

Appendix A  
Correspondence



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**John L. Sarna, P.E.**

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105 Phillips Hill Road  
New City, New York 10956  
(845) 634-7851 (tel. and fax)  
E-Mail jlsarna@att.net

April 27, 2007

To: Planning Board, Town of Clarkstown  
From: John L. Sarna, P.E.  
Re: Hyenga Lake Development  
Continued Completeness Review of Traffic Section of Draft Environmental Impact  
Statement – Revisions Dated April 17, 2007

This memo incorporates my continued review for completeness of the traffic section of the Draft Environmental Impact Statement for the Hyenga Lake Development.

My initial review was of the submission dated October 31, 2006, prepared by Tim Miller Associates. The traffic analyses were performed by John Collins Engineers, P.C., and were included in Appendix I of the DEIS. In my memo to the Planning Board dated December 11, 2006, I noted the following comments.

- The analysis was limited to one existing intersection (Pipetown Hill Road and Pascack Road) and the intersection of the access road with Pipetown Hill Road. The intersections of Pipetown Road with Central Avenue and Pascack Road with Forman Drive/CR35A should have been included in the analysis.
- The No-Build condition did not include any other developments. It was noted that if the Clarkstown and Spring Valley Planning Offices had not identified any developments to be considered in the analysis, a statement to that effect should have been included.
- There was some confusion as to whether a direct access to Route 59 was to be provided.

Based, at least in part, upon these comments, John Collins Engineers prepared a revised Traffic Impact Study, dated March 30, 2007, which addressed all of the above comments, included the intersections of Pipetown Road with Central Avenue and Pascack Road with Forman Drive/CR35A and eliminated mention of access to Route 59 except as an emergency access. A review of this report showed that it met all of the requirements for completeness. However, during the course of the review it was noted that there was an inconsistency in the counted traffic volumes along Pipetown Road, which was too large to be attributable to the developments along the road. After discussing this with John Collins Engineers, new counts were made at the intersections of Pipetown Road with both Pascack Road and Central Avenue on April 11 and 12, 2007. Based on these counts, new traffic assignments and capacity analyses were made, and Appendices A, B and C of the report were revised with an April 2007 date. Based on these counts, the Existing condition traffic volumes, shown on Figures 2 and 3 of the Traffic Impact Study, were revised, and these revisions were carried through for the No-Build and Build

conditions, as well, and the capacity analyses were revised accordingly. This seems to be an acceptable procedure. The revised traffic diagrams and capacity analyses are to be incorporated into a revised Traffic Impact Study report as Appendices A, B and C, which is to be resubmitted to the Planning Board. These revisions also have been incorporated into the Executive Summary of the Draft Environmental Impact Statement, under Section 1.2.5 Traffic and Transportation, and more fully in the main body of the document in Section 3.6.

*Done*

It is noted that the Traffic sections of the DEIS, at least the ones that I was given for review, still have a date of October 31, 2006. Since revisions subsequent to this date have been made, the document should be re-dated accordingly.

*To be Revised w/ PH date*

In section 3.6.3 of the revised DEIS, it is reported that the Clarkstown Planning Department and the Spring Valley Building Department were contacted, and that, aside from two relatively minor (in terms of peak hour traffic generation) projects, there were no proposed new developments in the area which needed to be factored into the No-Build condition. This statement addresses the comment made in my initial review. It should be included in the Traffic Impact Study as well.

*P3306-6*

Overall, the traffic sections of the DEIS meet the criteria for completeness, and as such are acceptable for distribution. It should be understood, of course, that acceptance for completeness does not imply an acceptance of the traffic analysis and its findings, and that, as required by SEQR, a review for technical content still has to be made.

