

April 15, 2009
File No. 19030.62



133 Federal Street
3d Floor
Boston
Massachusetts
02110
671-963-1000
FAX 781-482-6868
<http://www.gza.com>

Mr. Victor Alvarez
United States Environmental Protection Agency – Region 1
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Re: Submittal of Notice of Intent (NOI)
Construction Excavation Dewatering – Dreamland Theater
17 South Water Street
Nantucket, Massachusetts
MassDEP - RTN Nos. 4-20318 and 4-20530

Dear Mr. Alvarez:

GZA GeoEnvironmental, Inc. (GZA), on behalf of The Nantucket Dreamland Foundation, has prepared this Notice of Intent (NOI) for application of a National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for proposed dewatering activities at the above referenced location. This NOI is being submitted for performing construction-related excavation dewatering at the site. The enclosed NOI form (Attachment 1) provides required information on the general site conditions, proposed treatment system, discharge location and receiving water, and analytical results for testing performed on a groundwater sample at the site.

Although construction has already begun at the site, excavation, dewatering, and discharge of treated water are scheduled to begin the end of April 2009

SITE DESCRIPTION

The Dreamland Theater site is bounded by South Water Street to the north, Oak Street to the west, Easy Street to the east and the Atlantic Café to the east. The site is located in the downtown portion of Nantucket approximately 35 feet from Nantucket Harbor. Prior to commencement of construction, the site consisted of the vacant Dreamland Theater structure in the western portion of the property and a small parking area to the east. The existing Theater has recently been demolished. Due to its historic nature, some aspects of the building were salvaged and will be used for construction of the new Theater. A site locus plan is provided in Attachment 2.



ENVIRONMENTAL CONTEXT

Numerous soil and groundwater samples have been collected at the site during various phases of geotechnical and environmental investigations. Based on the results of these analytical tests, two release notifications were made to Massachusetts Department of Environmental Protection (MassDEP) for the Site in 2007. The Site is identified by Release Tracking Numbers (RTNs) 4-20318 and 4-20530.

The initial Release Notification (RTN 4-20318) to DEP was by GZA on behalf of the previous Site owner on February 6, 2007. The Notification was made as a result of RCS-1 Reportable Concentration exceedances of Extractable and Volatile Petroleum Hydrocarbon fractions, which represented a reportable condition under the MCP.

The second Release Notification (RTN 4-20530) to DEP was made by a representative of the previous Site owner on May 17, 2007. The Notification was made as a result of the exceedance of the RCGW-2 standard for lead in the groundwater. This exceedance was believed to be the result of testing an unfiltered sample. Lead has not been detected in subsequent filtered testing of the groundwater at the site.

GZA submitted a Response Action Outcome (RAO) to the MassDEP in January 2008 for the current property owner. GZA's RAO concluded that, "The Site meets the requirements for No Remedial Action Required (Class B RAO) under the MCP because a condition of No Significant Risk of harm to human health, safety, public welfare, and the environment exists at the Site under both current and future conditions and because continuing sources of oil and hazardous material (OHM) do not exist at the Site".

PROPOSED ACTIVITIES

The project consists of the proposed construction of a new Dreamland Theater building. Excavation ranging from approximately 6 to 9 feet below grade will be required to reach the proper subgrade elevations. It is anticipated that the excavation will be approximately 3 to 6 feet below the groundwater level.

The Contractor is planning to install steel sheet piles around the full perimeter of the site prior to excavation and dewatering. The sheeting will be installed to a depth of approximately 15 to 30 feet below grade. The main function of the sheeting will be to provide temporary lateral earth support for the excavation. However, the sheeting will also provide some level of groundwater cutoff to reduce groundwater inflow into the excavation.

Dewatering will be performed utilizing a series of approximately 75 well points installed along the interior sides of the sheeting. The Site Dewatering Flow Schematic is provided in Attachment 3. The water will be pumped into a fractionalization tank and then through



a series of bag filters designed to remove iron from the water. Although petroleum-related compounds were not detected in the groundwater sample, due to the petroleum-related contaminants encountered in the soil, we are prepared to provide carbon adsorption if necessary. GZA will evaluate the groundwater extracted from the subsurface for visible or olfactory signs of petroleum contamination. Jar headspace testing utilizing a 10.6 eV photoionization detector will also be performed to evaluate the presence of petroleum-related compounds in the extracted groundwater. If petroleum-related compounds are detected or observed, dewatering and treatment system discharge will cease and appropriate laboratory tests will be performed to evaluate the contaminants to determine if activated carbon is necessary. The EPA will be notified if petroleum is encountered in extracted groundwater which requires treatment prior to discharge. The Laboratory Test Results and the Treatment System Process Flow Diagram are presented in Attachment 4 and 5, respectively. Water will be discharged to the catch basins at the northeast edge of the property at the intersection of Oak and Easy Streets or to the catch basin along South Water Street. The catch basins discharge to the Nantucket Harbor approximately 30 feet west of the site.

Supplemental information including a Natural Heritage and Endangered Species Program (NHESP) map showing the site is not part of rare or endangered species habitat and correspondence from the Nantucket Historic Commission is provided in Attachment 6.



Please do not hesitate to contact the undersigned at (617) 963-1000 if you have any questions or require further information.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read "Alfred Jones".

Alfred Jones, P.E.
Senior Project Manager

A handwritten signature in blue ink, appearing to read "Russell B. Parkman".

Russell B. Parkman, P.E.
Consultant/Reviewer

A handwritten signature in black ink, appearing to read "Bruce W. Fairless".

Bruce W. Fairless, P.E.
Associate Principal

Enclosures:

- Attachment 1: NOI Form
- Attachment 2: Site Locus Map
- Attachment 3: Site Dewatering Flow Schematic
- Attachment 4: Laboratory Test Data
- Attachment 5: Treatment System Process Flow Diagram
- Attachment 6: Supplemental Information

cc: Mr. Patrick O'Connor (Dreamland Theater Foundation)
Mr. Guy Tlapa (Shawmut)
MassDEP – Southeast Region

ATTACHMENT 1

NOI FORM

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

a) Name of facility/site :		Facility/site address:	
Location of facility/site : longitude:_____ latitude:_____	Facility SIC code(s):	Street:	
b) Name of facility/site owner :		Town:	
Email address of owner:	State:	Zip:	County:
Telephone no.of facility/site owner :			
Fax no. of facility/site owner :	Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private____ 4. other, if so, describe:		
Address of owner (if different from site):			
Street:			
Town:	State:	Zip:	County:
c) Legal name of operator :	Operator telephone no:		
	Operator fax no.:		Operator email:
Operator contact name and title:			
Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:
d) Check “yes” or “no” for the following: 1. Has a prior NPDES permit exclusion been granted for the discharge? Yes___ No___, if “yes,” number: 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No___, if “yes,” date and tracking #: 3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Yes___ No___ 4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes__ No__			

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes___ No___ If “yes,” please list: 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N___, if Y, number: 2. phase I or II construction storm water general permit? Y___ N___, if Y, number: 3. individual NPDES permit? Y___ N___, if Y, number: 4. any other water quality related permit? Y___ N___, if Y, number:
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2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:			
b) Provide the following information about each discharge:	<table border="1"> <tr> <td style="vertical-align: top;">1) Number of discharge points:</td> <td> 2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft³/s)? Max. flow_____ Average flow_____ Is maximum flow a design value? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. </td> </tr> </table>	1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow_____ Average flow_____ Is maximum flow a design value ? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow_____ Average flow_____ Is maximum flow a design value ? Y___ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.		
3) Latitude and longitude of each discharge within 100 feet: pt.1:long._____ lat._____; pt.2: long._____ lat._____; pt.3: long._____ lat._____; pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.			
4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent_____or seasonal_____ Is discharge ongoing Yes _____ No _____?		
c) Expected dates of discharge (mm/dd/yy): start_____ end_____			
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).			

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method ug/L	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids										
2. Total Residual Chlorine										
3. Total Petroleum Hydrocarbons										
4. Cyanide										
5. Benzene										
6. Toluene										
7. Ethylbenzene										
8. (m,p,o) Xylenes										
9. Total BTEX ⁴										

⁴BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide ⁵ (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MtBE)										
12. tert-Butyl Alcohol (TBA)										
13. tert-Amyl Methyl Ether (TAME)										
14. Naphthalene										
15. Carbon Tetra-chloride										
16. 1,4 Dichlorobenzene										
17. 1,2 Dichlorobenzene										
18. 1,3 Dichlorobenzene										
19. 1,1 Dichloroethane										
20. 1,2 Dichloroethane										
21. 1,1 Dichloroethylene										
22. cis-1,2 Dichloro-ethylene										
23. Dichloromethane (Methylene Chloride)										
24. Tetrachloroethylene										

⁵EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane										
26. 1,1,2 Trichloroethane										
27. Trichloroethylene										
28. Vinyl Chloride										
29. Acetone										
30. 1,4 Dioxane										
31. Total Phenols										
32. Pentachlorophenol										
33. Total Phthalates ⁶ (Phthalate esthers)										
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene										
b. Benzo(a) Pyrene										
c. Benzo(b)Fluoranthene										
d. Benzo(k) Fluoranthene										
e. Chrysene										

⁶The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min- imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene										
g. Indeno(1,2,3-cd) Pyrene										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)										
h. Acenaphthene										
i. Acenaphthylene										
j. Anthracene										
k. Benzo(ghi) Perylene										
l. Fluoranthene										
m. Fluorene										
n. Naphthalene-										
o. Phenanthrene										
p. Pyrene										
37. Total Polychlorinated Biphenyls (PCBs)										
38. Antimony										
39. Arsenic										
40. Cadmium										
41. Chromium III										
42. Chromium VI										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min- imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper										
44. Lead										
45. Mercury										
46. Nickel										
47. Selenium										
48. Silver										
49. Zinc										
50. Iron										
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

<i>Step 1:</i> Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N____	If yes, which metals?
<i>Step 2:</i> For any metals which have reasonable potential to exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: _____ DF: _____	Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y____ N____ If “Yes,” list which metals:

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	Dechlorination	Other (please describe):			
c) Proposed average and maximum flow rates (gallons per minute) for the discharge and the design flow rate(s) (gallons per minute) of the treatment system: Average flow rate of discharge _____ Maximum flow rate of treatment system _____ Design flow rate of treatment system _____						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct _____	Within facility__	Storm drain_____	River/brook_____	Wetlands _____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:						
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.						
d) Provide the state water quality classification of the receiving water _____,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations.						
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes _____ No _____ If yes, for which pollutant(s)? Is there a TMDL? Yes _____ No _____ If yes, for which pollutant(s)?						

