00
	41	QP=435.8		LT=260.4		PT=51.08	Pv=0.14
40	31	QN=0.0	D=2.067	L=6.0	0.011	PT=32.14	K=0.00
				F=10.0		PF=0.17	V=2.94
				FT=T		PE=0.00	C=120.00
	35	QP=30.8		LT=16.0		PT=32.31	Pv=0.06

LEGEND

S = Standard 45 degree elbow	QN = Normal flow discharge
E = Standard 90 degree elbow	QP = Flow; in; pipe
L = Long turn degree elbow	D = Pipe inside diameter
T = Standard tee	L = Pipe length
B = Butterfly valve	F = Fitting equivalence
G = Gate valve	FT = Fitting type
C = Check valve	LT = Total length
A = Alarm valve	PT = Total node pressure
D = Dry pipe valve	PF = Pressure friction loss
W = Deluge valve	PE = Pressure elevation loss
P = Pre-action valve	K = Sprinkler K-factor
F = Back flow preventer	V = Velocity
F,x = Constant pressure x in PSI for fitting F	C = C-factor
	PV = Velocity pressure

SIGNIFICANT HYDRAULICAL NOTES:

Maximum velocity of 20.02 FT/SEC at pipe 21
Most remote sprinkler @ node 2

RT Environmental Services, Inc.

June 15, 2011

Mr. Al Stein
Feinberg and McBurney Realty
1874 Marlton Pike East, Suite 10
Cherry Hill, NJ 08003
Tel: 856-489-8887 / Fax: 856-489-8227

**RE: GPR AND SOIL INVESTIGATION
PROPOSED CVS PHARMACY
HOOPER AVENUE AND DRUM POINT ROAD
BRICK TOWNSHIP, OCEAN COUNTY, NEW JERSEY
RT PROJECT #5144-03**

Dear Mr. Stein:

RT Environmental Services, Inc. (RT) is pleased to present the findings of the ground penetrating radar (GPR) and soil boring investigation conducted at the above referenced property.

In May of 2011, RT was retained by Feinberg and McBurney Realty to perform a Phase I Environmental Site Assessment (ESA) for the property located at the intersection of Hooper Avenue and Drum Point Road, Brick Township, Ocean County, New Jersey. The subject property is approximately 2.435 acres, and consists of a restaurant, Bottazzi's Red Lion Tavern located at 2545 Hooper Ave., and a residential property located at 2549 Hooper Ave., Brick Township, New Jersey. Construction of a 14,600 square foot CVS Pharmacy is proposed at the site. A site location map is provided as **Figure 1**. The Phase I ESA identified the following concerns which warranted further investigation:

- The subject property is listed in the FINDS database and New Jersey DEP's online Data Miner program. There was no further information under either of the databases. A request for an NJDEP file review has been submitted, and RT is currently awaiting a response. Upon completion of the file review, RT will forward any pertinent information. However, these listings do not appear to be significant given that the soil boring investigation has indicated that no contamination is present at the subject property



591 E. Maiden Street ■ Washington, PA 15301 ■ (724) 206-0348 ■ Fax: (724) 206-0380
E-mail: RTENV@AOL.COM ■ Web Address <http://www.rtenv.com>

- RT observed a photograph on the wall inside the restaurant which depicted two fueling pumps on a fueling island in front of the restaurant building. The most knowledgeable person indicated that he believed the photo was from the 1960s. RT recommended a GPR survey and soil investigation be conducted to determine whether any underground storage tanks (USTs) are present at the site and whether soil or groundwater have been impacted.
- According to the Most Knowledgeable Person, there was a septic tank located in the parking lot on the north side of the restaurant. The MKP was unaware of the date when the septic tank was taken out of service. It was determined that it was unlikely that regulated substances had been discharged to the septic system, however because soil borings were being installed at the site due to the potential services station, soil samples were collected proximal to the former septic area.

GPR SURVEY

RT mobilized to the subject property on June 1, 2011 to complete the ground penetrating radar (GPR) and electromagnetic survey. The GPR/EM survey was conducted by Gould Environmental, and overseen by RT Geologist Ken Eden. The survey was completed over approximately 6,000 square feet in areas of the subject property which would likely have been the location of former underground storage tanks (USTs). This area included the entire parking lot located behind the building.

No anomalies indicative of USTs were identified during the survey. The equipment did identify the area of the septic tank on the east side of the building. Given this information, it does not appear that any USTs remain present on the subject property. A copy of the field information and report from Gould Environmental is included as **Attachment 1**. A copy of the RT field logs is included in **Attachment 2**.

SOIL BORING INVESTIGATION

Investigation Activities

RT mobilized to the site on June 3, 2011 to complete the soil boring installation utilizing a GEOPROBE. A total of eleven soil borings were installed across the site. Nine soil borings were installed in order to investigate the potential presence of petroleum contamination potentially from the former service station, while two soil borings (SB-5 and SB-6) were installed proximal to the former septic system to investigate any historical discharges. **Figure 2** depicts the locations of the soil borings.

Soil borings were installed to depths up to 12 feet below ground surface (bgs), and the groundwater table was observed at approximately 11 feet bgs. Soil lithology consisted of a brown to red fine sand. Soils were field screened for the presence of volatile organic compounds (VOCs) using a photo-ionization detector (PID). No odors were observed, and the PID did not display any readings above background levels. Soil samples were collected from six of the soil borings from the 6-inch interval just above the observed water table. Soil samples collected from soil borings SB-3, SB-8, SB-10, and SB-11 were submitted to the laboratory for analysis of volatile organic compounds (VOC+10) and lead. Soil samples collected from soil borings SB-5 and SB-6 were submitted to the laboratory for analysis of VOC+10, semi-volatile organic compounds (SVOCs), and target analyte list metals. RT field logs are included as **Attachment 2**.

Analytical Results

Analytical results indicated that no constituents of concern were detected above the NJDEP Soil Remediation Standards in any of the soil samples analyzed. Therefore, it does not appear as though impacted soil is present at the subject property. The laboratory analytical report is included as **Attachment 3**.

CONCLUSIONS AND RECOMMENDATIONS

RT completed a GPR and soil boring investigation at the subject property in order to determine whether any USTs were present at the site and whether potential historical fueling operations at the site had impacted the subsurface. No USTs were identified, and soil analytical results indicate that no impacted soils are present at the site.

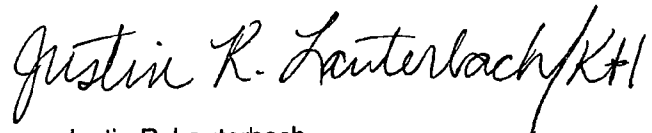
During the Phase I ESA, the most knowledgeable person had shown RT a picture of the subject property which depicted fueling pumps at the front of the site. No additional information was found regarding any fuel pumps, USTs, or gasoline service stations in any of other research conducted as part of the Phase I. Given that no additional information was discovered, it is possible that the picture shown was of a different property in the 1960s, and the most knowledgeable person may have been mistaken. Regardless, the GPR and soil investigation indicated that no subsurface impacts are present at the subject property.

It does not appear as though any additional environmental issues are present at the site which warrant further investigation. Should any USTs be encountered during development activities, RT should be notified immediately.

RT appreciated this opportunity to be of service to Feinberg and McBurney Realty and CVS on this project. Please contact me if you have any questions regarding this project.

Respectfully Submitted,

RT ENVIRONMENTAL SERVICES, INC.

A handwritten signature in black ink that reads "Justin R. Lauterbach/KH". The signature is written in a cursive, flowing style.

Justin R. Lauterbach
Associate

FIGURES

FIGURE 1
SITE LOCATION MAP

OVERVIEW MAP - 3041266.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

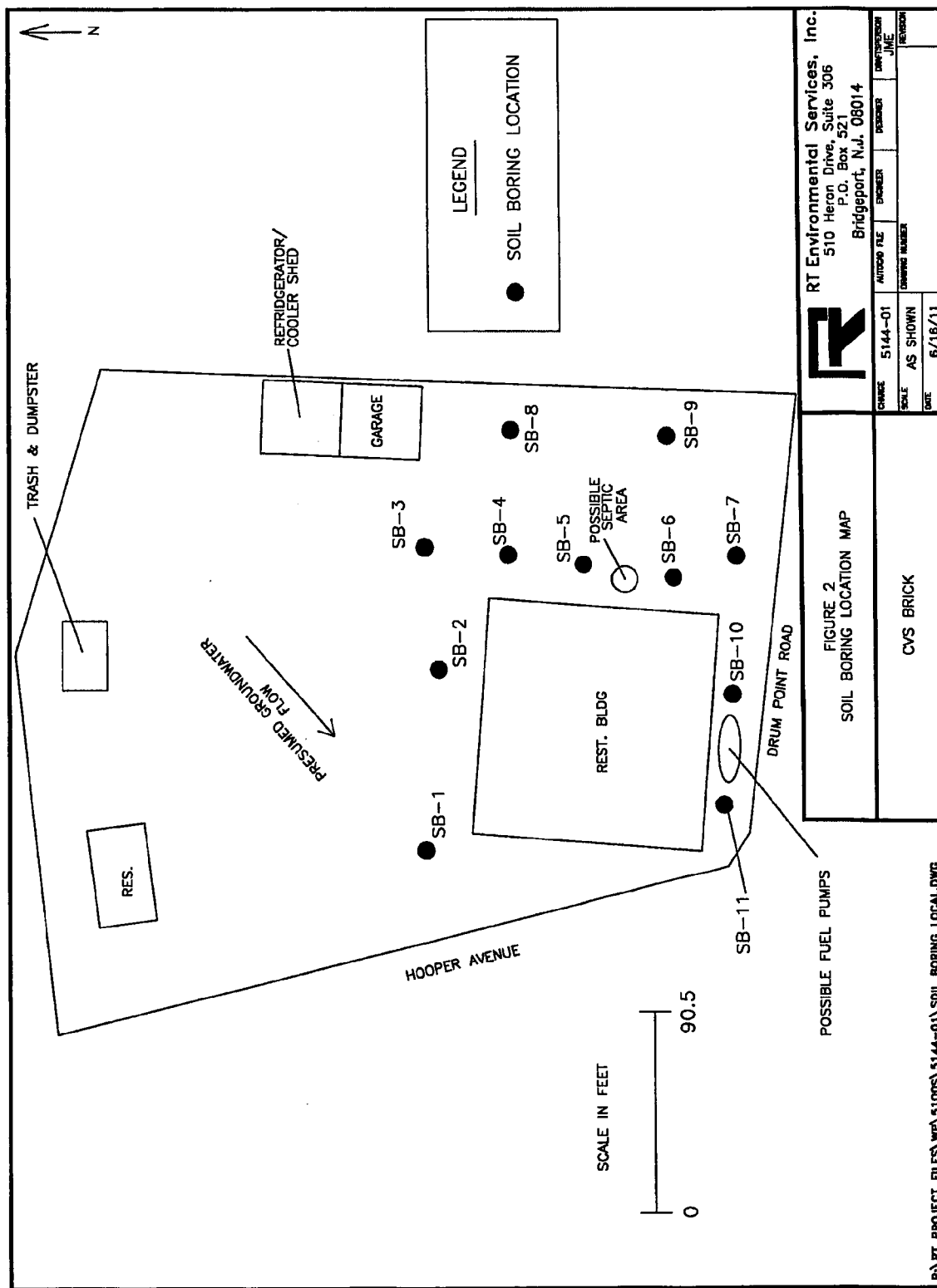
- Indian Reservations BIA
- County Boundary
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: CVS - Brick
 ADDRESS: 2545 Hooper Ave
 Brick NJ 08723
 LAT/LONG: 40.0448 / 74.1276