X Shirley, K J S  
X PB, X L B, X ST,  
X DTA, X T. Miller

**TOWN OF CLARKSTOWN  
DEPARTMENT OF ENVIRONMENTAL CONTROL  
INTER-OFFICE MEMORANDUM**

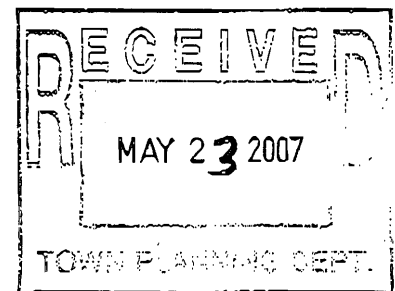
**DATE:** May 23, 2007  
**FROM:** Dennis M. Letson, P.E., Deputy Director  
**TO:** Planning Board  
**SUBJECT:** Hyenga Lake – 57.14-03-02

*DL* *File*

SEQR:

We have reviewed the additional information submitted by the Tim Miller Associates, and in our opinion the DEIS document is complete for the purpose of commencing public review and comment.

We will provide additional substantive review comments on the technical aspects of the document.





03300  
AC

**LJA** Leonard Jackson Associates

**Consulting Engineers**

26 Firemens Memorial Drive . Pomona, New York 10970 . (845) 354-4382 . FAX (845) 354-4401

April 26, 2007

Tim Miller Associates  
10 North Street  
Cold Springs, New York 10516

 **COPY**

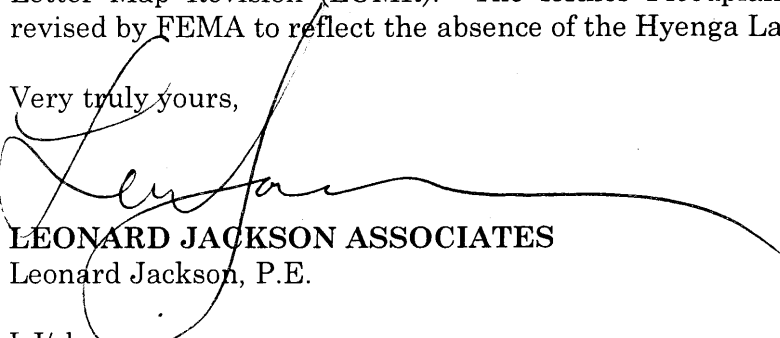
Att: Ann Cutignola

Re: **Hyenga Lake**  
LJA # 03151

Dear Ms. Cutignola:

Please be advised that Leonard Jackson Associates (LJA) has prepared the hydraulic analysis for the existing conditions on the Pascack Creek and will forward this data to the Federal Emergency Management Agency (FEMA) for a map change in the form of a Letter Map Revision (LOMR). The former Floodplain and Floodway limits will be revised by FEMA to reflect the absence of the Hyenga Lake dam.

Very truly yours,

  
**LEONARD JACKSON ASSOCIATES**  
Leonard Jackson, P.E.

LJ/cb

Mail & Fax - (845) 265-4418





**71 Babcock Lane  
Suffern, NY 10901  
(845) 354 2026**

**Edward A. Maikish PE**  
*Civil Engineering Consultant*

October 26, 2006

**PROPOSAL**  
For  
**Preparation of Engineering Reports, Plans & Other Documents**  
**Public Water Supply Main Extension**  
For Submission to United Water of NY and RCDOH  
Hyenga Lake Subdivision  
Village of Spring Valley  
Town of Clarkstown, NY

Atzl, Scatassa & Zigler P. C.  
234 North Main St.  
New City, NY 10956

Dear Mr. Andrew Atzl:


As per your request, I am submitting this proposal to prepare and review plans, and prepare engineering report for public water supply main extension for submission to United Water (UW) of NY and RCDOH for the Hyenga Lake Subdivision in Village of Spring Valley, NY. My estimated hours and costs are as follows:

Pre-meeting with UW - 2 hr. @ \$100/hr = \$200  
Review of Plans & Profiles - 4 hrs. @ \$100/hr = \$400  
Calculation of Needed Fire Flows & Submittal to Fire Inspector - 4 hrs. @ \$100/hr = \$400  
Calculation of Required Domestic Flows - 2 hrs @ \$100 = \$200  
Preparation of Engineering Report - 8 hrs @ \$100 = \$800  
Submittal to UW & RCDOH - 2 hrs @ \$100 = \$200  
Responses to Comments (estimated) - 4 hrs. @ \$100/hr = \$400  
Total - \$2600

As per recent projects, I will review your sketches for required pipes, valves, hydrants, etc., and their approximate locations, and your drafts persons will prepare the drawings which I will review, comment and sign when acceptable. Also you will supply the necessary details as required, subject to my review.