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ___ No ☒
Has any consultation with the federal services been completed? Yes ___ No ☒ or is consultation underway? Yes ___ No ☒
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one): a "no jeopardy" opinion? ___ or written concurrence ___ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?
b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge? Yes ☒ No ___ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ☒ No ___

7. Supplemental information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.
--

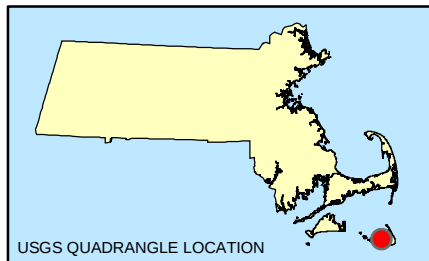
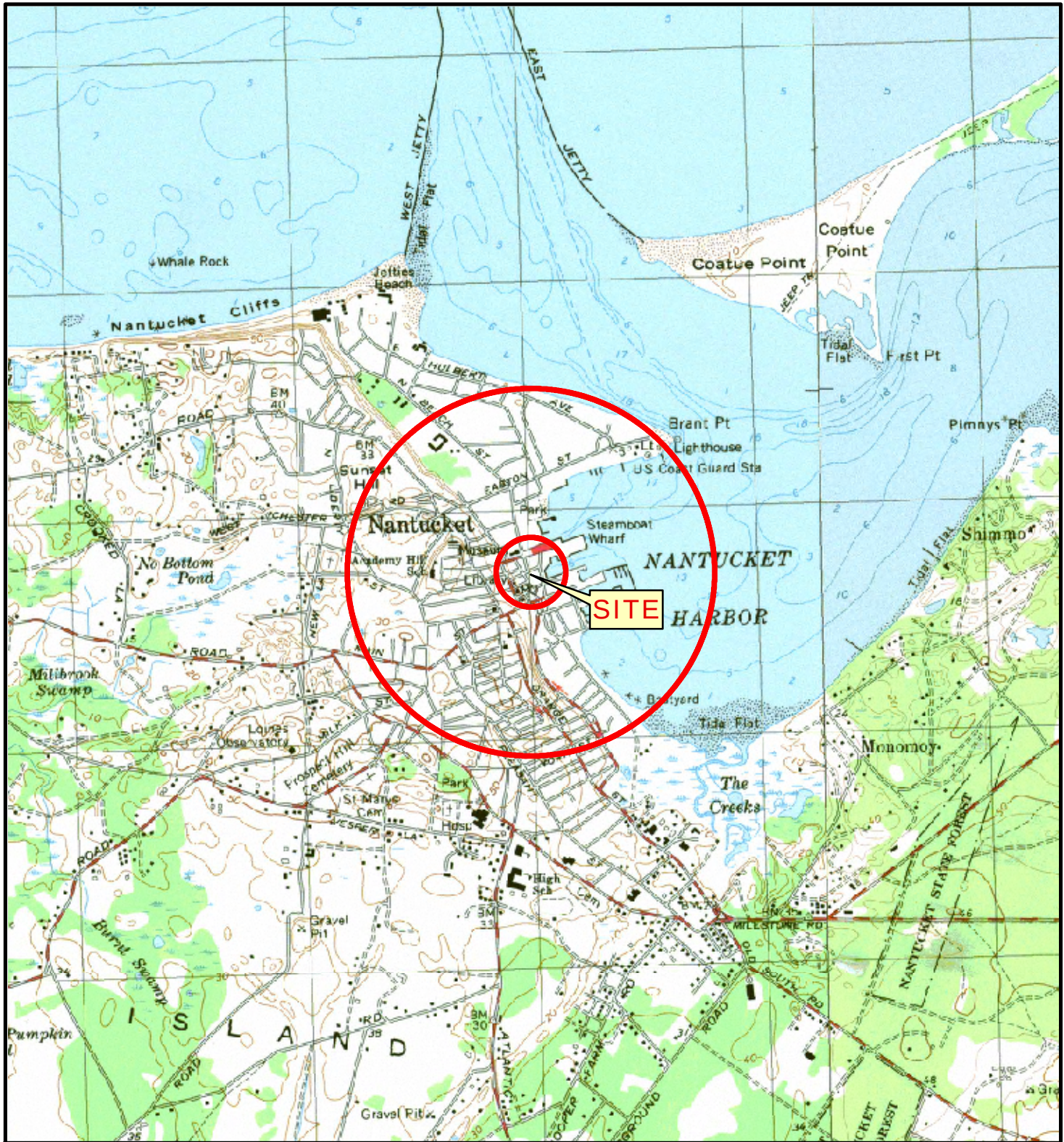
8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	Dreamland Theater
Operator signature:	
Title:	Project Manager
Date:	04/15/09

ATTACHMENT 2

SITE LOCUS MAP



SOURCE : SCANNED USGS TOPOGRAPHIC QUADRANGLES
SCANNED BY THE MASSACHUSETTS EXECUTIVE OFFICE OF
ENVIRONMENTAL AFFAIRS, MASSGIS. DISTRIBUTED JUNE, 2001.

Data Supplied by :



0 1,000 2,000 4,000 6,000
Feet



PROJ. MGR.: JBC
DESIGNED BY: GOB
REVIEWED BY: GKS
OPERATOR: EMD

DATE: 12-29-2007

LOCUS PLAN
SHOWING 500 FOOT & 1/2 MILE RADII

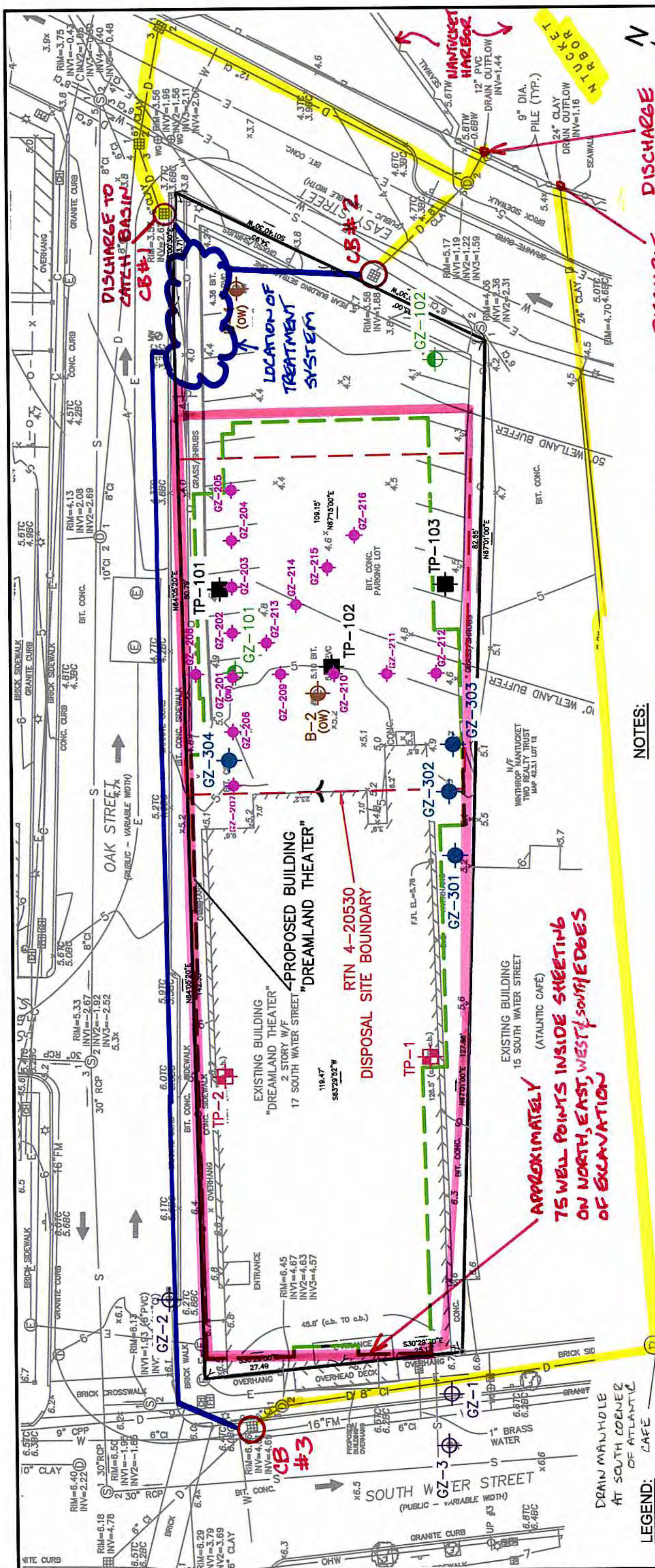
DREAMLAND THEATER - 17 SOUTH WATER STREET
NANTUCKET, MASSACHUSETTS

JOB NO.
01.0019688.00

FIGURE NO.
1

ATTACHMENT 3

SITE DEWATERING FLOW SCHEMATIC



NOTES:

- 1. BASE MAP WAS DEVELOPED FROM AN ELECTRONIC DRAWING ENTITLED "EXISTING CONDITIONS PLAN - DREAMLAND THEATER - NANTUCKET, MASSACHUSETTS" PREPARED BY SITE DESIGN ENGINEERING, LLC. AND DATED SEPTEMBER 26, 2008.
- 2. THE PROPOSED CONDITIONS WERE BASED ON AN ELECTRONIC DRAWING ENTITLED "GRADING PLAN - DREAMLAND THEATER - NANTUCKET, MA" PREPARED BY SITE DESIGN ENGINEERING, LLC. AND DATED SEPTEMBER 26, 2008.
- 3. EXPLORATION LOCATIONS WERE LOCATED BASED ON TAPED MEASUREMENTS FROM EXISTING SITE FEATURES. LOCATIONS SHOULD ONLY BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.
- 4. ELEVATIONS ARE REFERENCED TO THE HALF TIDE LEVEL DATUM OF 1934.

LEGEND:

- TP-101 TEST PITS PERFORMED BY TOSCANA CORP. OF NANTUCKET, MA ON NOVEMBER 11, 2008. OBSERVED AND LOGGED BY GZA PERSONNEL.
- GZ-301 BORINGS PERFORMED BY NEW HAMPSHIRE BORING, INC. OF BROCKTON, MASSACHUSETTS ON NOVEMBER 10 AND 11, 2008. OBSERVED AND LOGGED BY GZA PERSONNEL.
- GZ-201 (OW) GEOPROBE BORING PERFORMED BY NEW HAMPSHIRE BORING OF LONDONDERY, NH ON DECEMBER 19 AND 20, 2006.
- GZ-101 INDICATES OBSERVATION WELL INSTALLED BORINGS PERFORMED BY DESMOND WELL DRILLING OF ORLEANS, MA ON SEPTEMBER 28 AND 29, 2006. OBSERVED AND LOGGED BY GZA PERSONNEL.
- GZ-1 BORINGS PERFORMED BY DESMOND WELL DRILLING OF ORLEANS, MA ON APRIL 26, 2006. OBSERVED AND LOGGED BY GZA PERSONNEL.
- TP-1 TEST PITS HAND EXCAVATED BY DREAMLAND THEATER ZMG AND GZA PERSONNEL ON OCTOBER 12, 2006. OBSERVED AND LOGGED BY GZA PERSONNEL.
- B-2 (OW) BORINGS PERFORMED BY DESMOND WELL DRILLING OF ORLEANS, MA ON FEBRUARY 8 AND 9, 2006.
- INDICATES OBSERVATION WELL INSTALLED
- PROPOSED BUILDING LIMITS
- APPROXIMATE PROPERTY LIMITS
- DISPOSAL SITE BOUNDARY

NO.