CLIENT: R.T. Environmental Services
 CONTACT: Ken S. Eden
 INQUIRY #: 3041266.2s
 DATE: April 14, 2011 12:54 pm

FIGURE 2
SOIL BORING LOCATIONS



ATTACHMENTS

ATTACHMENT 11
GPR REPORT



701 N. Penna. Ave., Morrisville, PA 19067
Phone: 215-295-2400 Fax: 215-295-9383

June 9, 2011
Gould Reference No.: G11-010
RT Project No.: 5144-02
RT Purchase Order No.: 5144-02-02

Mr. Kenneth E. Eden, CHMM
Project Manager
RT Environmental Services, Inc.
215 West Church Road
Suite 301
King of Prussia, PA 19406-3207

RE: Geophysical Surveys (Project Name, CVS Brick)
2545 Hooper Ave. Site
Brick, New Jersey
Area 1: Southern Side of Building
Area 2: Eastern Side of Building
Area 3: Northeastern Side of the Building

Dear Ken:

This letter report represents the findings of the geophysical surveys conducted at the above referenced areas. The location of the geophysical survey areas were determined by a representative of RT Environmental Services, Inc. (RT). Figure 1 – Figure Key shows the general location of geophysical survey Areas 1, 2, and 3.

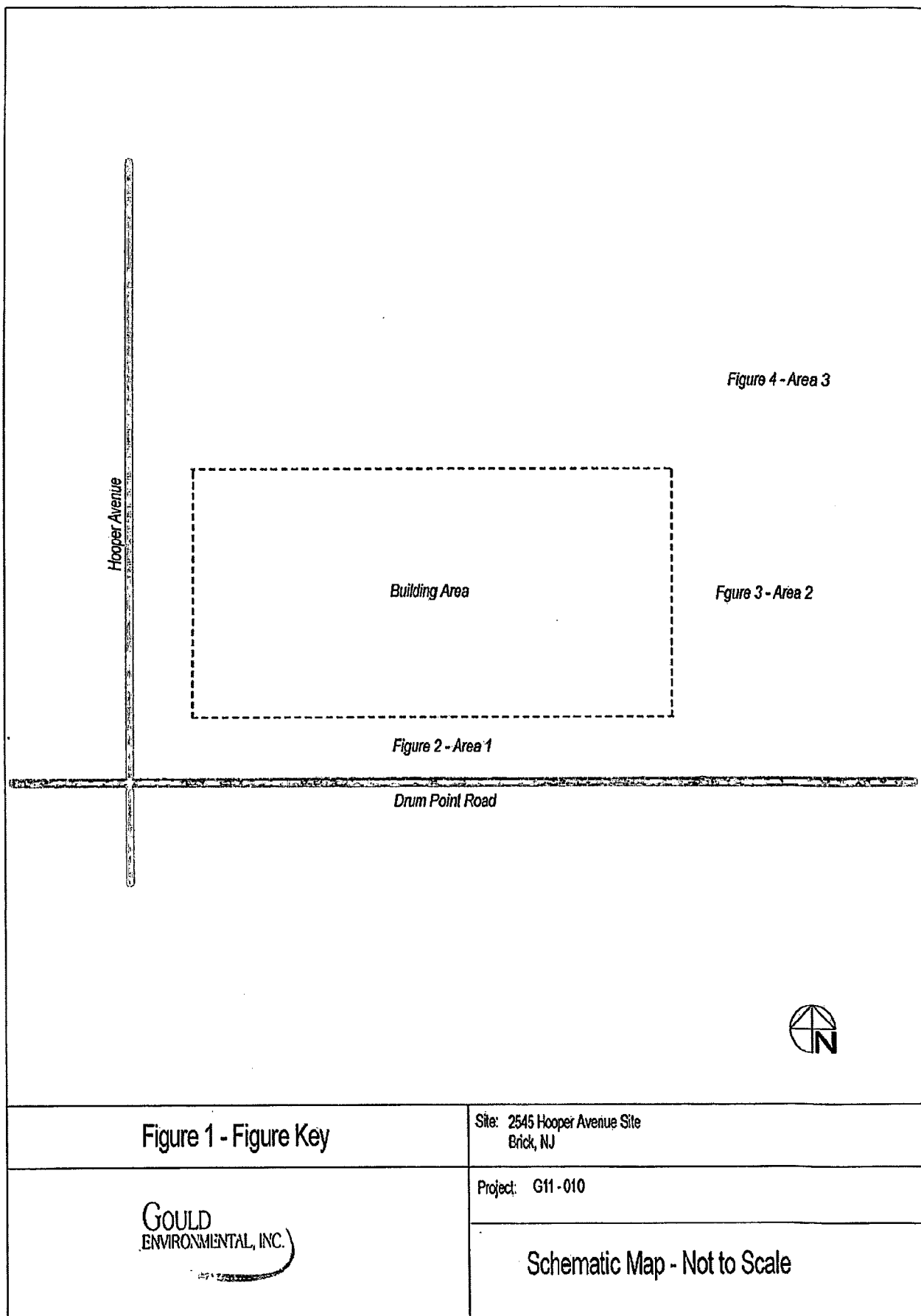
GEOPHYSICAL SURVEYS

The purpose of the geophysical surveys was to attempt to evaluate subsurface conditions for possible targets that may represent underground storage tanks (USTs) and a septic tank. The location of the geophysical survey areas and the location of the ground penetrating radar (GPR) survey lines were discussed with RT prior to collecting the geophysical data.

Gould utilized a GSSI 400 MHz GPR antenna with a SIR-3000 control unit to non-destructively survey each area. In addition, a Fisher TW-6 meter was used to scan the more significant GPR anomalous areas in each survey area, for audible tones, that may represent the presence of conductive type material.

Physical Inspections and Survey Areas

Prior to conducting the geophysical surveys, Gould visually inspected the survey areas and setup field reference markers using a tape measure, chalk and white spray paint, when needed.



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June 9, 2011
Mr. Kenneth E. Eden, CHMM
Gould Reference No.: G11-010
RT Project No.: 5144-02
RT Purchase Order No.: 5144-02-02

Area 1: Southern Side of Building

Physical Inspection

In general, Area 1 contains a landscaped area and concrete sidewalk.

Survey Area

GPR data (profiles) were collected at 5-foot grid spacing. No GPR data (profiles) were collected beneath the trees and within the landscaped areas (garden areas, which contained bushes, etc.).

Area 2: Eastern Side of Building

Physical Inspection

In general, Area 2 contains an asphalt paved surface, landscaped area along the building, concrete access ramp, stone steps, vent pipe (adjacent to building), sewer vent pipe (adjacent to building), natural gas meter, circular type structure in the asphalt located near the concrete access ramp, and brass cap (in the asphalt near the building).

Survey Area

GPR data (profiles) were collected at 5-foot grid spacing.

Area 3: Northeastern Side of the Building

Physical Inspection

In general, Area 3 consists of an asphalt paved surface. A possible borehole location was also located in this survey area.

Survey Area

GPR data (profiles) were collected at 5-foot grid spacing.

GPR and TW-6 Results

Below is a listing of the interpreted GPR and TW-6 results for each geophysical survey area. The GPR survey profiles were recorded and interpreted in the field and in the office. The TW-6 results are audible sounds, which were manually recorded. The TW-6 results are included in the general interpretation of each anomalous area shown on each figure.

Page 3
June 9, 2011
Mr. Kenneth E. Eden, CHMM
Gould Reference No.: G11-010
RT Project No.: 5144-02
RT Purchase Order No.: 5144-02-02

Area 1: Southern Side of Building

GPR and TW-6 Survey

Twenty-three (23) GPR profiles were recorded over the site area. Based on Gould's interpretation of the GPR profiles and the TW-6 audible information, two (2) anomalous areas were identified. The descriptions of the anomalous areas are listed below.

- Anomalous area (e.g., possible linear along the inner concrete sidewalk area).
- Anomalous area showing unknown targets (e.g., possible geologic layers, pipes, etc.)

Two (2) TW-6 audible tone locations were identified in this survey area, origins unknown.

See Figure 2 -- Significant Anomalous Areas/Features for Area 1. Attached are photographs of Area 1.

Area 2: Eastern Side of Building

GPR and TW-6 Survey

Twenty-eight (28) GPR profiles were recorded over the site area. Based on Gould's interpretation of the GPR profiles and TW-6 audible information, four (4) anomalous areas were identified. The descriptions of the anomalous areas are listed below.

- Anomalous area showing a possible manhole cover, cylindrical type structure, and unknown targets (e.g., piping, etc.)
- Anomalous area showing linear type features (e.g., piping, utilities, etc.), and unknown targets (e.g., possible pipes, geology, etc.).
- Anomalous area showing linear type features (e.g., piping utilities, etc.), unknown targets (e.g., possible pipes, geology, etc.), and subsurface disturbance.
- Anomalous area showing subsurface disturbance and unknown targets (e.g., possible pipes, geology, etc.).