Please note that I have included a pre-meeting with UW to discuss the project with them since under the new procedures it is a good idea to get some idea if UW has existing flow and/or pressure problems in the project area which may create problems for this project. I have also included a few hours for responses to comments, which may or may not be needed. Note: this estimate is assuming that UW has the necessary water to supply this project, if RCDOH determines that UW does not have the necessary water supply, additional time may be required to evaluate alternative water supplies.

If you have any questions, please call at your convenience.

Sincerely,  
  
Edward A. Maikish P. E.





**EAST RAMAPO CENTRAL SCHOOL DISTRICT**

OFFICE OF THE SUPERINTENDENT OF SCHOOLS  
105 South Madison Avenue, Spring Valley, NY 10977  
Phone: (845) 577-6011  
Fax: (845) 577-6168

05220

AC

**EDUCATION  
EQUALITY  
EXCELLENCE**

**Dr. Mitchell J. Schwartz**  
*Superintendent of Schools*



June 5, 2006

Ms. Ann Cutignola  
Associate Planner  
Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, New York 10516

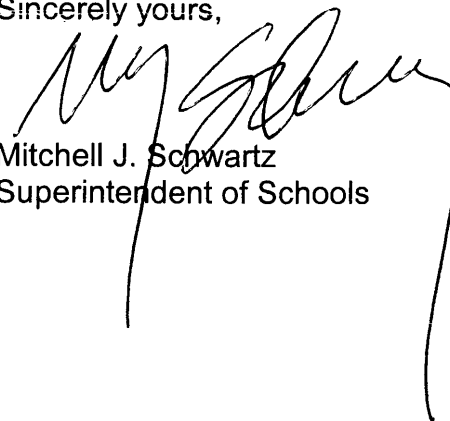
Dear Ms. Cutignola:

In response to your request for enrollment information concerning the proposed Hyenga Lake project, the schools who would be affected, along with their current enrollment, are as follows:

- Fleetwood Primary School – 523
- Eldorado Intermediate School – 410
- Chestnut Ridge Middle School – 530
- Spring Valley High School – 1117

Based on the figure that you have given us of 23 school age children to be dispersed among these four buildings, we would have the capacity to accommodate this number of students.

Sincerely yours,



Mitchell J. Schwartz  
Superintendent of Schools

MJS/lp





**COUNTY OF ROCKLAND  
DRAINAGE AGENCY**

**Division of the Highway Department**

23 New Hempstead Road

New City, New York 10956

(845) 638-5081

Fax. (845) 708-7116

Email: [highway@co.rockland.ny.us](mailto:highway@co.rockland.ny.us)

**C. SCOTT VANDERHOEF**  
County Executive

**CHARLES H. VEZZETTI**  
Superintendent of Highways  
Chairman, Drainage Agency

**EDWARD F. DEVINE**  
Executive Director

March 13, 2006

Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, NY 10516  
Attention: Ann Cutignola, Associate Planner

**Re: Proposed Hyenga Lake – Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, New York  
NYSDEC Dam # 196D322**

Dear Ms. Cutignola:

This letter is in response to your letter dated February 16, 2006, regarding the above referenced matter.

The records maintained by the Rockland County Drainage Agency ("RCDA") indicate that the dam structure was apparently built to create a lake for commercial and/or recreational purposes. Please see a copy of a deed dated 17 September 1945 between the Spring Valley Water Works Company and Antonio Bianco, which referenced the potential commercial use of the site. In the early part of the last century, the Hyenga Lake area was occupied by a summer bungalow colony. The lake provided recreational opportunities for the summer occupants who came to Rockland County to escape the hot summers of New York City. The RCDA has not found any information that indicates the lake and dam were intended or relied upon as mitigating devices for purposes of flood control.

Since the lake and structure of the dam were built before zoning and planning codes were enacted, there is little information regarding the site or structure beyond the filed land deed maintained by the County Clerks land records office. The NYSDEC is responsible for inspecting the dam. The RCDA suggests that your firm contact the NYSDEC Bureau of Dam Safety to obtain any pertinent records of the structure that formally occupied the site.