ISSUE/DESCRIPTION

BY

DATE

PROPOSED DREAMLAND THEATER
Nantucket, Massachusetts

EXPLORATION LOCATION PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
Boston, Massachusetts 02110
(917) 963-1000

PROJECT NO.
19030.81

REVISION NO.
31 23 00-1

FIGURE
31 23 00-1

DATE
January 28, 2009

DESIGNED BY
AJ

DRAWN BY
AJ

CHECKED BY
BMF

ISSUED BY
BMF

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE PROJECT AND SHALL NOT BE REPRODUCED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. THE DRAWING IS THE PROPERTY OF GZA AND SHALL BE RETURNED TO GZA BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

ATTACHMENT 4

LABORATORY TEST DATA



GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

Laboratory Identification Numbers:
MA and ME: **MA092** NH: **2028**
CT: **PH0579** RI: **LAO00236**
NELAC - NYS DOH: **11063**

REVISED

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Al Jones

Project No.: **01.0019030.62**
Work Order No.: **0903-00012**
Date Received: **03/04/2009**
Date Reported: **03/12/2009**

SAMPLE INFORMATION

Date Sampled	Matrix	Laboratory ID	Sample ID
03/03/2009	Aqueous	0903-00012 001	GZ-201 030309



GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

Page 2 of 8

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Al Jones

Project Name.: **Dreamland Theater**
Project No.: **01.0019030.62**

Date Received: **03/04/2009**
Date Reported: **03/12/2009**
Work Order No.: **0903-00012**

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 3/4/09 via x GZA courier, EC, FEDEX, or hand delivered. The temperature of the x temperature blank/ cooler air, was 1.5 degrees C. The temperature requirement for most analyses is above freezing to 6 degrees C. The samples were received intact for all requested analyses.

The chain of custody indicates that the samples, when required, were chemically preserved in accordance with the method they reference.

2. Subcontracted Analyses

Analyses for TSS, TRC, TPH, PCB, Cyanide, and Hexavalent Chromium were performed by ESS Laboratory, Cranston, RI.

3. EPA Method 6010B/7470A - Metals

All samples were pre-concentrated 5 times in order to reach the required reporting limits for As (0.005mg/L) and Cu (0.005 mg/L).

Attach QC 6010B 03/09/09 - Aqueous
Attach QC 7470A 03/05/09 - Aqueous

4. EPA Method 8260 - VOCs

Attach QC 8260 03/06/09 S - Aqueous

5. EPA Method 8270 - SVOCs

Attach QC 8270 03/09/09 - Aqueous



GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748
(781) 278-4700

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ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Al Jones

Project Name.: **Dreamland Theater**
Project No.: **01.0019030.62**

Date Received: **03/04/2009**
Date Reported: **03/12/2009**
Work Order No.: **0903-00012**

Data Authorized By: _____

NELAC certification, as indicated by the NELAC Lab ID Number, is per analyte. For a complete list of NELAC validated analytes, please contact the laboratory.

Abbreviations:

% R = % Recovery
DF = Dilution Factor
DFS = Dilution Factor Solids
CF = Calculation Factor
DO = Diluted Out

Method Key:

Method 8260: The current version of the method is 8260B.
Method 8270: The current version of the method is 8270D.
Method 6010: The current version of the method is 6010B.

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

Soil data is reported on a dry weight basis unless otherwise specified.

Matrix Spike / Matrix Spike Duplicate sets are performed as per method and are reported at the end of the analytical report if assigned on the Chain of Custody.



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Al Jones

Project Name.: **Dreamland Theater**
Project No.: **01.0019030.62**

Date Received: **03/04/2009**
Date Reported: **03/12/2009**
Work Order No.: **0903-00012**

Sample ID: **GZ-201 030309**

Sample No.: **001**

Sample Date: **03/03/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
pH	EPA 150.2	7.14	std units	TN	03/06/2009
VOLATILE ORGANICS	EPA 8260			MQS	03/06/2009
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Chloromethane	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Vinyl Chloride	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Bromomethane	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Chloroethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Trichlorofluoromethane	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Diethylether	EPA 8260	<5.0	ug/L	MQS	03/06/2009
Acetone	EPA 8260	<25	ug/L	MQS	03/06/2009
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Freon 113	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Carbon Disulfide	EPA 8260	<50	ug/L	MQS	03/06/2009
Dichloromethane	EPA 8260	<2.0	ug/L	MQS	03/06/2009
tert-Butyl alcohol (TBA)	EPA 8260	<25	ug/L	MQS	03/06/2009
Methyl-Tert-Butyl-Ether	EPA 8260	<1.0	ug/L	MQS	03/06/2009
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Di-isopropyl ether (DIPE)	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Ethyl tert-butyl ether ETBE	EPA 8260	<2.0	ug/L	MQS	03/06/2009
2-Butanone	EPA 8260	<25	ug/L	MQS	03/06/2009
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Chloroform	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Bromochloromethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Tetrahydrofuran	EPA 8260	<10	ug/L	MQS	03/06/2009
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Benzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
tert-Amyl methyl ether TAME	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Trichloroethene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,4-Dioxane	EPA 8260	<100	ug/L	MQS	03/06/2009
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Bromodichloromethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Dibromomethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009



ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

Al Jones

Project Name.: **Dreamland Theater**
Project No.: **01.0019030.62**

Date Received: **03/04/2009**
Date Reported: **03/12/2009**
Work Order No.: **0903-00012**

Sample ID: **GZ-201 030309**

Sample No.: **001**

Sample Date: **03/03/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
4-Methyl-2-Pentanone	EPA 8260	<25	ug/L	MQS	03/06/2009
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Toluene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
trans-1,3-Dichloropropene	EPA 8260	<2.0	ug/L	MQS	03/06/2009
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
2-Hexanone	EPA 8260	<25	ug/L	MQS	03/06/2009
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Tetrachloroethene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Dibromochloromethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Chlorobenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Ethylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
m&p-Xylene	EPA 8260	<2.0	ug/L	MQS	03/06/2009
o-Xylene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Styrene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Bromoform	EPA 8260	<2.0	ug/L	MQS	03/06/2009
Isopropylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Bromobenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
N-Propylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
2-Chlorotoluene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
4-Chlorotoluene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
tert-Butylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
sec-Butylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
n-Butylbenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	MQS	03/06/2009
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Naphthalene	EPA 8260	<2.0	ug/L	MQS	03/06/2009



ANALYTICAL REPORT

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Project Name.: **Dreamland Theater**
Project No.: **01.0019030.62**

Date Received: **03/04/2009**
Date Reported: **03/12/2009**
Work Order No.: **0903-00012**

Sample ID: **GZ-201 030309**

Sample No.: **001**

Sample Date: **03/03/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	MQS	03/06/2009
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	99.0	% R	MQS	03/06/2009
***Toluene-D8	EPA 8260	106	% R	MQS	03/06/2009
***4-Bromofluorobenzene	EPA 8260	105	% R	MQS	03/06/2009
Preparation	EPA 5030B	1.0	CF	MQS	03/06/2009
SEMI-VOLATILE ORGANICS	EPA 8270			RJD	03/10/2009
Phenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2-Chlorophenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2-Methylphenol	EPA 8270	<10	ug/L	RJD	03/10/2009
3&4-Methylphenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2-Nitrophenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2,4-Dimethylphenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2,4-Dichlorophenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2,4,6-Trichlorophenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2,4,5-Trichlorophenol	EPA 8270	<10	ug/L	RJD	03/10/2009
2,4-Dinitrophenol	EPA 8270	<100	ug/L	RJD	03/10/2009
4-Nitrophenol	EPA 8270	<50	ug/L	RJD	03/10/2009
Pentachlorophenol	EPA 8270	<50	ug/L	RJD	03/10/2009
bis(2-Chloroethyl)Ether	EPA 8270	<10	ug/L	RJD	03/10/2009
1,3-Dichlorobenzene	EPA 8270	<10	ug/L	RJD	03/10/2009
1,4-Dichlorobenzene	EPA 8270	<10	ug/L	RJD	03/10/2009
1,2-Dichlorobenzene	EPA 8270	<10	ug/L	RJD	03/10/2009
bis(2-Chloroisopropyl)Ether	EPA 8270	<10	ug/L	RJD	03/10/2009
Acetophenone	EPA 8270	<10	ug/L	RJD	03/10/2009
Hexachloroethane	EPA 8270	<10	ug/L	RJD	03/10/2009
Nitrobenzene	EPA 8270	<10	ug/L	RJD	03/10/2009
Isophorone	EPA 8270	<10	ug/L	RJD	03/10/2009
bis(2-Chloroethoxy)Methane	EPA 8270	<10	ug/L	RJD	03/10/2009
1,2,4-Trichlorobenzene	EPA 8270	<10	ug/L	RJD	03/10/2009
Naphthalene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
4-Chloroaniline	EPA 8270	<20	ug/L	RJD	03/10/2009
Hexachlorobutadiene	EPA 8270	<10	ug/L	RJD	03/10/2009
2-Methylnaphthalene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Aniline	EPA 8270	<10	ug/L	RJD	03/10/2009
2-Chloronaphthalene	EPA 8270	<10	ug/L	RJD	03/10/2009
Dimethylphthalate	EPA 8270	<10	ug/L	RJD	03/10/2009



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Date Received: **03/04/2009**
Date Reported: **03/12/2009**
Work Order No.: **0903-00012**

Sample ID: **GZ-201 030309**

Sample No.: **001**

Sample Date: **03/03/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
Acenaphthylene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
2,6-Dinitrotoluene	EPA 8270	<10	ug/L	RJD	03/10/2009
Acenaphthene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Dibenzofuran	EPA 8270	<10	ug/L	RJD	03/10/2009
2,4-Dinitrotoluene	EPA 8270	<10	ug/L	RJD	03/10/2009
Diethylphthalate	EPA 8270	<10	ug/L	RJD	03/10/2009
Fluorene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Azobenzene	EPA 8270	<10	ug/L	RJD	03/10/2009
4-Bromophenyl Phenyl Ether	EPA 8270	<10	ug/L	RJD	03/10/2009
Hexachlorobenzene	EPA 8270	<10	ug/L	RJD	03/10/2009
Phenanthrene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Anthracene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
di-n-Butylphthalate	EPA 8270	<15	ug/L	RJD	03/10/2009
Fluoranthene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Pyrene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Butylbenzylphthalate	EPA 8270	<10	ug/L	RJD	03/10/2009
Benzo [a] Anthracene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
3,3'-Dichlorobenzidine	EPA 8270	<20	ug/L	RJD	03/10/2009
Chrysene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
bis(2-Ethylhexyl)Phthalate	EPA 8270	<10	ug/L	RJD	03/10/2009
di-n-Octylphthalate	EPA 8270	<10	ug/L	RJD	03/10/2009
Benzo [b] Fluoranthene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Benzo [k] Fluoranthene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Benzo [a] Pyrene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Indeno [1,2,3-cd] Pyrene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Dibenzo [a,h] Anthracene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Benzo [g,h,i] Perylene	EPA 8270	<2.0	ug/L	RJD	03/10/2009
Surrogates:	EPA 8270				
***2-Fluorophenol	EPA 8270	28.1	% R	RJD	03/10/2009
***Phenol-D6	EPA 8270	20.4	% R	RJD	03/10/2009
***Nitrobenzene-D5	EPA 8270	38.2	% R	RJD	03/10/2009
***2-Fluorobiphenyl	EPA 8270	39.4	% R	RJD	03/10/2009
***2,4,6-Tribromophenol	EPA 8270	37.6	% R	RJD	03/10/2009
***P-Terphenyl-D14	EPA 8270	41.4	% R	RJD	03/10/2009
Extraction	EPA 3510C	1.0	DF	RJD	03/09/2009
METALS					
Antimony	EPA 6010B	<0.025	mg/L	LLZ	03/09/2009