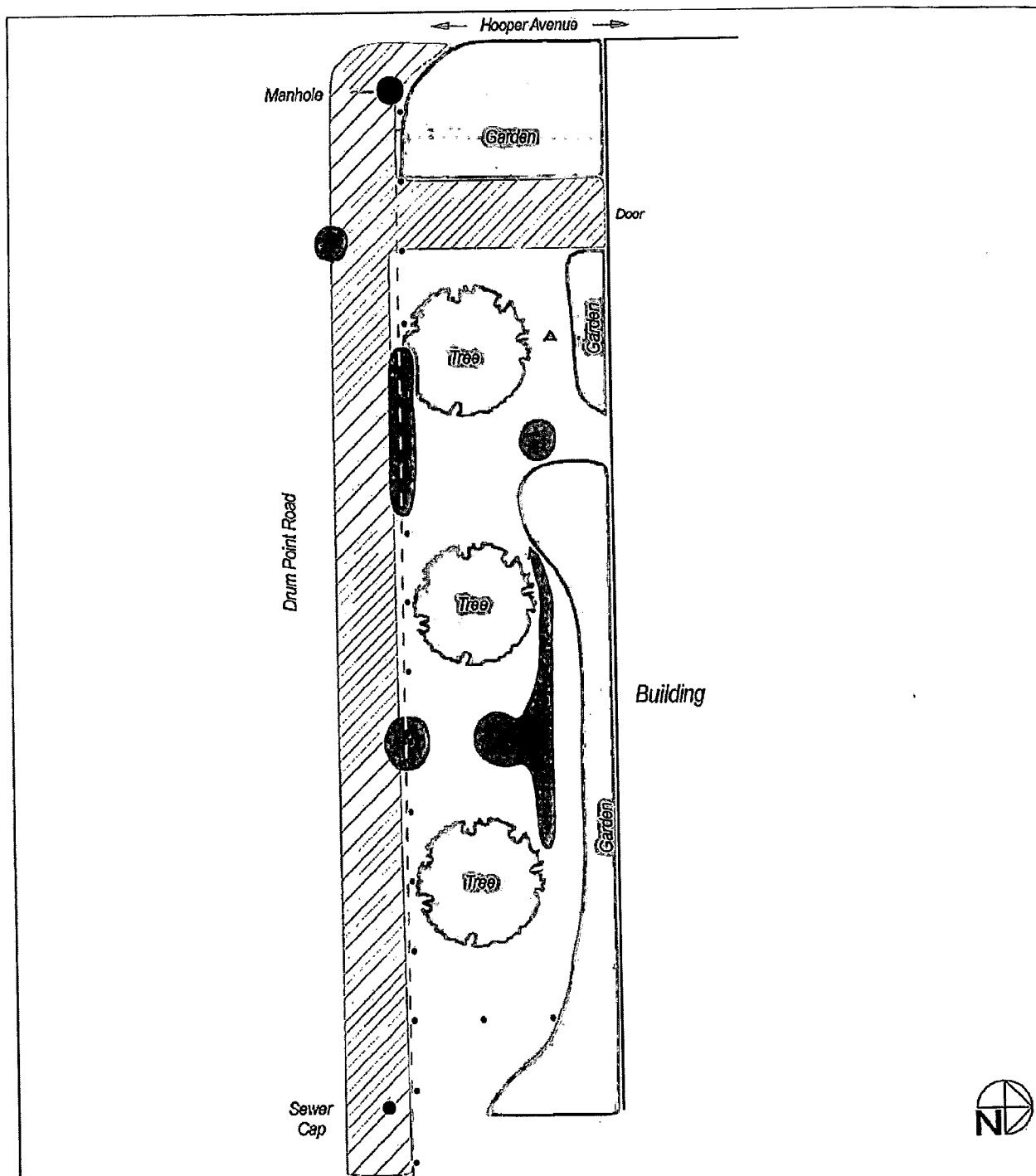
Nine (9) TW-6 audible tone locations were identified. Some of the audible tones may represent a manhole cover, possible cylindrical tank type structure, linear features, and unknowns.

See Figure 3 -- Significant Anomalous Areas/Features for Area 2. Attached are photographs of Area 2.

Area 3: Northeastern Side of Building

GPR and TW-6 Survey

Nineteen (19) GPR profiles were recorded over this area. Based on Gould's interpretation of the GPR profiles and TW-6 audible information, one (1) anomalous area was identified. The description of the anomalous area is listed below.



General Interpretation Legend

- Survey Reference Point
- ▲ TW-6 Audible tone location.
- - - Anomalous area (e.g. possible linear along the inner concrete sidewalk area).
- Anomalous area showing unknown targets (e.g. possible geologic layers, pipes, etc.).

DISCLAIMER:

- 1) The items shown on this figure are based on the interpretation of the geophysical data and physical inspection.
- 2) Ground truthing should be conducted to verify the anomalous areas, linear features, etc.
- 3) The reference markers shown on this map were not surveyed and should be considered approximate.
- 4) The anomalous areas/linear features may not be all inclusive. Gould does not warrant the fact that additional buried features/utilities may be present, which could not be identified by Gould during this survey.

Figure 2 - Area 1 Significant Anomalous Areas / Features

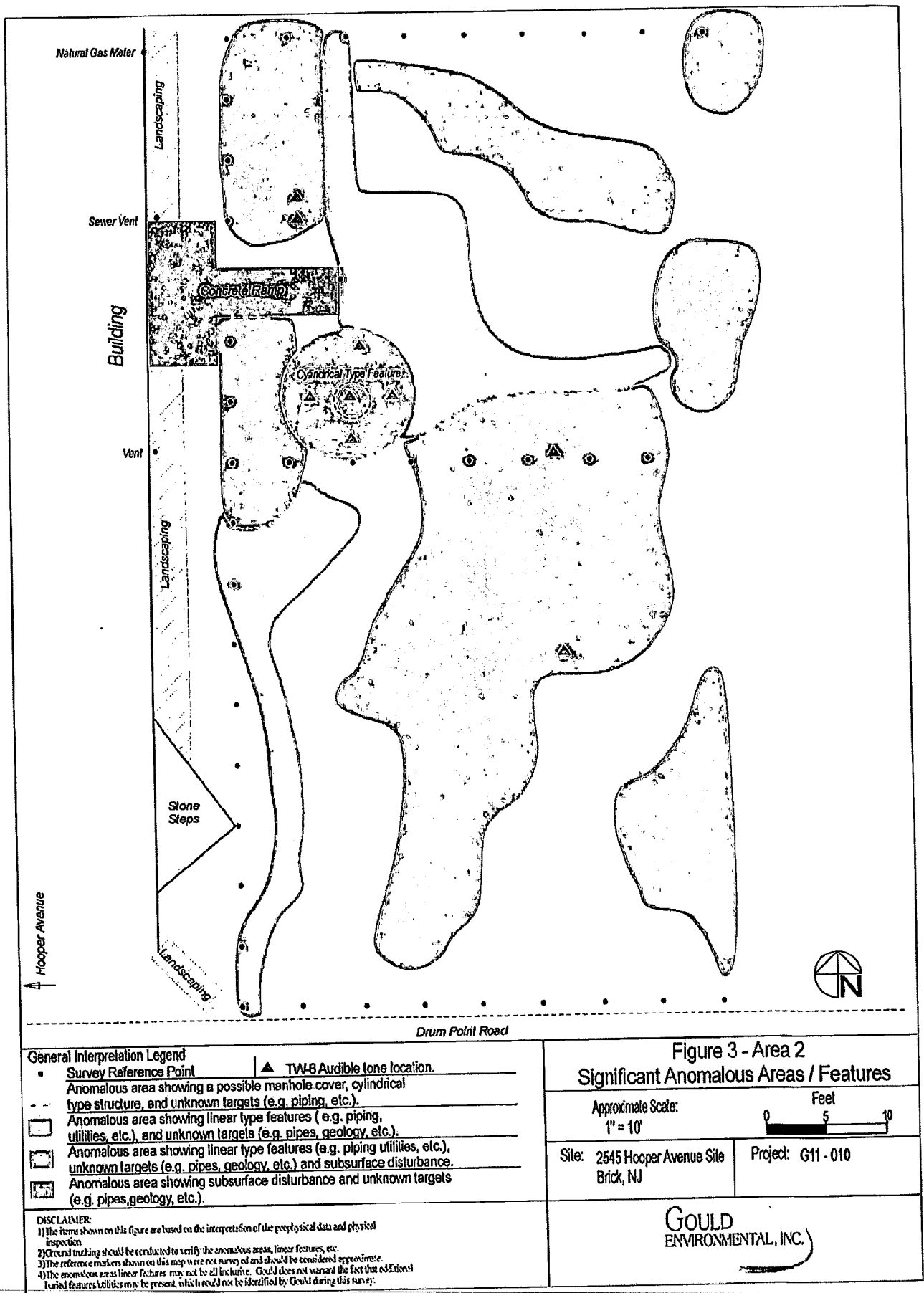
Approximate Scale: Feet
1" = 10'



Site: 2545 Hooper Avenue Site.
Brick, NJ

Project: G11-010

GOULD
ENVIRONMENTAL, INC.



Page 4
June 9, 2011
Mr. Kenneth E. Eden, CHMM
Gould Reference No.: G11-010
RT Project No.: 5144-02
RT Purchase Order No.: 5144-02-02

- Anomalous area showing unknown targets (e.g., possible linear features, geology, etc.).

Two (2) TW-6 audible tone locations were identified in this survey area, origins unknown.

In addition, the GPR profiles identified a shallow more dense layer beneath most the survey area.

See Figure 4 – Significant Anomalous Areas/Features for Area 3. Attached are photographs of Area 3.

Limitations

The geophysical survey information generated was used to attempt to evaluate subsurface conditions beneath each surveyed area, to help locate subsurface targets (e.g., USTs, etc.). There is no guarantee that all and/or any targets were identified beneath each survey area using the geophysical equipment identified above.

To the extent that the work efforts require judgment, there can be no assurance that fully definitive or desired results were obtained, or if any results were obtained, that they will be supportive of any given course of action and/or interpretation. The services may include the application of judgment to scientific principles; to that extent certain results of this work may be based on subjective interpretation.