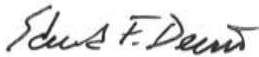
The current flood plain conditions of the site can be found in the FIRM maps for the area, see attached FIRM Maps. In addition, Leonard Jackson Associates performed a study of this

particular section of the Pascack Brook for the RCDA in 1999. Please note the existence of residential structures in the immediate vicinity of Hyenga Lake and the adjacent flood plain areas.

With regard to the environmental review being prepared for the site, please note that the RCDA will require mitigating measures for any proposed development of the site. As you are aware, immediately down stream from the site is a multi-dwelling residential condominium complex located on Klint Court. Any plans to reconstruct the dam and impound a significant amount of water at the site should take into consideration the safety and welfare of the residents occupying the existing residential housing immediately down stream of the site located on Pipe Town Hill Road. The New York State Department of Environmental Conservation Dam Safety Bureau can provide your office with specific information with respect to the safety standards, guidelines and regulations that must be followed regarding the construction or reconstruction of a dam structure at the site. As a practical matter, considering that residential dwellings have been constructed in the flood plain zone immediately down stream of the site, it may not be prudent to consider proposing to construct a dam at the site prior to seeking the input and recommendations of the NYSDEC Bureau of Dam Safety and prior to developing the necessary flood inundation maps for the area down stream of the site that are required by an Emergency Evacuation Plan for the dam, if required by the NYSDEC.

Thank you for providing the RCDA with the opportunity to comment on this proposed project.

Very truly yours,



Edward F. Devine  
Rockland County Drainage Agency

enc.

cc: Charles Vezzetti  
Kent Rigg, P.E. & L.S.



# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP AMENDMENT DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK	A parcel of land, as described in Bargain and Sale Deed, Instrument No. 1997-00023056, recorded on June 18, 1997, filed by the County Clerk, Rockland County, New York
	COMMUNITY NO.: 360679	
AFFECTED MAP PANEL	NUMBER: 3606790014E	
	NAME: TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK	
	DATE: 05/18/2000	
FLOODING SOURCE: PASCACK BROOK		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY: 41.104, -74.033 SOURCE OF LAT & LONG: PRECISION MAPPING STREETS 3.0 DATUM: NAD 83

### DETERMINATION

LOT	BLOCK/SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
—	—	Conklin Park Condominiums	Klint Court	Building No. 1	X (unshaded)	366.7 feet	369.2 feet	—

**Special Flood Hazard Area (SFHA)** - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

DETERMINATION TABLE (CONTINUED)  
PORTIONS REMAIN IN THE SFHA

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the structure(s) on the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan. A Preferred Risk Policy (PRP) is available for buildings located outside the SFHA. Information about the PRP and how one can apply is enclosed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at (877) 338-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, P.O. Box 2210, Merrifield, VA 22116-2210. Additional information about the NFIP is available on our web site at <http://www.fema.gov/nfip/>.

*Matthew B. Miller*

Matthew B. Miller, P.E., Chief  
Hazards Study Branch  
Mitigation Directorate



## Federal Emergency Management Agency

Washington, D.C. 20472

### LETTER OF MAP AMENDMENT DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

#### DETERMINATION TABLE (CONTINUED)

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
—	—	Conklin Park Condominiums	Klint Court	Building No. 2	X (shaded)	365.4 feet	365.9 feet	—

#### PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 2 Properties.)

This Determination Document has removed the subject of the determination from the Special Flood Hazard Area (SFHA). However, portions of the property may remain in the SFHA. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, P.O. Box 2210, Merrifield, VA 22116-2210. Additional information about the NFIP is available on our web site at <http://www.fema.gov/nfip/>.