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Date Reported: **03/12/2009**
Work Order No.: **0903-00012**

Sample ID: **GZ-201 030309**

Sample No.: **001**

Sample Date: **03/03/2009**

Test Performed	Method	Results	Units	Tech	Analysis Date
Arsenic	EPA 6010B	<0.0050	mg/L	LLZ	03/09/2009
Cadmium	EPA 6010B	<0.0050	mg/L	LLZ	03/09/2009
Chromium	EPA 6010B	<0.0050	mg/L	LLZ	03/09/2009
Copper	EPA 6010B	<0.0050	mg/L	LLZ	03/09/2009
Lead	EPA 6010B	<0.010	mg/L	LLZ	03/09/2009
Mercury	EPA 7470A	<0.00040	mg/L	TN	03/05/2009
Nickel	EPA 6010B	<0.010	mg/L	LLZ	03/09/2009
Selenium	EPA 6010B	<0.025	mg/L	LLZ	03/09/2009
Silver	EPA 6010B	<0.0050	mg/L	LLZ	03/09/2009
Iron	EPA 6010B	3.8	mg/L	LLZ	03/09/2009
Zinc	EPA 6010B	<0.010	mg/L	LLZ	03/09/2009
SUBCONTRACTED ANALYTES					
POLYCHLORINATED BIPHENYLS					
TPH via Method 1664	EPA 1664A	<5	mg/L	XXX	03/10/2009
Total Suspended Solids	SM-2540D	6	mg/L	XXX	03/06/2009
Residual Chlorine	SM4500-CL,D	<0.02	mg/L	XXX	03/04/2009
Total Cyanide	SM-4500 CN-C E	<0.0050	mg/L	XXX	03/06/2009
Hexavalent Chromium	SM 3500CrD	<50	ug/L	XXX	03/04/2009
Trivalent Chromium	EPA 6010B	<0.0050	mg/L	AJY	03/12/2009

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH ST, HOPKINTON, MA 01748
MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 6010B ANALYSIS
Metals by ICP

QUALITY CONTROL - AQUEOUS

DATE PREPARED: 3/9/2009

QC Sample	Method Blank	Lab Control Sample	LC Duplicate	LC/LCD Diff.
Units	mg/L	% Recovery	% Recovery	RPD
Acceptance Limits	Results	80-120	80-120	20%
Analyte				
Silver (Ag)	<0.0050	90.7	91.9	1.31
Aluminum (Al)	NA	NA	NA	NA
Arsenic (As)	<0.0050	92.8	93.8	1.07
Boron (B)	NA	NA	NA	NA
Barium (Ba)	NA	NA	NA	NA
Beryllium (Be)	NA	NA	NA	NA
Calcium (Ca)	NA	NA	NA	NA
Cadmium (Cd)	<0.0050	94.8	96.2	1.47
Cobalt (Co)	NA	NA	NA	NA
Chromium (Cr)	<0.0050	92.8	93.9	1.15
Copper (Cu)	<0.0050	99.5	101	1.03
Iron (Fe)	<0.025	98.5	100	1.39
Magnesium (Mg)	NA	NA	NA	NA
Manganese (Mn)	NA	NA	NA	NA
Molybdenum (Mo)	NA	NA	NA	NA
Nickel (Ni)	<0.010	96.0	97.3	1.26
Lead (Pb)	<0.010	94.3	95.8	1.56
Antimony (Sb)	<0.025	95.9	97.3	1.51
Selenium (Se)	<0.025	91.8	92.7	0.96
Strontium (Sr)	NA	NA	NA	NA
Titanium (Ti)	NA	NA	NA	NA
Thallium (Tl)	NA	NA	NA	NA
Vanadium (V)	NA	NA	NA	NA
Zinc (Zn)	<0.010	98.9	102	2.84
Zirconium (Zr)	NA	NA	NA	NA

Matrix Spike / Duplicate Spike performed as per method and
reported if assigned on Chain of Custody.

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH ST, HOPKINTON, MA 01748
MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 7470A ANALYSIS
Mercury by Cold Vapor Atomic Absorption

QUALITY CONTROL - AQUEOUS

Date Prepared: 03/05/09

QC Sample	Method Blank	Lab Control Sample	Lab Control Sample Duplicate	LC/LCD Difference
Units	mg/L	% Recovery	% Recovery	RPD
Acceptance Limits	Results	80-120	80-120	20%
Analyte				
Mercury (Hg)	<0.00020	87.7	101	14.2

RPD = Relative Percent Difference

EPA Method 8260 / 524.2 Aqueous Method Blank (MB) and Laboratory Control Sample/Duplicate (LCS/LCSD) Data

Method Blank

Date Analyzed:	3/6/2009	
Volatile Organics	Conc. ug/L	Acceptance Limit
dichlorodifluoromethane	< 1.0	< 1.0
chloromethane	< 1.0	< 1.0
vinyl chloride	< 0.5	< 0.5
bromomethane	< 1.0	< 1.0
chloroethane	< 0.5	< 0.5
trichlorofluoromethane	< 1.0	< 1.0
diethyl ether	< 2.5	< 2.5
acetone	< 13	< 13
1,1-dichloroethene	< 0.5	< 0.5
FREON-113	< 1.0	< 1.0
iodomethane	< 0.5	< 0.5
carbon disulfide	< 5.0	< 5.0
dichloromethane	< 1.0	< 1.0
tert-butyl alcohol (TBA)	< 13	< 13
acrylonitrile	< 0.5	< 0.5
methyl-tert-butyl-ether	< 0.5	< 0.5
trans-1,2-dichloroethene	< 0.5	< 0.5
1,1-dichloroethane	< 0.5	< 0.5
di-isopropyl ether (DIPE)	< 1.0	< 1.0
ethyl tert-butyl ether (ETBE)	< 1.0	< 1.0
vinyl acetate	< 13	< 13
2-butanone	< 13	< 13
2,2-dichloropropane	< 0.5	< 0.5
cis-1,2-dichloroethene	< 0.5	< 0.5
chloroform	< 0.5	< 0.5
bromochloromethane	< 0.5	< 0.5
tetrahydrofuran	< 5.0	< 5.0
1,1,1-trichloroethane	< 0.5	< 0.5
1,1-dichloropropene	< 0.5	< 0.5
carbon tetrachloride	< 0.5	< 0.5
1,2-dichloroethane	< 0.5	< 0.5
benzene	< 0.5	< 0.5
tert-amyl methyl ether (TAME)	< 1.0	< 1.0
trichloroethene	< 0.5	< 0.5
1,2-dichloropropane	< 0.5	< 0.5
bromodichloromethane	< 0.5	< 0.5
1,4-Dioxane	< 50	< 50
dibromomethane	< 0.5	< 0.5
4-methyl-2-pentanone	< 13	< 13
cis-1,3-dichloropropene	< 0.5	< 0.5
toluene	< 0.5	< 0.5
trans-1,3-dichloropropene	< 1.0	< 1.0
1,1,2-trichloroethane	< 0.5	< 0.5
2-hexanone	< 13	< 13
1,3-dichloropropane	< 0.5	< 0.5
tetrachloroethene	< 0.5	< 0.5
dibromochloromethane	< 0.5	< 0.5
1,2-dibromoethane (EDB)	< 1.0	< 1.0
chlorobenzene	< 0.5	< 0.5
1,1,1,2-tetrachloroethane	< 0.5	< 0.5
ethylbenzene	< 0.5	< 0.5
1,1,2,2-tetrachloroethane	< 0.5	< 0.5
m&p-xylene	< 1.0	< 1.0
o-xylene	< 0.5	< 0.5
styrene	< 0.5	< 0.5
bromoform	< 1.0	< 1.0
isopropylbenzene	< 0.5	< 0.5
1,2,3-trichloropropane	< 0.5	< 0.5
bromobenzene	< 0.5	< 0.5
n-propylbenzene	< 0.5	< 0.5
2-chlorotoluene	< 0.5	< 0.5
1,3,5-trimethylbenzene	< 0.5	< 0.5
trans-1,4-dichloro-2-butene	< 1.0	< 1.0
4-chlorotoluene	< 0.5	< 0.5
tert-butyl-benzene	< 0.5	< 0.5
1,2,4-trimethylbenzene	< 0.5	< 0.5
sec-butyl-benzene	< 0.5	< 0.5
p-isopropyltoluene	< 0.5	< 0.5
1,3-dichlorobenzene	< 0.5	< 0.5
1,4-dichlorobenzene	< 0.5	< 0.5
n-butylbenzene	< 0.5	< 0.5
1,2-dichlorobenzene	< 0.5	< 0.5
1,2-dibromo-3-chloropropane	< 2.5	< 2.5
1,3,5-trichlorobenzene	< 0.5	< 0.5
1,2,4-trichlorobenzene	< 0.5	< 0.5
hexachlorobutadiene	< 0.5	< 0.5
naphthalene	< 1.0	< 1.0
1,2,3-trichlorobenzene	< 0.5	< 0.5