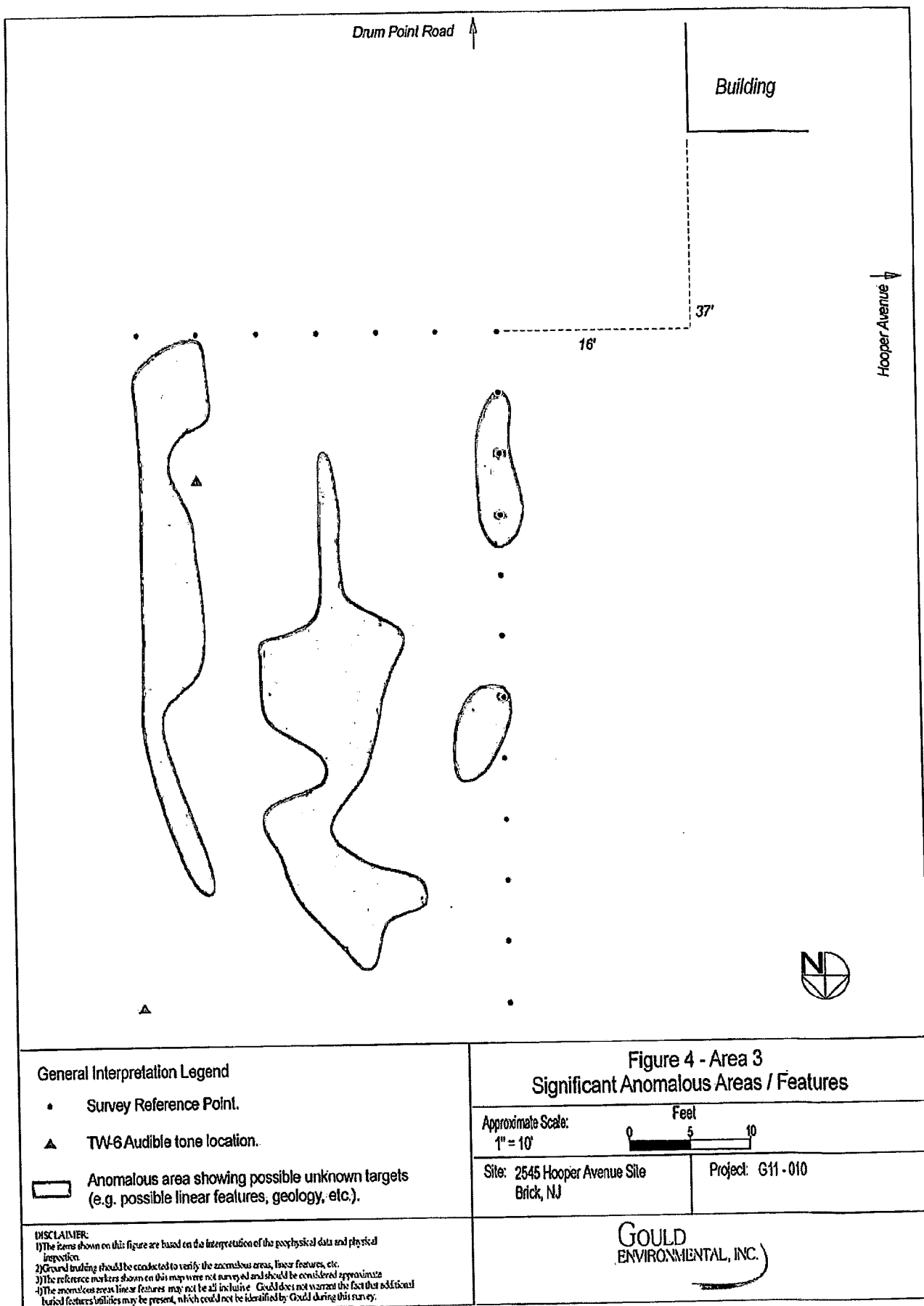
It is important to note that the only way to determine the exact location, depth of a target, and the type of target or type of subsurface features within an anomalous area/zone is to ground truth (e.g., dig, etc.) the area, target or feature.

If you have questions concerning this letter report, please feel free to call us at 215-295-2400.
Thank you.

Sincerely,
Gould Environmental, Inc.


Drew A. Gould, P.G.
President

DAG





Photograph 1: View of the geophysical survey Area 1.



Photograph 2: View of the geophysical survey Area 1.



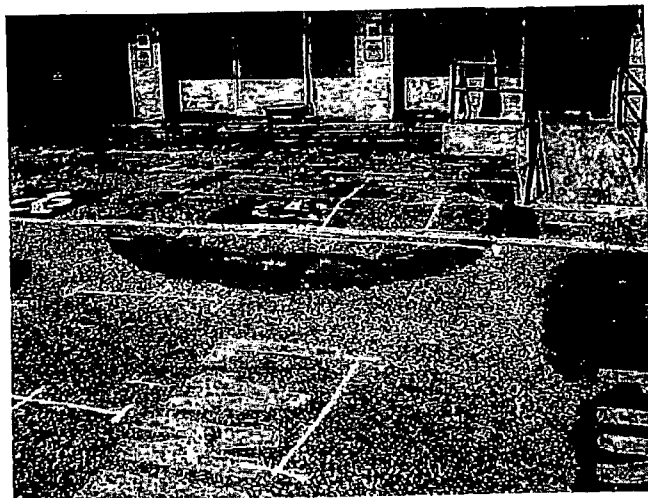
Photograph 3: View of the geophysical survey Area 1.



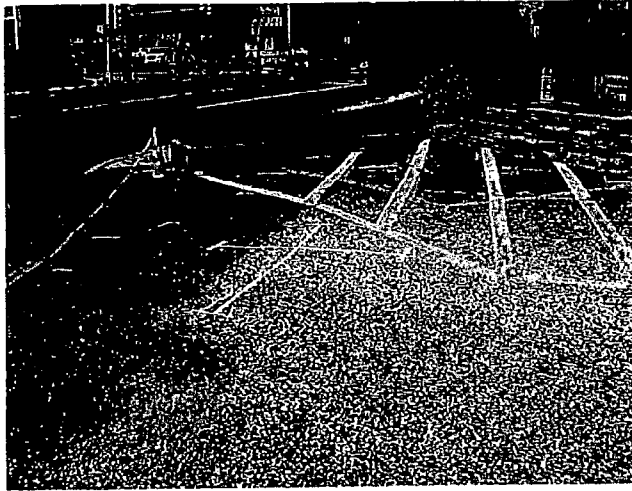
Photograph 4: View of the geophysical survey Area 1.



Photograph 5: View of the geophysical survey Area 1.



Photograph 6: View of the geophysical survey Area 2.



Photograph 7: View of the geophysical survey Area 2.



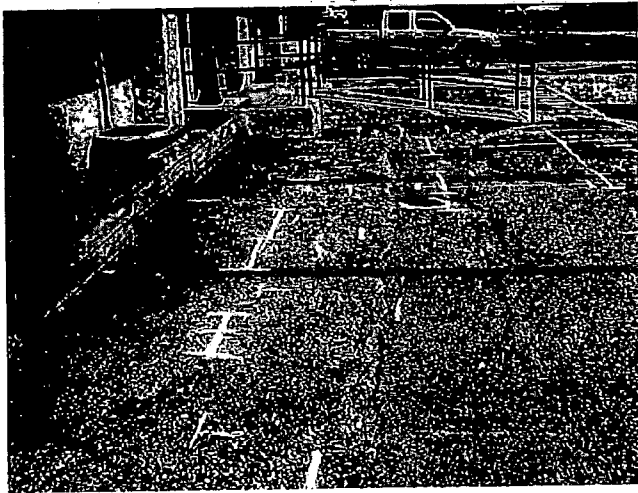
Photograph 8: View of the geophysical survey Area 2.



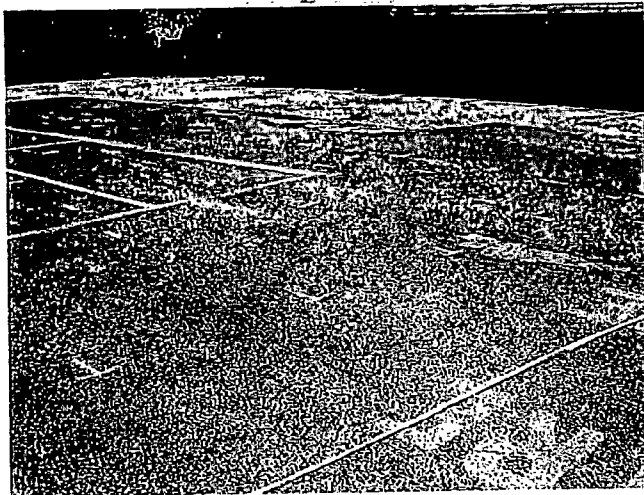
Photograph 9: View of the geophysical survey Area 2.



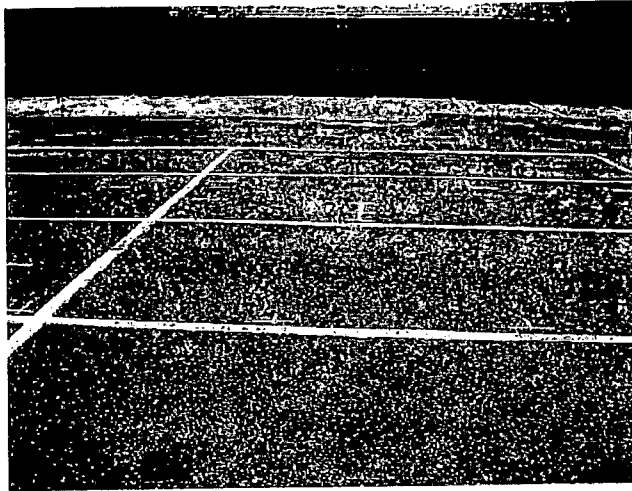
Photograph 10: View of the geophysical
survey Area 2.



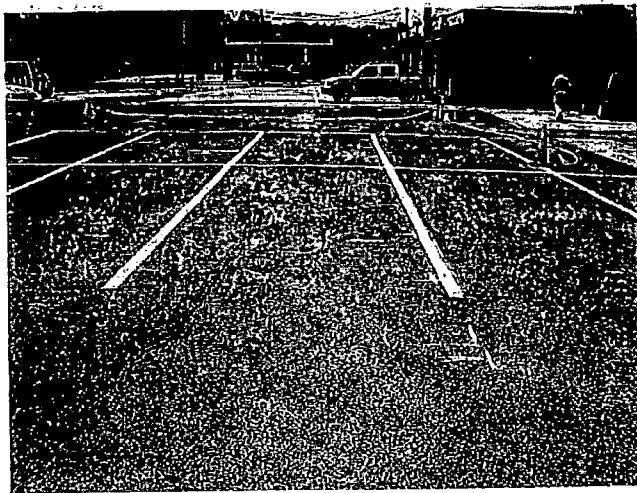
Photograph 11: View of the geophysical
survey Area 2.



Photograph 12: View of the geophysical
survey Area 3.



Photograph 13: View of the geophysical survey Area 3.



Photograph 14: View of the geophysical survey Area 3.

ATTACHMENT 2
RT FIELD LOGS

RT ENVIRONMENTAL SERVICES, INC.
FIELD ACTIVITY LOG

JRL, File

Client: <u>CVS-Brick</u>	Project # <u>05744-03</u>	Initials: <u>KSE</u>
Job Location: <u>Brick, NJ</u>	Date: <u>6/1/11</u>	Weather: <u>P. Cloudy, Humid, 80s</u>
Site Address: <u>2545 Hooper Ave</u>		
Equipment: <u>GPR</u>		
Equipment Calibration: Model:		
PID: Gas/Lot#:	Gas ppm=	Instrument ppm=
H & S: Hospital Name: <u>Ocean Medical Center</u>		
Location: <u>425 Jack Martin Blvd., Brick, NJ</u>		Number: <u>732-840-2200</u>
Police: <u>911</u>	Number:	
Explosive Atmosphere/Conditions:	Yes	<u>No</u>
Utility Clearance	Client Approval:	
Serial #	(On-Site Utilities)	Name Date/Time
Drums on Site: <u>No</u>	Yes	Soil Pile: <u>No</u> Yes/Size
FIELD ACTIVITY: <u>GPR Survey</u>		
0800 KSE(RT) on site and Drew Gould, Gould Environmental on site. Setting up GPR survey areas on East Northeast and South Side of Building trying to determine ^{possible} septic and UST locations.		
East Side Area (in Driveway) : ~ 40' x 80'		
North East Side Area (in Parking Lot) : 30' x 55'		
South Side Area (in front of Bldg.) : 75' x 15'		
0900 Starting w/ East Side Survey		
• Possibly 6 Areas to Investigate further with Geoprobe. Septic Tank poss.		
1040 Completed East Side Area Survey. Preparing to Survey Northeast Side Area (in Parking Lot.)		
1145 Northeast Side Area Complete.		
• Possibly 1 Area to Investigate further w/ Geoprobe		
1220 Setting up Grid in Front of Bldg.		
• Possibly 2 Areas to investigate.		
1350 GPR survey completed. Field observations did not indicate any USTs. However septic tank area may be found on east side of Bldg.		
1355 KSE and Drew Gould depart site.		
1540 Return to office		
Comments:		

Signature: _____

Ken S. Eder

Page 1 of 1

JPL File

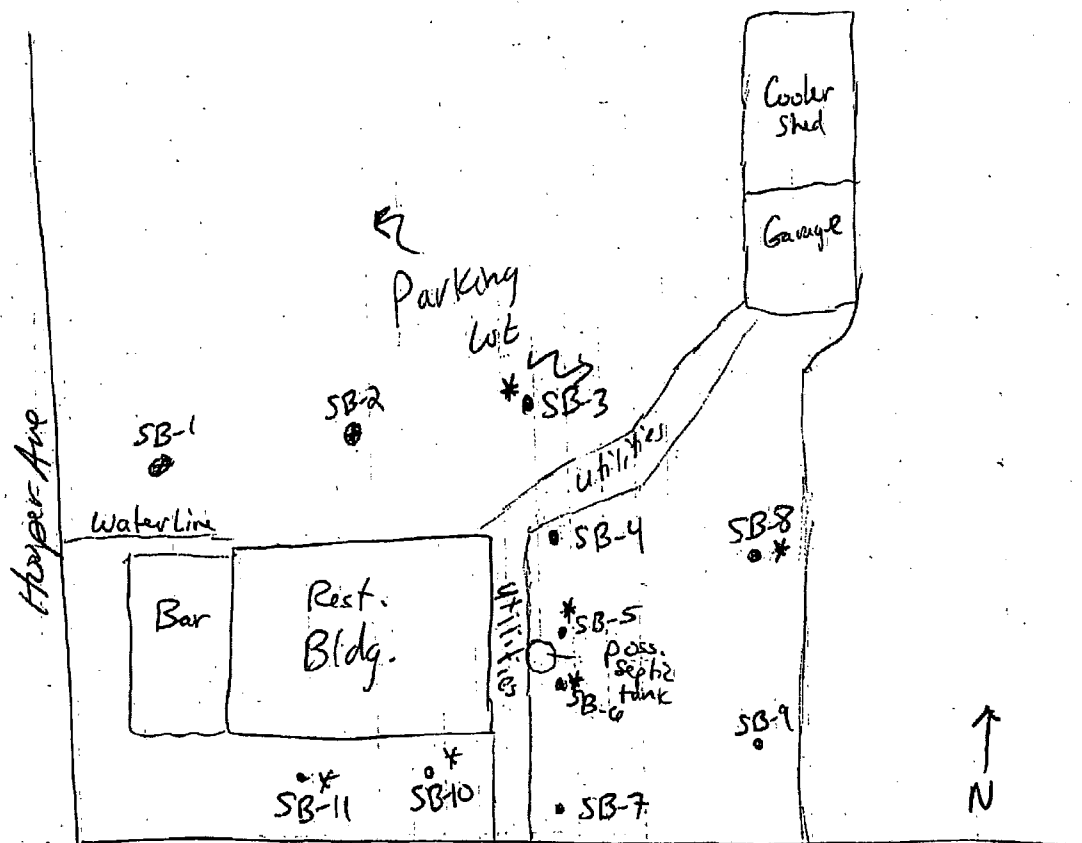
Signature: Kim S. Egan

CHAIN OF CUSTODY REPORT

1008 W. Ninth Avenue
King of Prussia, PA 19406
(610) 337-9992
FAX (610) 337-9939

[illegible]

CUS - Brick, NJ Geoprobe
6/3/11



Drum Pt. Rd (NOT to Scale)

* Samples Collected

RT ENVIRONMENTAL
SOIL BORING LOG

Proj. #: 5144-03		Proj. Name: CVS - Back				
Boring #: SB-1		Elevation:		Geologist: KSF		
Permit #:		Method: Geoprobe		Driller: P. Fern's		
Start Date: 6/3/11		End Date:		Page 1 of 1		
Depth (ft)	Sample Type & #	Blows (Per 6")	Recovery (In)	Description	USCS	Remarks
1		PID (PPM)		(0-4) 2" Asphalt then yellowish-brown fine sand (SW), moist	SW	
2		0.0		No odors		
3						
4						
5				(4-8) Same as above, some med. sand, moist. No odor	SW/SP	
6		0.0				
7						
8						
9				(8-12) Reddish brown fine sand, wet @ 11.5 ft. logs, No odor.	SW	
10		0.0		End of Boring @ 12'		
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

RT ENVIRONMENTAL
SOIL BORING LOG

Proj. #: 5144-03		Proj. Name: CUS-Brick	
Boring #: SB-2		Elevation:	Geologist: K. Eden
Permit #:		Method: Geoprobe	Driller: P. Ferri
Start Date: 6/3/11		End Date:	
Page 1 of 1			

Depth (ft)	Sample Type & #	Blows (25cc)	Recovery (in)	Description	USCS	Remarks
1		P10		(0-4) 2" Asphalt, Grayish brown f. sand w/ some gravel, moist, No odor to 2.0 ft then yellowish brown f. sand, moist, no odor	SW	
2		0.0				
3						
4				(4-8) Yellowish brown fine sand, moist, No odor	SW	
5		0.0				
6						
7						
8						
9		0.0		(8-12) Brown to reddish brown f-m. sand, moist to wet @ 11.5', No odors	SW/sp	
10						
11						
12				End of Boring @ 12.0' bgs		
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

RT ENVIRONMENTAL
SOIL BORING LOG

Proj. #: 5744-03		Proj. Name: CVS-Brick		Geologist: KSE	
Boring #: SB-3		Elevation:		Driller: P. Ferris	
Permit #:		Method: Geoprobe		Page 1 of 1	
Start Date: 6/3/11		End Date:			

Depth (ft)	Sample Type & #	Blows (Per ft)	Recovery (in)	Description	USCS	Remarks
1		PO		(0-2) Dark Gray silty sand, crushed rock, fill. No odor	Fill	
2		0.0		(2-4) Yellowish brown, f. sand, moist, no odor	SW	
3						
4						
5		0.0		(4-8) Same as above, some m. sand, moist, no odor	SW/SP	
6						
7						
8						
9						
10				(8-12) Yellowish brown fine sand to 10' then reddish brown f.-m. sand, wet @ 11.5'	SW/SP	
11	SB-3/11/0					
12	0950			End of Boring @ 12.0'		
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

**RT ENVIRONMENTAL
SOIL BORING LOG**

Proj. #: 5144-03		Proj. Name: CVS-Brick		Geologist: KSE	
Boring #: SB-4		Elevation:		Driller: P. Ferris	
Permit #:		Method: Geoprobe		Page: 1 of 1	
Start Date: 6/3/11		End Date:			

Depth (ft)	Sample Type & #	Blows (Pen-63)	Recovery (in)	Description	USCS	Remarks
1		AP		(0-4) Asphalt	SW	
2		0.0		Dark gray to brown f. sand w/ some gravel. to 2 ft. Then yellowish brown f. sand, moist NO odor		
3						
4						
5				(4-8) Yellowish brown, f. sand, Moist, no odor, some m. sand	SW/sp	
6		0.0				
7						
8				(8-12) Reddish brown f. sand. wet @ 11.5', NO odors	SW	
9						
10		0.0				
11				End of boring @ 12' bgs		
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

**RT ENVIRONMENTAL
SOIL BORING LOG**

Proj. #: 5744-03		Proj. Name: CVS-Brick		Geologist: KSE	
Boring #: SB-5		Elevation:		Driller: Pat Fernis	
Permit #:		Method: Geoprobe		Page 1 of 1	
Start Date: 6/3/11		End Date:			

Depth (ft)	Sample Type & #	Blows (Pen)	Recovery (in)	Description	USCS	Remarks
1		P10		(0-4) Asphalt, then yellowish brown, f. sand, moist, no odors	SW	
2		0.0				
3						
4				(4-8) Yellowish brown f. sand, moist, No odor	SW	
5						
6		0.0				
7						
8				(8-12) Same as above to 10'		
9				Then reddish brown f.-m. Sand, wet @ 11.5'	SW/Sp	
10		0.0				
11	SB-5/11' 1040			End of Boring @ 12.0'		
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