Laboratory Control Sample

Date Analyzed:	3/6/2009	
Spike Concentration = 20ug/L	% Recovery	Acceptance Limits
dichlorodifluoromethane	110	70-130
chloromethane	94.4	70-130
vinyl chloride	99.1	80-120
bromomethane	95.8	70-130
chloroethane	90.3	70-130
trichlorofluoromethane	103	70-130
diethyl ether	93.0	70-130
acetone	94.7	70-130
1,1-dichloroethene	96.6	80-120
FREON-113	105	70-130
iodomethane	93.2	70-130
carbon disulfide	119	70-130
dichloromethane	96.2	70-130
tert-butyl alcohol (TBA)	116	70-130
acrylonitrile	87.4	70-130
methyl-tert-butyl-ether	90.6	70-130
trans-1,2-dichloroethene	99.2	70-130
1,1-dichloroethane	94.2	70-130
di-isopropyl ether (DIPE)	90.1	70-130
ethyl tert-butyl ether (ETBE)	91.6	70-130
vinyl acetate	85.1	70-130
2-butanone	96.9	70-130
2,2-dichloropropane	97.7	70-130
cis-1,2-dichloroethene	98.6	70-130
chloroform	94.0	80-120
bromochloromethane	103	70-130
tetrahydrofuran	104	70-130
1,1,1-trichloroethane	92.9	70-130
1,1-dichloropropene	98.3	70-130
carbon tetrachloride	99.0	70-130
1,2-dichloroethane	97.3	70-130
benzene	95.8	70-130
tert-amyl methyl ether (TAME)	97.8	70-130
trichloroethene	101	70-130
1,2-dichloropropane	94.1	80-120
bromodichloromethane	96.2	70-130
1,4-Dioxane	101	70-130
dibromomethane	105	70-130
4-methyl-2-pentanone	95.1	70-130
cis-1,3-dichloropropene	104	70-130
toluene	99.0	80-120
trans-1,3-dichloropropene	100	70-130
1,1,2-trichloroethane	103	70-130
2-hexanone	103	70-130
1,3-dichloropropane	104	70-130
tetrachloroethene	114	70-130
dibromochloromethane	112	70-130
1,2-dibromoethane (EDB)	109	70-130
chlorobenzene	109	70-130
1,1,1,2-tetrachloroethane	107	70-130
ethylbenzene	109	80-120
1,1,2,2-tetrachloroethane	105	70-130
m&p-xylene	104	70-130
o-xylene	91.7	70-130
styrene	106	70-130
bromoform	103	70-130
isopropylbenzene	111	70-130
1,2,3-trichloropropane	93.4	70-130
bromobenzene	102	70-130
n-propylbenzene	98.7	70-130
2-chlorotoluene	93.2	70-130
1,3,5-trimethylbenzene	100.0	70-130
trans-1,4-dichloro-2-butene	87.5	70-130
4-chlorotoluene	96.1	70-130
tert-butyl-benzene	116	70-130
1,2,4-trimethylbenzene	94.5	70-130
sec-butyl-benzene	97.1	70-130
p-isopropyltoluene	98.1	70-130
1,3-dichlorobenzene	96.1	70-130
1,4-dichlorobenzene	98.6	70-130
n-butylbenzene	95.9	70-130
1,2-dichlorobenzene	97.1	70-130
1,2-dibromo-3-chloropropane	103	70-130
1,3,5-trichlorobenzene	108	70-130
1,2,4-trichlorobenzene	109	70-130
hexachlorobutadiene	109	70-130
naphthalene	98.5	70-130
1,2,3-trichlorobenzene	105	70-130

Laboratory Control Sample Duplicate

Date Analyzed:	3/6/2009	
% Recovery	Acceptance Limits	Verdict
109	70-130	ok
95.1	70-130	ok
97.3	70-130	ok
95.5	70-130	ok
89.4	70-130	ok
102	70-130	ok
90.8	70-130	ok
103	70-130	ok
98.5	70-130	ok
103	70-130	ok
90.7	70-130	ok
118	70-130	ok
97.7	70-130	ok
110	70-130	ok
85.9	70-130	ok
92.0	70-130	ok
98.8	70-130	ok
94.2	70-130	ok
91.6	70-130	ok
91.4	70-130	ok
86.5	70-130	ok
98.5	70-130	ok
94.9	70-130	ok
98.9	70-130	ok
93.8	70-130	ok
103	70-130	ok
105	70-130	ok
92.5	70-130	ok
97.8	70-130	ok
97.6	70-130	ok
97.6	70-130	ok
95.6	70-130	ok
96.8	70-130	ok
100	70-130	ok
92.1	70-130	ok
97.4	70-130	ok
92.4	70-130	ok
105	70-130	ok
95.6	70-130	ok
102	70-130	ok
97.9	70-130	ok
98.3	70-130	ok
103	70-130	ok
101	70-130	ok
101	70-130	ok
108	70-130	ok
109	70-130	ok
104	70-130	ok
101	70-130	ok
90.8	70-130	ok
105	70-130	ok
104	70-130	ok
104	70-130	ok
104	70-130	ok
104	70-130	ok
110	70-130	ok
94.7	70-130	ok
102	70-130	ok
97.1	70-130	ok
94.2	70-130	ok
98.1	70-130	ok
96.6	70-130	ok
95.6	70-130	ok
95.7	70-130	ok
105	70-130	ok
110	70-130	ok
110	70-130	ok
110	70-130	ok
96.9	70-130	ok
106	70-130	ok
106	70-130	ok

Acceptance

Surrogates:	Recovery (%)	Acceptance Limits	Surrogates:	Recovery (%)	Acceptance Limits	Verdict	Surrogates:	Recovery (%)	Acceptance Limits	Verdict	RPD	Acceptance Limits	Verdict
DIBROMOFLUOROMETHANE	100	70-130	DIBROMOFLUOROMETHANE	105	70-130	ok	101	70-130	ok	4.01	<25	ok	
1,2-DICHLOROETHANE-D4	94.6	70-130	1,2-DICHLOROETHANE-D4	104	70-130	ok	104	70-130	ok	0.08	<25	ok	
TOLUENE-D8	104	70-130	TOLUENE-D8	105	70-130	ok	105	70-130	ok	0.32	<25	ok	
4-BROMOFLUOROBENZENE	103	70-130	4-BROMOFLUOROBENZENE	104	70-130	ok	104	70-130	ok	0.42	<25	ok	
1,2-DICHLOROBENZENE-D4	101	70-130	1,2-DICHLOROBENZENE-D4	99.1	70-130	ok	101	70-130	ok	1.80	<25	ok	

EPA Method 8270/825 Aqueous Method Blank (MB) and Laboratory Control Sample (LCS) Data

Method Blank

Date Extracted:	03/09/09	
Date Analyzed:	03/10/09	
File Name:	M0402	
		Reporting Limit
Semi-Volatile Organics	Result	(ug/L)
n-nitrosodimethylamine	ND	10
pyridine	ND	100
phenol	ND	10
bis(2-chloroethyl)ether	ND	10
2-chlorophenol	ND	10
1,3-dichlorobenzene	ND	10
1,4-dichlorobenzene	ND	10
benzyl alcohol	ND	20
1,2-dichlorobenzene	ND	10
2-methylphenol	ND	10
bis(2-chloroisopropyl)ether	ND	10
3&4-methylphenol	ND	10
n-nitrosodi-n-propylamine	ND	10
acetophenone	ND	10
hexachloroethane	ND	10
nitrobenzene	ND	10
isophrone	ND	10
2-nitrophenol	ND	10
2,4-dimethylphenol	ND	10
benzoic acid	ND	10
bis(2-chloroethoxy)methane	ND	10
2,4-dichlorophenol	ND	10
1,2,4-trichlorobenzene	ND	10
naphthalene	ND	2.0
4-chloroaniline	ND	10
hexachlorobutadiene	ND	10
4-chloro-3-methylphenol	ND	20
2-methylnaphthalene	ND	2.0
1,2,4,5-Tetrachlorobenzene	ND	10
aniline	ND	10
hexachlorocyclopentadiene	ND	50
2,4,6-trichlorophenol	ND	10
2,4,5-trichlorophenol	ND	10
2-chloronaphthalene	ND	10
2-nitroaniline	ND	50
dimethylphthalate	ND	10
acenaphthylene	ND	2.0
2,6-dinitrotoluene	ND	10
3-nitroaniline	ND	50
acenaphthene	ND	2.0
2,4-dinitrophenol	ND	100
dibenzofuran	ND	10
4-nitrophenol	ND	50
2,4-dinitrotoluene	ND	10
diethylphthalate	ND	10
fluorene	ND	2.0
4-chlorophenyl phenyl ether	ND	10
4-nitroaniline	ND	20
4,6-dinitro-2-methylphenol	ND	50
n-nitrosodiphenylamine	ND	10
azobenzene	ND	10
4-bromophenyl phenyl ether	ND	10
Pentachloronitrobenzene	ND	10
hexachlorobenzene	ND	10
pentachlorophenol	ND	50
phenanthrene	ND	2.0
anthracene	ND	2.0
carbazole	ND	10
di-n-butylphthalate	ND	15
fluoranthene	ND	2.0
benzidine	ND	10
pyrene	ND	2.0
butylbenzylphthalate	ND	10
benz [a] anthracene	ND	2.0
3,3'-dichlorobenzidine	ND	20
chrysene	ND	2.0
bis(2-ethylhexyl)phthalate	ND	10
di-n-octylphthalate	ND	10
benzo [b] fluoranthene	ND	2.0
benzo [k] fluoranthene	ND	2.0
benzo [a] pyrene	ND	2.0
indeno [1,2,3-cd] pyrene	ND	2.0
dibenz [a,h] anthracene	ND	2.0
benzo [ghi] perylene	ND	2.0

Surrogates:	Recovery (%)	Acceptance Limits
2-FLUOROPHENOL	70.0	15-110
PHENOL-D6	71.7	15-110
NITROBENZENE-D5	67.1	30-130
2-FLUOROBIPHENYL	68.9	30-130
2,4,6-TRIBROMOPHENOL	68.6	15-100
p-TERPHENYL-D14	74.7	30-130

EPA Method 8270/825 Aqueous Method Blank (MB) and Laboratory Control Sample (LCS) Data