RT ENVIRONMENTAL SOIL BORING LOG						
Proj. #: 544-03		Proj. Name CUS- Brick				
Boring #: SB-6		Elevation:			Geologist: KSE	
Permit #:		Method: Geoprobe			Driller: P. Fern's	
Start Date: 6/3/11		End Date:			Page 1 of 1	
Depth (ft)	Sample Type & #	Blows (Per ft)	Recovery (in)	Description	USCS	Remarks
1		P10		(0-4) ^{Asphalt} DK. gray to brown f. sand	SW	
2		0.0		then yellowish brown f. sand, moist, No odors		
3						
4				(4-8) yellowish brown f. sand	SW	
5		0.0		No odors, moist.		
6						
7						
8				(8-12) Same as above, wet		
9				@ 11.5'		
10						
11	SB-6/11	0.0				
12	11.5			End of Boring @ 12.0'		
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

RT ENVIRONMENTAL
SOIL BORING LOG

Proj. #: 5144-03		Proj. Name: CVS-Brick	
Boring #: SB-7		Elevation:	Geologist: KSE
Permit #:		Method: Geoprobe	Driller: P. Ferris
Start Date: 6/3/11		End Date:	Page 1 of 1

Depth (ft)	Sample Type & #	Blows (Per ft)	Recovery (in)	Description	USCS	Remarks
1		10		0-4 Asphalt then brown to yellowish brown f.-m. sand, moist, no odors	sw/sp	
2		0.0				
3						
4				(4-8) Yellowish brown f. sand, some med. sand, moist, no odors	sw	
5		0.0				
6						
7						
8				(8-12) Same as above. wet @ 11.5'. No odors	sw	
9						
10		0.0				
11						
12				End of Boring @ 12.0'		
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

RT ENVIRONMENTAL SOIL BORING LOG						
Proj. #: 5144-03		Proj. Name CVS - Brick				
Boring #: SB-8		Elevation:			Geologist: KSE	
Permit #:		Method: Geoprobe			Driller: P. Ferris	
Start Date: 6/3/11		End Date:			Page 1 of 1	
Depth (ft)	Sample Type & #	Blows (Per ft)	Recovery (in)	Description	USCS	Remarks
1		PO		(0-4) Gray to brown f. sand then yellowish brown f. sand some m. sand, moist No Odors	SW	
2		0.0				
3						
4						
5				(4-8) Same as above.	SW	
6						
7						
8		0.0				
9				(8-12) Same as above, int @ 11.5	SW	
10						
11						
12		0.0				
13				End of Boring @ 12.0'		
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

Proj: 5144-03
SB-9
6/3/11

CUS Brk
Geoprobe

KSE
Patterns

Depth	Sample	P.I.D.	Description	USCS
1		0.0	(0-4) Gray to yellowish	SW/sp
2			brown f.-m. sand,	
3			moist, no odors	
4		0.0	(4-8) Yellowish brown	
5			fine to reddish brown	SW
6			sand, moist, no odors	
7		0.0	(8-12) Same as above	
8			to 10', grades to	SW/sp.
9			reddish brown f.-m.	
10			sand, wet @ 11' bgs	
11				
12			End of Boring @ 12.0'	

Proj. # 5144-03
SB-10
6/3/4

CUS-Brick
Geoprobe

KSE
P. Ferris

Depth	Sample	PID	Desc.	Same as SB-9	USCS
1		0.0	(0-4) Gray to Yellowish Brown f. m. sand moist, no odors		sw/sp
2					
3					
4		0.0	(4-8) Yellowish brown fine sand to reddish brown f. sand, moist, no odors		sw
5					
6					
7					
8		0.0	(8-12) Same as above to 10.0' then reddish brown f. m. sand, wet @ 11.0', no water @ 11.0' odors		sw/sp
9					
10	SB-10/10' 1245				
11					
12			End of Boring 12' bgs		

5144-03
SB-11
6/3/11

CUS-Brick
Geoprobe

KSE
PFWIS

<u>Depth</u>	<u>Sample</u>	<u>PID</u>	<u>DESC.</u>	<u>USCS</u>
1		0.0	(0-4) ^{Same 10} Gray to yellowish brown f-m sand, moist No odors	SW/SP
2				
3				
4		0.0	(4-8) yellowish brown f. sand to reddish brown f. sand sand, moist, No odors	SW
5				
6				
7				
8		0.0	(8-12) Same as above to 10' thin reddish brown f-m. sand, No odors	SW/SP.
9				
10	SB-11/10		Water @ 11.6	
11	1315			
12			End of Boring @ 12.0'	

ATTACHMENT 3
LABORATORY ANALYTICAL REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica King Of Prussia
1008 West Ninth Avenue
King of Prussia, PA 19406
Tel: 610.337.9992

TestAmerica Job ID: KUF0110
Client Project/Site: 5144-03
Client Project Description: CVS - Brick

For:
RT ENVIRONMENTAL
215 West Church Road
King of Prussia, PA 19406

Attn: Justin Lauterbach

Jill Miller

Authorized for release by:
06/14/2011 02:33:56 PM

Jill Miller
Project Manager
jill.miller@testamericainc.com

LINKS

Review your project
results through

Total Access

Have a Question?

Ask
The
Expert

Visit us at:

www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Sample Summary

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110



Lab Sample ID	Client Sample ID	Matrix	Collected	Received
KUF0110-01	SB-3/11'	Soil	06/03/11 09:50	06/03/11 15:45
KUF0110-02	SB-5/11'	Soil	06/03/11 10:40	06/03/11 15:45
KUF0110-03	SB-6/11'	Soil	06/03/11 11:15	06/03/11 15:45
KUF0110-04	SB-8/11'	Soil	06/03/11 11:40	06/03/11 15:45
KUF0110-05	SB-10/10'	Soil	06/03/11 12:45	06/03/11 15:45
KUF0110-06	SB-11/10'	Soil	06/03/11 13:15	06/03/11 15:45



Definitions/Glossary

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

1

Qualifiers

Metals

Qualifier	Qualifier Description
B3	Target analyte detected in calibration blank at or above the method reporting limit.
C8	Calibration Verification recovery was above the method control limit for this analyte. A high bias may be indicated.

Semivolatiles, 8270

Qualifier	Qualifier Description
A-01	PRLM results. QC needed.
C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☐	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

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Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

1

Client Sample ID: SB-3/11'

Lab Sample ID: KUF0110-01

Date Collected: 06/03/11 09:50

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 89.1

4

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 5035/8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
1,3,5-Trimethylbenzene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98.8		83 - 122				06/07/11 09:00	06/07/11 15:32	1.0

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Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
1,1,2,2-Tetrachloroethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
1,1,2-Trichloroethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
1,1-Dichloroethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
1,1-Dichloroethene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
1,2-Dichloroethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
1,2-Dichloropropane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
2-Butanone	ND		0.068		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
2-Hexanone	ND		0.0068		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
4-Methyl-2-pentanone	ND		0.0068		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Acetone	ND		0.068		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Benzene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Bromodichloromethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Bromoform	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Bromomethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Carbon disulfide	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Carbon tetrachloride	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Chlorobenzene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Chlorodibromomethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Chloroethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Chloroform	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Chloromethane	ND		0.0068		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
cis-1,2-Dichloroethene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
cis-1,3-Dichloropropene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Ethylbenzene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Isopropylbenzene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Methyl tert-butyl ether	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Methylene chloride	ND		0.0055		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Styrene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Tetrachloroethene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Toluene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
trans-1,2-Dichloroethene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
trans-1,3-Dichloropropene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Trichloroethene	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Trichlorofluoromethane	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Vinyl chloride	ND		0.0027		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Xylenes (total)	ND		0.0082		mg/kg dry	☒	06/07/11 09:00	06/07/11 15:32	1.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane	105		85 - 122				06/07/11 09:00	06/07/11 15:32	1.0
1,2-Dichloroethane-d4	121		85 - 130				06/07/11 09:00	06/07/11 15:32	1.0
Toluene-d8	97.6		88 - 111				06/07/11 09:00	06/07/11 15:32	1.0
Toluene-d8	97.6		88 - 111				06/07/11 09:00	06/07/11 15:32	1.0

TestAmerica King Of Prussia

06/14/2011

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

Client Sample ID: SB-3/11'

Lab Sample ID: KUF0110-01

Date Collected: 06/03/11 09:50

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 89.1

1
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Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98.6		83 - 122	06/07/11 09:00	06/07/11 15:32	1.0

Method: EPA 6010B - Total Metals by EPA 6000/7000 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		mg/kg dry	☒	06/08/11 14:35	06/08/11 10:54	2.0

Client Sample ID: SB-5/11'

Lab Sample ID: KUF0110-02

Date Collected: 06/03/11 10:40

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 87.8

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 5035/8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,3,5-Trimethylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97.4		83 - 122				06/07/11 09:00	06/07/11 16:03	1.0

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,1,2,2-Tetrachloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,1,2-Trichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,1-Dichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,1-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,2,3-Trichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,2,4-Trichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,2-Dibromo-3-chloropropane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,2-Dibromoethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,2-Dichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,2-Dichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,2-Dichloropropane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,3-Dichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
1,4-Dichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
2-Butanone	ND		0.065		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
2-Hexanone	ND		0.0065		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
4-Methyl-2-pentanone	ND		0.0065		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Acetone	ND		0.065		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Benzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Bromochloromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Bromodichloromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Bromoform	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Bromomethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Carbon disulfide	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Carbon tetrachloride	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Chlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Chlorodibromomethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Chloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Chloroform	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0

TestAmerica King Of Prussia

06/14/2011

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

1

Client Sample ID: SB-5/11'