Laboratory Control Sample

Date Extracted: 03/09/09
Date Analyzed: 03/10/09
File Name: M0403

Laboratory Control Sample Duplicates

Date Extracted: 03/09/09
Date Analyzed: 03/10/09
File Name: M0404

Spike Concentration = 20ug/L	% Recovery	Acceptance Limits	Verdict	% Recovery	Acceptance Limits	Verdict	Relative % Diff	Limits	Verdict
n-nitrosodimethylamine	64.6	40-140	ok	64.8	40-140	ok	0.32	<20	ok
pyridine	61.4	40-140	ok	63.3	40-140	ok	2.9	<20	ok
phenol	76.1	30-130	ok	76.8	30-130	ok	0.88	<20	ok
bis(2-chloroethyl)ether	83.3	40-140	ok	83.8	40-140	ok	0.65	<20	ok
2-chlorophenol	76.4	30-130	ok	77.9	30-130	ok	2.0	<20	ok
1,3-dichlorobenzene	74.4	40-140	ok	77.7	40-140	ok	4.3	<20	ok
1,4-dichlorobenzene	78.1	40-140	ok	77.5	40-140	ok	0.72	<20	ok
benzyl alcohol	78.7	40-140	ok	81.1	40-140	ok	3.0	<20	ok
1,2-dichlorobenzene	78.7	40-140	ok	78.5	40-140	ok	0.31	<20	ok
2-methylphenol	78.2	30-130	ok	79.5	30-130	ok	1.7	<20	ok
bis(2-chloroisopropyl)ether	71.1	40-140	ok	74.3	40-140	ok	4.4	<20	ok
3,4-methylphenol	81.6	30-130	ok	84.0	30-130	ok	2.9	<20	ok
n-nitrosodi-n-propylamine	78.6	40-140	ok	79.7	40-140	ok	1.5	<20	ok
acetophenone	80.8	40-140	ok	84.0	40-140	ok	3.9	<20	ok
hexachloroethane	73.3	40-140	ok	72.4	40-140	ok	1.2	<20	ok
nitrobenzene	80.2	40-140	ok	82.4	40-140	ok	2.7	<20	ok
isophrone	86.2	40-140	ok	81.8	30-130	ok	5.3	<20	ok
2-nitrophenol	84.9	30-130	ok	78.1	30-130	ok	8.3	<20	ok
2,4-dimethylphenol	70.7	30-130	ok	66.5	30-130	ok	6.2	<20	ok
benzoic acid	47.4	40-140	ok	43.3	40-140	ok	9.1	<20	ok
bis(2-chloroethoxy)methane	77.7	40-140	ok	81.4	30-130	ok	4.6	<20	ok
2,4-dichlorophenol	81.7	30-130	ok	80.2	40-140	ok	1.9	<20	ok
1,2,4-trichlorobenzene	82.7	40-140	ok	83.9	40-140	ok	1.5	<20	ok
naphthalene	79.7	40-140	ok	72.3	40-140	ok	9.7	<20	ok
4-chloroaniline	81.9	40-140	ok	83.7	40-140	ok	2.1	<20	ok
hexachlorobutadiene	82.6	40-140	ok	75.5	30-130	ok	9.0	<20	ok
4-chloro-3-methylphenol	82.5	30-130	ok	73.8	40-140	ok	11	<20	ok
2-methylnaphthalene	78.4	40-140	ok	69.1	40-140	ok	13	<20	ok
1,2,4,5-Tetrachlorobenzene	85.2	40-140	ok	77.3	40-140	ok	9.8	<20	ok
aniline	75.9	40-140	ok	71.3	40-140	ok	6.3	<20	ok
hexachlorocyclopentadiene	71.2	40-140	ok	64.7	30-130	ok	9.5	<20	ok
2,4,6-trichlorophenol	70.3	30-130	ok	65.8	30-130	ok	6.6	<20	ok
2,4,5-trichlorophenol	91.4	30-130	ok	80.9	40-140	ok	12	<20	ok
2-chloronaphthalene	83.4	40-140	ok	78.6	40-140	ok	5.9	<20	ok
2-nitroaniline	89.4	40-140	ok	79.9	40-140	ok	11	<20	ok
dimethylphthalate	93.3	40-140	ok	83.0	40-140	ok	12	<20	ok
acenaphthylene	88.2	40-140	ok	79.8	40-140	ok	10	<20	ok
2,6-dinitrotoluene	89.3	40-140	ok	81.4	40-140	ok	9.2	<20	ok
3-nitroaniline	92.1	40-140	ok	84.1	40-140	ok	9.1	<20	ok
acenaphthene	76.5	40-140	ok	78.4	30-130	ok	2.4	<20	ok
2,4-dinitrophenol	50.4	30-130	ok	45.8	40-140	ok	9.6	<20	ok
dibenzofuran	80.7	40-140	ok	81.5	30-130	ok	0.90	<20	ok
4-nitrophenol	85.6	30-130	ok	89.0	40-140	ok	3.9	<20	ok
2,4-dinitrotoluene	84.5	40-140	ok	88.2	40-140	ok	4.3	<20	ok
diethylphthalate	76.8	40-140	ok	86.3	40-140	ok	12	<20	ok
fluorene	79.6	40-140	ok	83.6	40-140	ok	4.9	<20	ok
4-chlorophenyl phenyl ether	82.3	40-140	ok	81.4	40-140	ok	1.0	<20	ok
4-nitroaniline	94.8	30-130	ok	101	30-130	ok	6.7	<20	ok
4,6-dinitro-2-methylphenol	82.2	30-130	ok	88.8	40-140	ok	7.7	<20	ok
n-nitrosodiphenylamine	82.0	40-140	ok	81.9	40-140	ok	0.09	<20	ok
azobenzene	78.8	40-140	ok	78.4	40-140	ok	0.43	<20	ok
4-bromophenyl phenyl ether	84.4	40-140	ok	83.3	40-140	ok	1.3	<20	ok
Pentachloronitrobenzene	85.4	40-140	ok	87.5	30-130	ok	2.4	<20	ok
hexachlorobenzene	83.6	40-140	ok	88.8	40-140	ok	6.1	<20	ok
pentachlorophenol	60.1	30-130	ok	64.1	40-140	ok	6.5	<20	ok
phenanthrene	82.8	40-140	ok	77.4	40-140	ok	6.7	<20	ok
anthracene	67.7	40-140	ok	83.7	40-140	ok	21	<20	out
carbazole	78.9	40-140	ok	84.5	40-140	ok	6.9	<20	ok
di-n-butylphthalate	79.9	40-140	ok	84.9	40-140	ok	6.1	<20	ok
fluoranthene	78.9	40-140	ok	84.6	40-140	ok	6.9	<20	ok
benzidine	56.8	40-140	ok	59.7	40-140	ok	5.1	<20	ok
pyrene	78.8	40-140	ok	83.7	40-140	ok	6.0	<20	ok
butylbenzylphthalate	81.4	40-140	ok	88.8	40-140	ok	8.8	<20	ok
benz [a] anthracene	81.8	40-140	ok	86.9	40-140	ok	6.0	<20	ok
3,3'-dichlorobenzidine	82.1	40-140	ok	88.9	40-140	ok	7.9	<20	ok
chrysene	79.7	40-140	ok	82.9	40-140	ok	4.0	<20	ok
bis(2-ethylhexyl)phthalate	78.3	40-140	ok	81.0	40-140	ok	3.3	<20	ok
di-n-octylphthalate	78.8	40-140	ok	82.0	40-140	ok	4.0	<20	ok
benzo [b] fluoranthene	75.4	40-140	ok	82.1	40-140	ok	8.6	<20	ok
benzo [k] fluoranthene	85.4	40-140	ok	84.4	40-140	ok	1.2	<20	ok
benzo [a] pyrene	79.5	40-140	ok	82.2	40-140	ok	3.4	<20	ok
indeno [1,2,3-cd] pyrene	81.9	40-140	ok	85.8	40-140	ok	4.7	<20	ok
dibenz [a,h] anthracene	80.8	40-140	ok	85.1	40-141	ok	5.2	<20	ok
benzo [ghi] perylene	81.5	40-140	ok	83.7	40-142	ok	2.6	<20	ok

CAM criteria allows 15% of analytes to exceed criteria.

Surrogates:	Recovery (%)	Acceptance Limits	Verdict	Recovery (%)	Acceptance Limits	Verdict	Relative % Diff	Limits	Verdict
2-FLUOROPHENOL	67.6	15-110	ok	59.5	15-110	ok	13	<20	ok
PHENOL-D8	71.0	15-110	ok	63.8	15-110	ok	11	<20	ok
NITROBENZENE-D5	61.8	30-130	ok	63.7	30-130	ok	3.0	<20	ok
2-FLUOROBIPHENYL	66.0	30-130	ok	65.9	30-130	ok	0.12	<20	ok
2,4,6-TRIBROMOPHENOL	80.9	15-110	ok	74.5	15-110	ok	8.3	<20	ok
p-TERPHENYL-D14	63.0	30-130	ok	65.7	30-130	ok	4.2	<20	ok

W.O. # 0903-00012
(for lab use only)

[illegible]



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

Edie Hutchinson
GZA GeoEnvironmental, Inc. (MA)
106 South Street
Hopkinton, MA 01748

RE: Dreamland Theater

ESS Laboratory Work Order Number: 0903032

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this Project Narrative, the entire report has been paginated. The ESS Laboratory Certifications sheet is the final report page. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results. All ICP Metals were analyzed using the established linear dynamic range to determine acceptable analytical results.

ESS Laboratory certifies that the test results meet the requirements of NELAC, except where noted within this project narrative.

Samples were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

Sample Receipt

The following sample(s) were received on March 03, 2009 for the analyses specified on the enclosed Chain of Custody Record.

Laboratory ID
0903032-01

Matrix
Ground Water

Client Sample ID
GZ-201 030309



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: Dreamland Theater

ESS Laboratory Work Order: 0903032

PROJECT NARRATIVE

Classical Chemistry

BC90401-MS1 **Matrix Spike recovery is below lower control limit.**

Hexavalent Chromium

BC90604-DUP1 **Relative percent difference for duplicate is outside of criteria.**

Total Suspended Solids

No other observations noted.

End of Project Narrative.



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: Dreamland Theater
Client Sample ID: GZ-201 030309
Date Sampled: 03/03/09 13:00
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 5
Extraction Method: 3510C

ESS Laboratory Work Order: 0903032
ESS Laboratory Sample ID: 0903032-01
Sample Matrix: Ground Water
Analyst: SEP
Prepared: 03/04/09

608 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>
Aroclor 1016	ND	ug/L	0.50		1	03/04/09
Aroclor 1221	ND	ug/L	0.50		1	03/04/09
Aroclor 1232	ND	ug/L	0.50		1	03/04/09
Aroclor 1242	ND	ug/L	0.50		1	03/04/09
Aroclor 1248	ND	ug/L	0.50		1	03/04/09
Aroclor 1254	ND	ug/L	0.50		1	03/04/09
Aroclor 1260	ND	ug/L	0.50		1	03/04/09
Aroclor 1262	ND	ug/L	0.50		1	03/04/09
Aroclor 1268	ND	ug/L	0.50		1	03/04/09

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Surrogate: Decachlorobiphenyl	87 %		30-150
Surrogate: Decachlorobiphenyl [2C]	93 %		30-150
Surrogate: Tetrachloro-m-xylene	96 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	112 %		30-150



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)
Client Project ID: Dreamland Theater
Client Sample ID: GZ-201 030309
Date Sampled: 03/03/09 13:00
Percent Solids: N/A

ESS Laboratory Work Order: 0903032
ESS Laboratory Sample ID: 0903032-01
Sample Matrix: Ground Water

Classical Chemistry

<u>Analyte</u>	<u>Results</u>	<u>Units</u>	<u>MRL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>
Hexavalent Chromium	ND	ug/L	50	3500Cr D		1	JP	03/04/09 8:10
Total Cyanide (LL)	ND	mg/L	0.0050	4500 CN CE		1	EEM	03/06/09
Total Petroleum Hydrocarbon	ND	mg/L	5	1664A		1	JP	03/10/09
Total Residual Chlorine	ND	mg/L	0.02	4500Cl D		1	EEM	03/04/09 9:34
Total Suspended Solids	6	mg/L	5	2540D		1	KJK	03/06/09



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: Dreamland Theater

ESS Laboratory Work Order: 0903032

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

608 Polychlorinated Biphenyls (PCB)

Batch BC90414 - 3510C

Blank

Aroclor 1016	ND	0.50	ug/L							
Aroclor 1221	ND	0.50	ug/L							
Aroclor 1232	ND	0.50	ug/L							
Aroclor 1242	ND	0.50	ug/L							
Aroclor 1248	ND	0.50	ug/L							
Aroclor 1254	ND	0.50	ug/L							
Aroclor 1260	ND	0.50	ug/L							
Aroclor 1262	ND	0.50	ug/L							
Aroclor 1268	ND	0.50	ug/L							

Surrogate: Decachlorobiphenyl	0.251		ug/L	0.2500		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.268		ug/L	0.2500		107	30-150			
Surrogate: Tetrachloro-m-xylene	0.243		ug/L	0.2500		97	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.287		ug/L	0.2500		115	30-150			

LCS

Aroclor 1016	4.80	0.50	ug/L	5.000		96	40-140			
Aroclor 1260	4.41	0.50	ug/L	5.000		88	40-140			

Surrogate: Decachlorobiphenyl	0.249		ug/L	0.2500		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.265		ug/L	0.2500		106	30-150			
Surrogate: Tetrachloro-m-xylene	0.259		ug/L	0.2500		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.281		ug/L	0.2500		112	30-150			

LCS Dup

Aroclor 1016	5.08	0.50	ug/L	5.000		102	40-140	6	50	
Aroclor 1260	4.62	0.50	ug/L	5.000		92	40-140	5	50	

Surrogate: Decachlorobiphenyl	0.253		ug/L	0.2500		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.268		ug/L	0.2500		107	30-150			
Surrogate: Tetrachloro-m-xylene	0.270		ug/L	0.2500		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.291		ug/L	0.2500		117	30-150			

Classical Chemistry

Batch BC90401 - Metals No Prep

Blank

Hexavalent Chromium	ND	50	ug/L							
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LCS

Hexavalent Chromium	516	50	ug/L	499.8		103	90-110			
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LCS Dup

Hexavalent Chromium	493	50	ug/L	499.8		99	90-110	5	20	
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Duplicate

Hexavalent Chromium	ND	50	ug/L						20	
---------------------	----	----	------	--	--	--	--	--	----	--

Matrix Spike

Hexavalent Chromium	209	50	ug/L	499.8		42	85-115			M-
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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: Dreamland Theater

ESS Laboratory Work Order: 0903032

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch BC90403 - General Preparation										
Blank										
Total Residual Chlorine	ND	0.02	mg/L							
LCS										
Total Residual Chlorine	1.54		mg/L	1.580		97	85-115			
Batch BC90604 - General Preparation										
Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	60		mg/L	60.60		99	80-120			
Duplicate Source: 0903032-01										
Total Suspended Solids	8	5	mg/L		6			29	20	D+
Batch BC90606 - TCN Prep										
Blank										
Total Cyanide (LL)	ND	0.0050	mg/L							
LCS										
Total Cyanide (LL)	0.0186	0.0050	mg/L	0.02006		93	90-110			
LCS										
Total Cyanide (LL)	0.154	0.0050	mg/L	0.1504		102	90-110			
LCS Dup										
Total Cyanide (LL)	0.160	0.0050	mg/L	0.1504		107	90-110	4	20	
Duplicate Source: 0903032-01										
Total Cyanide (LL)	ND	0.0050	mg/L		ND				20	
Matrix Spike Source: 0903032-01										
Total Cyanide (LL)	0.102	0.0050	mg/L	0.1003	ND	102	75-125			
Batch BC91009 - General Preparation										
Blank										
Total Petroleum Hydrocarbon	ND	5	mg/L							
LCS										
Total Petroleum Hydrocarbon	19	5	mg/L	20.00		94	66-114			



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: Dreamland Theater

ESS Laboratory Work Order: 0903032

Notes and Definitions

U	Analyte included in the analysis, but not detected
M-	Matrix Spike recovery is below lower control limit.
D+	Relative percent difference for duplicate is outside of criteria.
ND	Analyte NOT DETECTED above the detection limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.



ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc. (MA)

Client Project ID: Dreamland Theater

ESS Laboratory Work Order: 0903032

ESS LABORATORY CERTIFICATIONS

U.S. Army Corps of Engineers
Soil and Water

Rhode Island: A-179
Potable and Non Potable Water
<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut: PH-0750
Potable and Non Potable Water, Solid and Hazardous Waste
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine: RI002
Potable and Non Potable Water
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts: M-RI002
Potable and Non Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited): 242405
Potable and Non Potable Water
<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited): 11313
Potable and Non Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture
Soil Permit: S-54210

New Jersey (NELAP accredited): RI002
Potable and Non Potable Water, Solid and Hazardous Waste
<http://www.nj.gov/dep/oqa/certlabs.htm>

Maryland: 301
Potable Water
http://www.mde.state.md.us/assets/document/wsp_labs

South Carolina: 78003
Volatile Organic Compounds in Potable Water

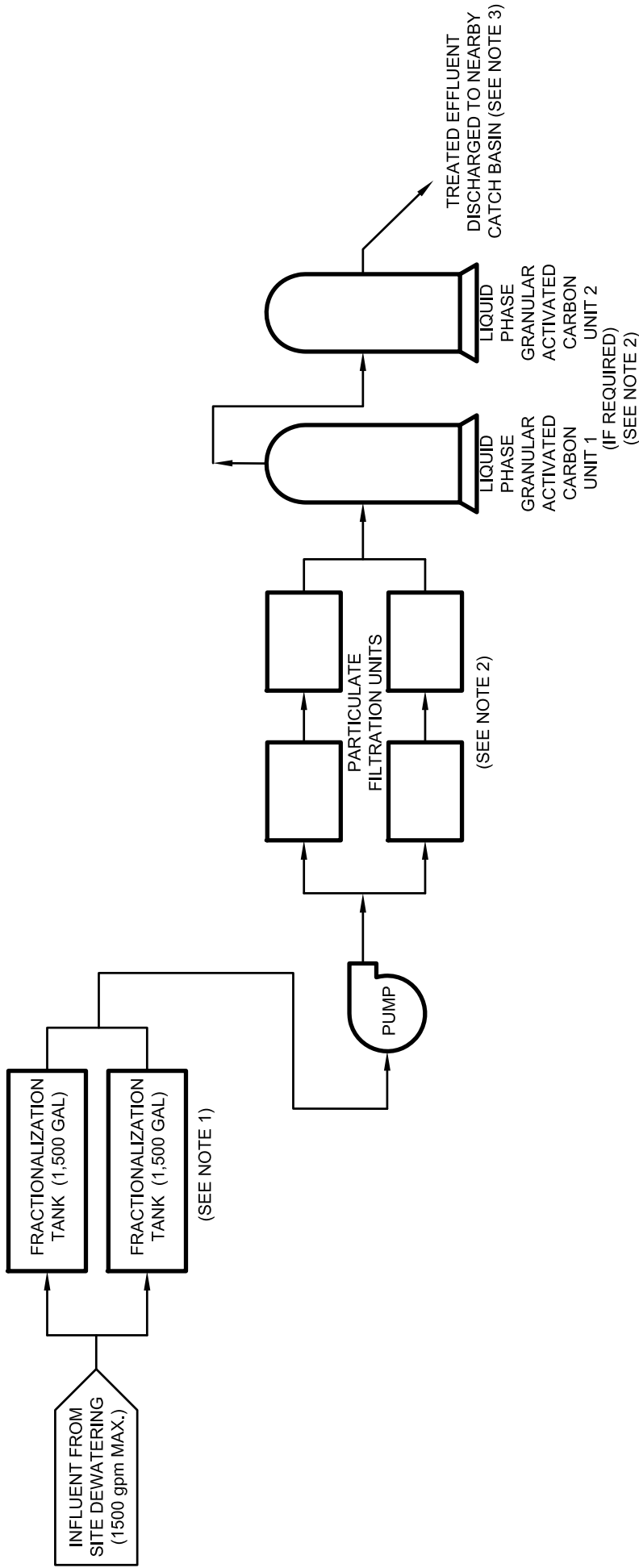
CHAIN-OF-CUSTODY RECORD

(for lab use only)

[illegible]

ATTACHMENT 5

TREATMENT SYSTEM PROCESS FLOW DIAGRAM



NOTE:

1. TWO 1,500 GALLON FRACTIONALIZATION TANK ARE SHOWN. ADDITIONAL STORAGE CAPACITY MAY BE UTILIZED OR COULD BE NECESSARY.
2. ADDITIONAL PARTICULATE AND/OR CARBON FILTRATION UNITS MAY BE NECESSARY TO HANDLE EXPECTED FLOWS. CARBON FILTRATION WILL ONLY BE USED AS NECESSARY.
3. THREE POTENTIAL CATCH BASIN DISCHARGE POINTS ARE LOCATED ADJACENT TO THE SITE (SEE ATTACHMENT 3).

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists 133 Federal St., 3rd Fl. Boston, Massachusetts (617) 963-1000	DREAMLAND THEATER NANTUCKET, MASSACHUSETTS				PROJ. MGR: AJ	DATE 04-15-2009	ATTACHMENT 5
	PROCESS FLOW DIAGRAM PROPOSED DEWATERING TREATMENT SYSTEM				DESIGNED BY: AJ		
					REVIEWED BY: BWF	PROJECT NO. 19030.62	
CHECKED BY: AJ	SCALE: NOT TO SCALE						
PREPARED FOR: Dreamland Theater Foundation							