Lab Sample ID: KUF0110-02

Date Collected: 06/03/11 10:40

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 87.8

2

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Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.0065		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
cis-1,2-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
cis-1,3-Dichloropropene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Cyclohexane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Cyclohexane, methyl	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Dichlorodifluoromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Ethylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Isopropylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Isopropylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
m,p-Xylene	ND		0.0052		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Methyl acetate	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Methyl tert-butyl ether	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Methylene chloride	ND		0.0052		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
o-Xylene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Styrene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Tetrachloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Toluene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
trans-1,2-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
trans-1,3-Dichloropropene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Trichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Trichlorofluoromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Vinyl chloride	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0
Xylenes (total)	ND		0.0077		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:03	1.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	103		85 - 122	06/07/11 09:00	06/07/11 16:03	1.0
1,2-Dichloroethane-d4	113		85 - 130	06/07/11 09:00	06/07/11 16:03	1.0
Toluene-d8	99.2		88 - 111	06/07/11 09:00	06/07/11 16:03	1.0
Toluene-d8	99.2		88 - 111	06/07/11 09:00	06/07/11 16:03	1.0
4-Bromofluorobenzene	97.4		83 - 122	06/07/11 09:00	06/07/11 16:03	1.0

Method: EPA 6010B - Total Metals by EPA 6000/7000 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	380		50		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Antimony	ND		10		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Arsenic	ND		2.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Barium	ND		1.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Beryllium	ND		0.40		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Cadmium	ND		2.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Calcium	ND		25		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Chromium	ND		5.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Cobalt	ND		2.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Copper	ND		2.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Iron	3400	B3 C8	10		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Lead	ND		2.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Magnesium	ND		25		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Manganese	1.5		1.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Nickel	ND		5.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Potassium	ND		1000		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Selenium	ND		8.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0
Silver	ND		2.0		mg/kg dry	☒	06/06/11 09:23	06/07/11 16:52	2.0

TestAmerica King Of Prussia

06/14/2011

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

1

Client Sample ID: SB-5/11'

Lab Sample ID: KUF0110-02

Date Collected: 06/03/11 10:40

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 87.8

2

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Method: EPA 6010B - Total Metals by EPA 6000/7000 Series Methods (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		80		mg/kg dry	✖	06/08/11 09:23	06/07/11 16:52	2.0
Thallium	ND		2.0		mg/kg dry	✖	06/06/11 09:23	06/07/11 16:52	2.0
Vanadium	5.8		2.5		mg/kg dry	✖	06/06/11 09:23	06/07/11 16:52	2.0
Zinc	ND		5.0		mg/kg dry	✖	06/06/11 09:23	06/07/11 16:52	2.0

Method: EPA 7471A - Total Metals by EPA 6000/7000 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100		mg/kg dry	✖	06/07/11 13:42	06/08/11 07:51	1.00

Method: EPA 8270C - Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
1,2-Dichlorobenzene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
1,3-Dichlorobenzene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
1,4-Dichlorobenzene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2,4,5-Trichlorophenol	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2,4,6-Trichlorophenol	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2,4-Dichlorophenol	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2,4-Dimethylphenol	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2,4-Dinitrophenol	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2,4-Dinitrotoluene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2,6-Dinitrotoluene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2-Chloronaphthalene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2-Chlorophenol	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2-Methylnaphthalene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2-Methylphenol	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2-Nitroaniline	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
2-Nitrophenol	ND	A-01 C	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
3&4-Methylphenol	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
3,3'-Dichlorobenzidine	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
3-Nitroaniline	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
4,6-Dinitro-2-methylphenol	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
4-Bromophenyl-phenyl ether	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
4-Chloro-3-methylphenol	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
4-Chloroaniline	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
4-Chlorophenyl phenyl ether	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
4-Nitroaniline	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
4-Nitrophenol	ND	A-01	0.50		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Acenaphthene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Acenaphthylene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Anthracene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Benzo (a) anthracene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Benzo (a) pyrene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Benzo (b) fluoranthene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Benzo (g,h,i) perylene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Benzo (k) fluoranthene	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Bis(2-chloroethoxy)methane	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Bis(2-chloroethyl)ether	ND	A-01	0.050		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Bis(2-chloroisopropyl)ether	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Bis(2-ethylhexyl)phthalate	ND	A-01	0.33		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0
Butyl benzyl phthalate	ND	A-01	0.10		mg/kg dry	✖	06/14/11 00:00	06/14/11 12:10	1.0

TestAmerica King Of Prussia

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

1

Client Sample ID: SB-5/11'

Lab Sample ID: KUF0110-02

Date Collected: 06/03/11 10:40

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 87.8

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Method: EPA 8270C - Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbazole	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Chrysene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Dibenz (a,h) anthracene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Dibenzofuran	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Diethyl phthalate	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Dimethyl phthalate	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Di-n-butyl phthalate	ND	A-01	0.33		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Di-n-octyl phthalate	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Fluoranthene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Fluorene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Hexachlorobenzene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Hexachlorobutadiene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Hexachlorocyclopentadiene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Hexachloroethane	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Indeno (1,2,3-cd) pyrene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Isophorone	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Naphthalene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Nitrobenzene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
N-Nitrosodi-n-propylamine	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
N-Nitrosodiphenylamine	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Pentachlorophenol	ND	A-01	0.50		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Phenanthrene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Phenol	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Pyrene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Atrazine	ND	A-01	0.20		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Biphenyl, 1,1-	ND	A-01	0.20		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Benzaldehyde	ND	A-01	0.20		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Acetophenone	ND	A-01	0.20		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0
Caprolactam	ND	A-01	0.20		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:10	1.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	79.1	A-01	36 - 111	06/14/11 00:00	06/14/11 12:10	1.0
Phenol-d6	78.4	A-01	48 - 106	06/14/11 00:00	06/14/11 12:10	1.0
Nitrobenzene-d5	86.5	A-01	47 - 106	06/14/11 00:00	06/14/11 12:10	1.0
2-Fluorobiphenyl	78.8	A-01	54 - 106	06/14/11 00:00	06/14/11 12:10	1.0
2,4,6-Tribromophenol	90.7	A-01	37 - 122	06/14/11 00:00	06/14/11 12:10	1.0
Terphenyl-d14	84.1	A-01	64 - 118	06/14/11 00:00	06/14/11 12:10	1.0

Client Sample ID: SB-6/11'

Lab Sample ID: KUF0110-03

Date Collected: 06/03/11 11:15

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 86.3

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 5035/8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.0026		mg/kg dry	☑	06/07/11 09:00	06/07/11 16:34	1.0
1,3,5-Trimethylbenzene	ND		0.0026		mg/kg dry	☑	06/07/11 09:00	06/07/11 16:34	1.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98.6		83 - 122	06/07/11 09:00	06/07/11 16:34	1.0

TestAmerica King Of Prussia

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110



Client Sample ID: SB-6/11'

Lab Sample ID: KUF0110-03

Date Collected: 06/03/11 11:15

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 86.3

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,1,2,2-Tetrachloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,1,2-Trichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,1-Dichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,1-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,2,3-Trichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,2,4-Trichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,2-Dibromo-3-chloropropane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,2-Dibromoethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,2-Dichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,2-Dichloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,2-Dichloropropane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,3-Dichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
1,4-Dichlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
2-Butanone	ND		0.066		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
2-Hexanone	ND		0.0066		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
4-Methyl-2-pentanone	ND		0.0066		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Acetone	ND		0.066		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Benzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Bromochloromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Bromodichloromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Bromoform	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Bromomethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Carbon disulfide	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Carbon tetrachloride	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Chlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Chlorodibromomethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Chloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Chloroform	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Chloromethane	ND		0.0066		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
cis-1,2-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
cis-1,3-Dichloropropene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Cyclohexane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Cyclohexane, methyl	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Dichlorodifluoromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Ethylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Isopropylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Isopropylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
m,p-Xylene	ND		0.0053		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Methyl acetate	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Methyl tert-butyl ether	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Methylene chloride	ND		0.0053		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
o-Xylene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Styrene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Tetrachloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Toluene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
trans-1,2-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
trans-1,3-Dichloropropene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0
Trichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 16:34	1.0

TestAmerica King Of Prussia

06/14/2011

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

1

Client Sample ID: SB-6/11*

Lab Sample ID: KUF0110-03

Date Collected: 06/03/11 11:15

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 86.3

2

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Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		0.0026		mg/kg dry	☑	06/07/11 09:00	06/07/11 16:34	1.0
Vinyl chloride	ND		0.0026		mg/kg dry	☑	06/07/11 09:00	06/07/11 16:34	1.0
Xylenes (total)	ND		0.0079		mg/kg dry	☑	06/07/11 09:00	06/07/11 16:34	1.0

Surrogate

	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane	108		85 - 122				06/07/11 09:00	06/07/11 16:34	1.0
1,2-Dichloroethane-d4	114		85 - 130				06/07/11 09:00	06/07/11 16:34	1.0
Toluene-d8	98.3		88 - 111				06/07/11 09:00	06/07/11 16:34	1.0
Toluene-d8	98.3		88 - 111				06/07/11 09:00	06/07/11 16:34	1.0
4-Bromofluorobenzene	96.6		83 - 122				06/07/11 09:00	06/07/11 16:34	1.0

Method: EPA 6010B - Total Metals by EPA 6000/7000 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	980		50		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Antimony	ND		10		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Arsenic	ND		2.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Barium	2.1		1.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Beryllium	ND		0.40		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Cadmium	ND		2.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Calcium	ND		25		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Chromium	16		5.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Cobalt	ND		2.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Copper	2.4		2.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Iron	11000	B3 C8	10		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Lead	4.7		2.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Magnesium	ND		25		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Manganese	4.2		1.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Nickel	ND		5.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Potassium	ND		1000		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Selenium	ND		8.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Silver	ND		2.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Sodium	ND		80		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Thallium	ND		2.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Vanadium	20		2.5		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0
Zinc	ND		5.0		mg/kg dry	☑	06/06/11 09:23	06/07/11 16:55	2.0

Method: EPA 7471A - Total Metals by EPA 6000/7000 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100		mg/kg dry	☑	06/07/11 13:42	06/08/11 07:56	1.00

Method: EPA 8270C - Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
1,2-Dichlorobenzene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
1,3-Dichlorobenzene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
1,4-Dichlorobenzene	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
2,4,5-Trichlorophenol	ND	A-01	0.50		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
2,4,6-Trichlorophenol	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
2,4-Dichlorophenol	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
2,4-Dimethylphenol	ND	A-01	0.10		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0
2,4-Dinitrophenol	ND	A-01	0.50		mg/kg dry	☑	06/14/11 00:00	06/14/11 12:35	1.0

TestAmerica King Of Prussia

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110



Client Sample ID: SB-6/11'