ATTACHMENT 6

SUPPLEMENTAL INFORMATION

Nantucket MA

NHESP

☒ Potential Vernal Pools

 Potential Vernal Pools

☒ NHESP Priority Habitats of Rare Species

 NHESP MA Priority Habitats for State-Protected Rare Species

☒ NHESP Natural Communities

 NHESP Natural Communities

☒ NHESP Estimated Habitats of Rare Wildlife

 NHESP MA Estimated Habitats of Rare Wildlife

☒ NHESP Certified Vernal Pools

 NHESP MA Certified Vernal Pools

☒ Living Waters Critical Supporting Watersheds

 Living Waters Critical Supporting Watersheds

☒ Living Waters Core Habitats

 Living Waters Core Habitats

☒ BioMap Supporting Natural Landscape Outlines

 BioMap Supporting Natural Landscape Outlines

☒ BioMap Supporting Natural Landscape

 BioMap Supporting Natural Landscape

☒ BioMap Core Habitat Outlines

 BioMap Core Habitat Outlines

☒ BioMap Core Habitat

 BioMap Core Habitat

☒ Massachusetts Towns

 MA Town Boundaries..Outlines

☒ Color Orthos 2005

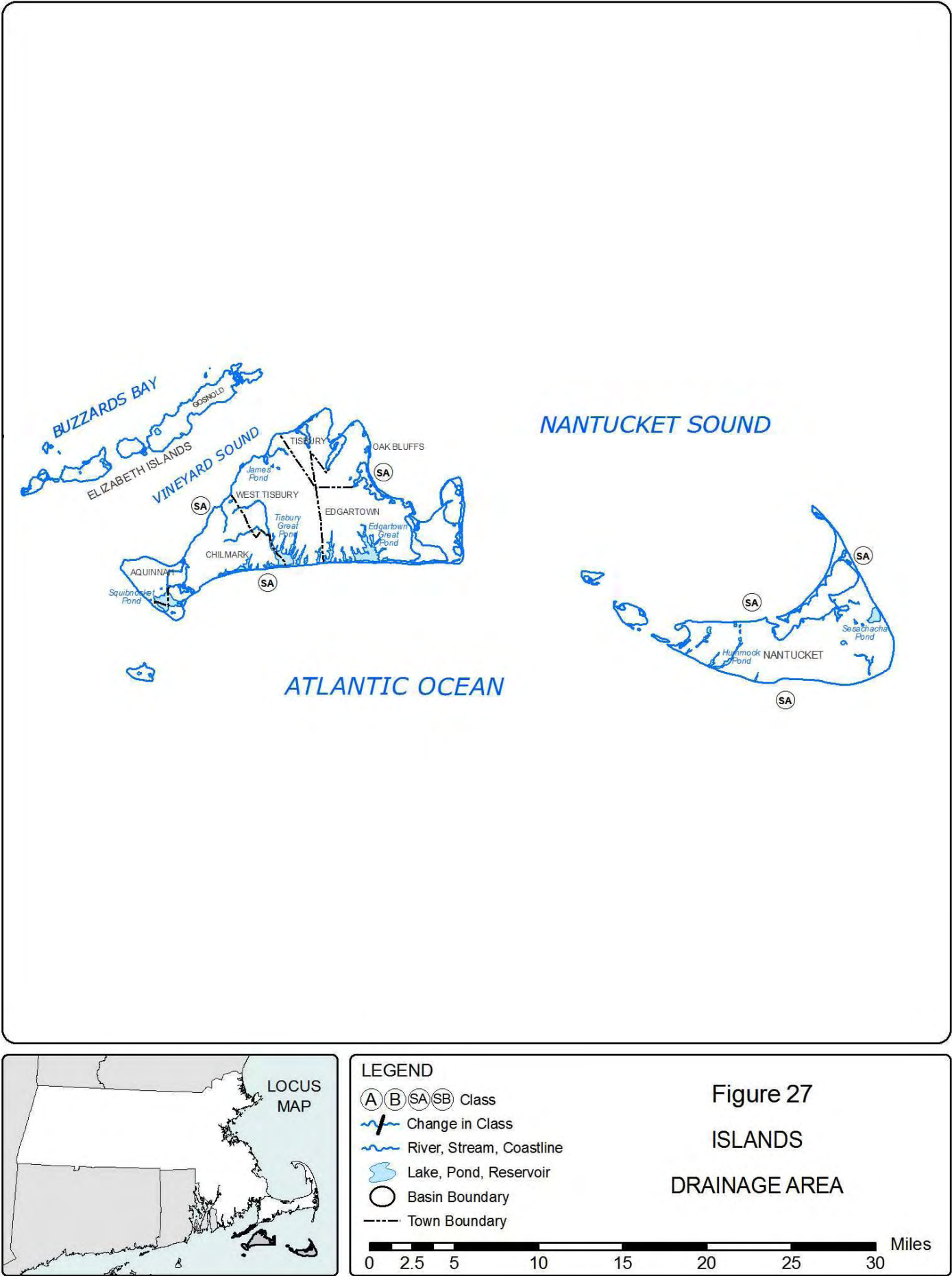


100 m (1:4763)

Source: MassGIS (www.mass.gov/mgis). Maps and photos are for planning purposes only.

WARNING: This map does not meet national map accuracy standards, and cannot be used for engineering purposes. Please consult conditions of use at <http://www.state.ma.us/mgis/>

4.06: continued



4.06: continued

TABLE 27
ISLANDS COASTAL DRAINAGE AREAS

<u>BOUNDARY</u>	<u>MILE POINT</u>	<u>CLASS</u>	<u>QUALIFIERS</u>
Surface waters adjacent* to the Elizabeth Islands subject to the rise and fall of the tide	-	SA	Shellfishing Outstanding Resource Water
All surface waters subject to the rise and fall of the tide of Dukes County and Nantucket Drainage Areas	-	SA	Shellfishing

* Area within 1,000 feet seaward of mean low water.

MA State Water Quality C... Species Protected Under t... Natural Heritage - BioMap... NHESP's BioMap NHESP's Living Waters Impromptu Web Query

http://www.nr.nps.gov/iwisapi/explorer.dll?IWS_SCHEMA=NRIS1&IWS_LOGIN=1&IWS_REPORT=100000066

MSN.com Boston Marathon - Ra... Other bookmarks

Queries Login Logout Save As Save Options Admin Stop Help

Index By State County

National Register Information System

04/07/2009 09:32:18

No filter

Include filter in navigation ☐

State: [MA](#)

County: [Nantucket](#)

Row	Resource Name	Address	City	Listed	Multiple
1	Brant Point Light Station	Brant Pt.	Nantucket	1987-09-28	Lighthouses of Massachusetts TR
2	Coffin, Jethro, House	Sunset Hill	Nantucket	1968-11-24	
3	Nantucket Historic District	Nantucket Island	Nantucket	1966-11-13	
4	Sankaty Head Light	Sankaty Head, Nantucket Island	Nantucket	1987-10-15	Lighthouses of Massachusetts TR

Page 1



Start

Inbox - Microsoft Outlook NPDES RGP NOI Cover L... AutoCAD 2007 - [C:\Doc... Impromptu Web Quer... Mass DEP :: Water :: Wa...

Dreamland Water Classif...

Links 9:34 AM Tuesday 4/7/2009

CERTIFICATE NO: 53439

DATE ISSUED: 2/10/09

Application to the HISTORIC DISTRICT COMMISSION, Nantucket, Massachusetts, for a

CERTIFICATE OF APPROPRIATENESS

for structural work.

All blanks must be filled in using BLUE OR BLACK INK (no pencil) or marked N/A.

NOTE: It is strongly recommended that the applicant be familiar with the HDC guidelines, *Building with Nantucket in Mind*, prior to submittal of application. Please see other side for submittal requirements. Incomplete applications will not be reviewed by the HDC.

This is a contractual agreement and must be filled out in ink. An application is hereby made for issuance of a Certificate of Appropriateness under Chapter 395 of the Acts and Resolves of Mass., 1970, for proposed work as described herein and on plans, drawings and photographs accompanying this application and made a part hereof by reference. The certificate is valid for three years from date of issuance. No structure may differ from the approved application. Violation may impede issuance of Certificate of Occupancy.

PROPERTY DESCRIPTION

TAX MAP N°: 42.3.1 PARCEL N°: 11.1 + 11.2
 Street & Number of Proposed Work: 175 WATER ST / 13 EAST ST.
 Owner of record: NANTUCKET DREAMLAND FOUNDATION
 Mailing Address: 35 CENTRE ST., 2ND FLOOR
NANTUCKET, MA 02554
 Contact Phone #: _____ E-mail: _____

AGENT INFORMATION (if applicable)

Name: _____
 Mailing Address: _____
 Contact Phone #: _____ E-mail: _____

FOR OFFICE USE ONLY

Date application received: 1/30/09 Fee Paid: \$ 225⁰⁰
 Must be acted on by: 3/24
 Extended to: _____
 Approved: _____ Disapproved: _____
 Chairman: [Signature]
 Member: [Signature]
 Member: [Signature]
 Member: [Signature]
 Member: [Signature]
 Notes - Comments - Restrictions - Conditions
per 1/30/09 plans

DESCRIPTION OF WORK TO BE PERFORMED

See reverse for required documentation.

☐ New Dwelling ☐ Addition ☐ Garage ☐ Garage/Apartment ☒ Commercial ☐ Historical Renovation ☐ Deck ☐ Steps ☐ Shed
☐ Color Change ☐ Fence ☐ Gate ☐ Paving ☐ Move Building ☐ Demolition ☒ Revisions to previous Cert. No. _____
☐ Roof ☐ Other _____

Size of Structure or Addition: Length: 194'-5 3/8" Sq. Footage 1st floor: 9423 Decks: Size: 611 ☐ 1st floor ☒ 2nd floor
 Width: 15'-8" Sq. footage 2nd floor: 4475 Size: 1378 ☐ 1st floor ☒ 2nd floor
 Sq. footage 3rd floor: 6081 320722

Difference between existing grade and proposed finish grade: North _____ South _____ East _____ West _____
 Height of ridge above final finish grade: North VARIABLE South VARIABLE East 44'-11" West 48'-11"

Additional Remarks

Historic Name: DREAMLAND THEATRE

Original Date: 1935

Original Builder: HICKSIDE CLARK

Is there an HDC survey form for this building attached? ☐ Yes ☐ N/A

REVISIONS*
 (describe) 1. East Elevation 1.1 ADJUSTED ROOF PITCH 1.2 " ROOF SOFFIT, DAVE, FASCIA 2. SOUTH ELEVATION 2.1 ADJUSTED ROOF LINE 2.2 " " PITCH 2.3 REVISED EASTER EXCLUSIVE 2.4 ADJUSTED EXTERIOR DOOR FRAME ELEMENT
 2. South Elevation 1.4 REDESIGNED GARDEN DOOR
 3. West Elevation 3.1 ADJUSTED ALLEY REDEFINE 3.2 " ROOF BUILD-UP DIMENSION
 4. North Elevation 4.1 ADJUSTED ROOF PITCH 4.2 " SOFFIT, FASCIA, RAKE 4.3 REDESIGNED EXTERIOR REAR DOOR + WINDOW ELEMENT
 *Cloud on drawings and submit photographs of existing elevations.

DETAIL OF WORK TO BE PERFORMED

Foundation: Height Exposed VARIABLE ☐ Block ☐ Block Parged ☐ Brick (type) _____ ☒ Poured Concrete ☐ Piers
Masonry Chimney: ☐ Block Parged ☐ Brick (type) _____ ☐ Other _____
Roof Pitch: Main Mass 8 3/4 / 12 Secondary Mass 8 / 12 Dormer _____ / 12 Other 4 3/4 / 12
Roofing material: ☐ Asphalt: ☐ 3-Tab ☐ Architectural ☐ Wood (Type: Red Cedar, White Cedar, Shakes, etc.) _____
 Fence: Height: _____ Type: _____ Length: _____

Skylights (flat only): Manufacturer _____ Rough Opening _____ Size _____ Location _____
 Manufacturer _____ Rough Opening _____ Size _____ Location _____

Gutters: ☒ Wood ☐ Aluminum ☐ Copper ☒ Leaders (material) PAINTED ALUMINUM

Leaders (material and size): PAINTED ALUMINUM, SIZE: TO BE DETERMINED

Sidewall: ☒ White cedar shingles WEATHERED 5" EXPOSED ☒ Clapboard (exposure: TO MATCH EXISTING inches) Front ☐ Side ☐
☐ Other _____ HISTORIC CLAPBOARD

Trim: A. Wood ☐ Pine ☐ Redwood ☒ Cedar ☐ Other _____

B. Treatment ☒ Paint ☐ Natural to weather ☐ Other _____

C. Dimensions: Fascia HISTORIC 1 1/4" Rake H: 1 1/3" Soffit (Overhang) A: 1 1/2" Corner boards H: 2" Frieze _____
 Window Casing SEE SCH. Door Frame SEE SCH. Columns/Posts: Round _____ Square X

Windows*: ☒ Double Hung ☐ Casement ☒ All Wood ☐ Other _____

☒ True Divided Lights (muntins) ☐ SDL's (Simulated Divided Lights) Manufacturer GREEN MOUNTAIN OR EQUIVANT

Doors* (type and material): Front MATCH EXISTING Rear SEE SCH. Side SEE SCH.

Garage Door(s): Type _____ Material _____

Hardscape materials: Driveways PERVIOUS BRICK PAVED Walkways BRICK Walls _____

* Note: Complete door and window schedules are required.

COLORS

Sidewall _____ Clapboard (if applicable) MATCH EXISTING Roof _____
 Trim WHITE Sash WHITE Doors WHITE
 Deck _____ Foundation _____ Fence _____ Shutters _____

* Attach manufacturer's color samples if color is not from HDC approval list.

I hereby authorize the agent named above to act on my behalf to make changes in the specifications or the plans contained in this application in order to bring the application into compliance with the HDC guidelines. I hereby agree to abide by and comply with the terms and conditions of this application. I hereby agree that the submission of any revisions to this application will initiate a new sixty-day review period.

Date 1/30/09 Signature of owner of record [Signature] Signed under penalties of perjury