Lab Sample ID: KUF0110-03

Date Collected: 06/03/11 11:15

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 86.3



Method: EPA 8270C - Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
2,6-Dinitrotoluene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
2-Chloronaphthalene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
2-Chlorophenol	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
2-Methylnaphthalene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
2-Methylphenol	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
2-Nitroaniline	ND	A-01	0.50		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
2-Nitrophenol	ND	A-01 C	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
3&4-Methylphenol	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
3,3'-Dichlorobenzidine	ND	A-01	0.50		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
3-Nitroaniline	ND	A-01	0.50		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
4,6-Dinitro-2-methylphenol	ND	A-01	0.50		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
4-Bromophenyl-phenyl ether	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
4-Chloro-3-methylphenol	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
4-Chloroaniline	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
4-Chlorophenyl phenyl ether	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
4-Nitroaniline	ND	A-01	0.50		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
4-Nitrophenol	ND	A-01	0.50		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Acenaphthene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Acenaphthylene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Anthracene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Benzo (a) anthracene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Benzo (a) pyrene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Benzo (b) fluoranthene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Benzo (g,h,i) perylene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Benzo (k) fluoranthene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Bis(2-chloroethoxy)methane	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Bis(2-chloroethyl)ether	ND	A-01	0.050		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Bis(2-chloroisopropyl)ether	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Bis(2-ethylhexyl)phthalate	ND	A-01	0.33		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Butyl benzyl phthalate	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Carbazole	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Chrysene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Dibenz (a,h) anthracene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Dibenzofuran	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Diethyl phthalate	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Dimethyl phthalate	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Di-n-butyl phthalate	ND	A-01	0.33		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Di-n-octyl phthalate	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Fluoranthene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Fluorene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Hexachlorobenzene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Hexachlorobutadiene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Hexachlorocyclopentadiene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Hexachloroethane	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Indeno (1,2,3-cd) pyrene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Isophorone	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Naphthalene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
Nitrobenzene	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0
N-Nitrosodi-n-propylamine	ND	A-01	0.10		mg/kg dry	☒	06/14/11 00:00	06/14/11 12:35	1.0

TestAmerica King Of Prussia

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

Client Sample ID: SB-6/11'

Lab Sample ID: KUF0110-03

Date Collected: 06/03/11 11:15

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 86.3

Method: EPA 8270C - Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	ND	A-01	0.10		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Pentachlorophenol	ND	A-01	0.50		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Phenanthrene	ND	A-01	0.10		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Phenol	ND	A-01	0.10		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Pyrene	ND	A-01	0.10		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Atrazine	ND	A-01	0.20		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Biphenyl, 1,1-	ND	A-01	0.20		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Benzaldehyde	ND	A-01	0.20		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Acetophenone	ND	A-01	0.20		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Caprolactam	ND	A-01	0.20		mg/kg dry	☐	06/14/11 00:00	06/14/11 12:35	1.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorophenol	88.8	A-01	36 - 111				06/14/11 00:00	06/14/11 12:35	1.0
Phenol-d6	90.2	A-01	48 - 108				06/14/11 00:00	06/14/11 12:35	1.0
Nitrobenzene-d5	96.0	A-01	47 - 106				06/14/11 00:00	06/14/11 12:35	1.0
2-Fluorobiphenyl	86.4	A-01	54 - 106				06/14/11 00:00	06/14/11 12:35	1.0
2,4,6-Tribromophenol	101	A-01	37 - 122				06/14/11 00:00	06/14/11 12:35	1.0
Terphenyl-d14	93.4	A-01	64 - 118				06/14/11 00:00	06/14/11 12:35	1.0

Client Sample ID: SB-8/11'

Lab Sample ID: KUF0110-04

Date Collected: 06/03/11 11:40

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 87.9

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 5035/8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
1,3,5-Trimethylbenzene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98.1		83 - 122				06/07/11 09:00	06/07/11 17:04	1.0

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
1,1,2,2-Tetrachloroethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
1,1,2-Trichloroethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
1,1-Dichloroethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
1,1-Dichloroethene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
1,2-Dichloroethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
1,2-Dichloropropane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
2-Butanone	ND		0.063		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
2-Hexanone	ND		0.0063		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
4-Methyl-2-pentanone	ND		0.0063		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Acetone	ND		0.063		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Benzene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Bromodichloromethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Bromoform	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Bromomethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Carbon disulfide	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Carbon tetrachloride	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Chlorobenzene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0

TestAmerica King Of Prussia

06/14/2011

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110

1

Client Sample ID: SB-8/11'

Lab Sample ID: KUF0110-04

Date Collected: 06/03/11 11:40

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 87.9

2

4

5

6

7

8

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Chloroethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Chloroform	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Chloromethane	ND		0.0063		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
cis-1,2-Dichloroethene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
cis-1,3-Dichloropropene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Ethylbenzene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Isopropylbenzene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Methyl tert-butyl ether	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Methylene chloride	ND		0.0050		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Styrene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Tetrachloroethene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Toluene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
trans-1,2-Dichloroethene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
trans-1,3-Dichloropropene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Trichloroethene	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Trichlorofluoromethane	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Vinyl chloride	ND		0.0025		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0
Xylenes (total)	ND		0.0076		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:04	1.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	106		85 - 122	06/07/11 09:00	06/07/11 17:04	1.0
1,2-Dichloroethane-d4	119		85 - 130	06/07/11 09:00	06/07/11 17:04	1.0
Toluene-d8	98.8		88 - 111	06/07/11 09:00	06/07/11 17:04	1.0
Toluene-d8	98.8		88 - 111	06/07/11 09:00	06/07/11 17:04	1.0
4-Bromofluorobenzene	98.1		83 - 122	06/07/11 09:00	06/07/11 17:04	1.0

Method: EPA 6010B - Total Metals by EPA 6000/7000 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.6		2.0		mg/kg dry	☐	06/06/11 14:35	06/08/11 11:06	2.0

Client Sample ID: SB-10/10'

Lab Sample ID: KUF0110-05

Date Collected: 06/03/11 12:45

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 85.6

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 5035/8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0
1,3,5-Trimethylbenzene	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98.6		83 - 122	06/07/11 09:00	06/07/11 17:35	1.0

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0
1,1,2,2-Tetrachloroethane	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0
1,1,2-Trichloroethane	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0
1,1-Dichloroethane	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0
1,1-Dichloroethane	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0
1,2-Dichloroethane	ND		0.0026		mg/kg dry	☐	06/07/11 09:00	06/07/11 17:35	1.0

TestAmerica King Of Prussia

Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110



Client Sample ID: SB-10/10'

Lab Sample ID: KUF0110-05

Date Collected: 06/03/11 12:45

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 85.6

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
2-Butanone	ND		0.065		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
2-Hexanone	ND		0.0065		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
4-Methyl-2-pentanone	ND		0.0065		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Acetone	ND		0.065		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Benzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Bromodichloromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Bromoform	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Bromomethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Carbon disulfide	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Carbon tetrachloride	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Chlorobenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Chlorodibromomethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Chloroethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Chloroform	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Chloromethane	ND		0.0065		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
cis-1,2-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
cis-1,3-Dichloropropene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Ethylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Isopropylbenzene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Methyl tert-butyl ether	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Methylene chloride	ND		0.0052		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Styrene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Tetrachloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Toluene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
trans-1,2-Dichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
trans-1,3-Dichloropropene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Trichloroethene	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Trichlorofluoromethane	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Vinyl chloride	ND		0.0026		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0
Xylenes (total)	ND		0.0078		mg/kg dry	☒	06/07/11 09:00	06/07/11 17:35	1.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	106		85 - 122	06/07/11 09:00	06/07/11 17:35	1.0
1,2-Dichloroethane-d4	117		85 - 130	06/07/11 09:00	06/07/11 17:35	1.0
Toluene-d8	100		88 - 111	06/07/11 09:00	06/07/11 17:35	1.0
Toluene-d8	100		88 - 111	06/07/11 09:00	06/07/11 17:35	1.0
4-Bromofluorobenzene	98.6		83 - 122	06/07/11 09:00	06/07/11 17:35	1.0

Method: EPA 6010B - Total Metals by EPA 6000/7000 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	2.5		2.0		mg/kg dry	☒	06/08/11 14:35	06/08/11 11:09	2.0

Client Sample ID: SB-11/10'

Lab Sample ID: KUF0110-06

Date Collected: 06/03/11 13:15

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 97.3

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 5035/8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
1,3,5-Trimethylbenzene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0

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Client Sample Results

Client: RT ENVIRONMENTAL
Project/Site: 5144-03

TestAmerica Job ID: KUF0110



Client Sample ID: SB-11/10'

Lab Sample ID: KUF0110-06

Date Collected: 06/03/11 13:15

Matrix: Soil

Date Received: 06/03/11 15:45

Percent Solids: 97.3



Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		83 - 122	06/07/11 09:00	06/07/11 18:05	1.0

Method: EPA 8260B - Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
1,1,2,2-Tetrachloroethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
1,1,2-Trichloroethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
1,1-Dichloroethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
1,1-Dichloroethene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
1,2-Dichloroethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
1,2-Dichloropropane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
2-Butanone	ND		0.080		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
2-Hexanone	ND		0.0080		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
4-Methyl-2-pentanone	ND		0.0080		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Acetone	ND		0.080		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Benzene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Bromodichloromethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Bromoform	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Bromomethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Carbon disulfide	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Carbon tetrachloride	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Chlorobenzene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Chlorodibromomethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Chloroethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Chloroform	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Chloromethane	ND		0.0080		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
cis-1,2-Dichloroethene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
cis-1,3-Dichloropropene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Ethylbenzene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Isopropylbenzene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Methyl tert-butyl ether	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Methylene chloride	ND		0.0064		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Styrene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Tetrachloroethene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Toluene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
trans-1,2-Dichloroethene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
trans-1,3-Dichloropropene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Trichloroethene	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Trichlorofluoromethane	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Vinyl chloride	ND		0.0032		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0
Xylenes (total)	ND		0.0096		mg/kg dry	☒	06/07/11 09:00	06/07/11 18:05	1.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	105		85 - 122	06/07/11 09:00	06/07/11 18:05	1.0
1,2-Dichloroethane-d4	117		85 - 130	06/07/11 09:00	06/07/11 18:05	1.0
Toluene-d8	101		88 - 111	06/07/11 09:00	06/07/11 18:05	1.0
Toluene-d8	101		88 - 111	06/07/11 09:00	06/07/11 18:05	1.0
4-Bromofluorobenzene	101		83 - 122	06/07/11 09:00	06/07/11 18:05	1.0

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