*Matthew B. Miller*

Matthew B. Miller, P.E., Chief  
Hazards Study Branch  
Mitigation Directorate



CHURCH

MARCH 2, 1983

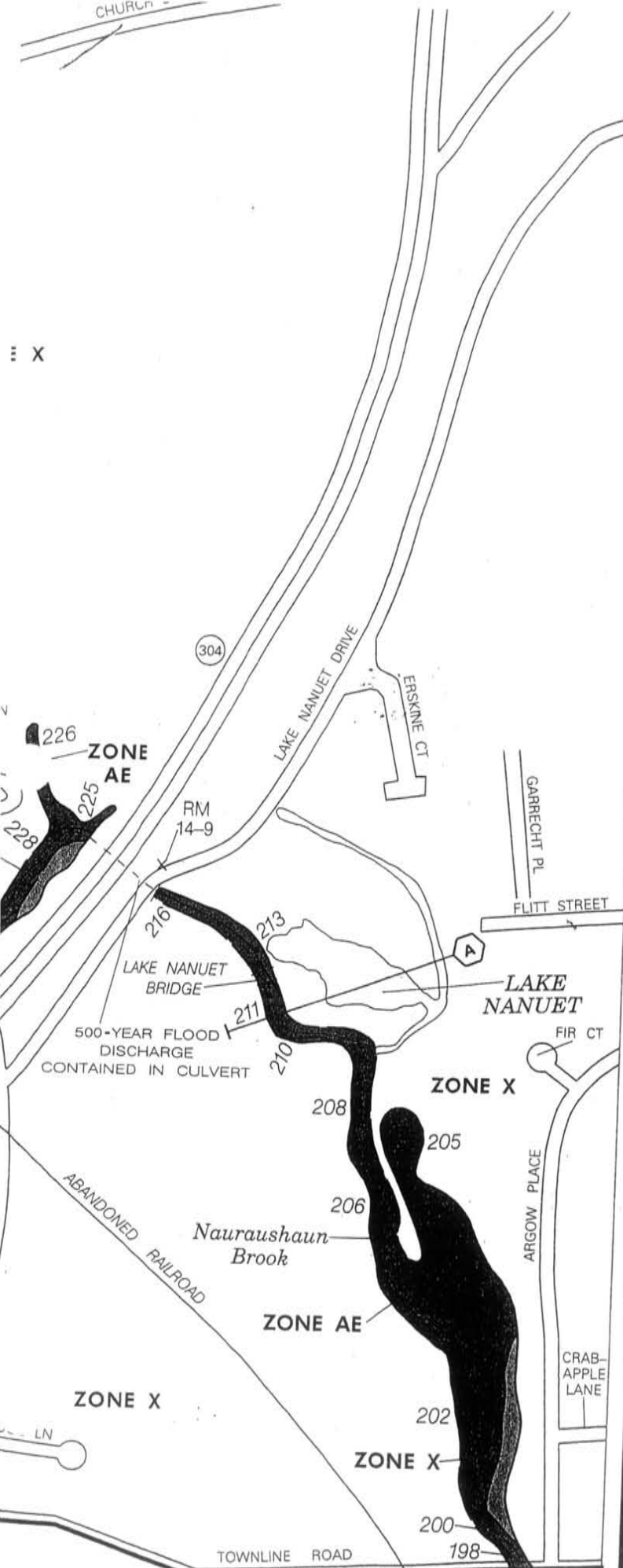
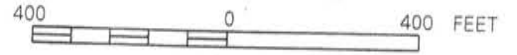
FLOOD INSURANCE RATE MAP REVISIONS:

May 18, 2000 - to update corporate limits and map format; to change base flood elevations, special flood hazard areas and zone designations; to add base flood elevations, special flood hazard areas, roads and road names; and to incorporate previously issued letters of map revision and map amendment.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-6620.



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

TOWN OF CLARKSTOWN, NEW YORK ROCKLAND COUNTY

PANEL 14 OF 18

(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY - PANEL NUMBER 360679 0014 E

MAP REVISED: MAY 18, 2000



# LEGEND



**SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD**

- ZONE A** No base flood elevations determined.
- ZONE AE** Base flood elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheer flow on sloping terrain); average depth determined. For areas of alluvial fan flooding velocities also determined.
- ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
- ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.



**FLOODWAY AREAS IN ZONE AE**



**OTHER FLOOD AREAS**

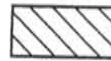
**ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.



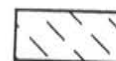
**OTHER AREAS**

- ZONE X** Areas determined to be outside 500-year floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

## UNDEVELOPED COASTAL BARRIERS\*



Identified  
1983

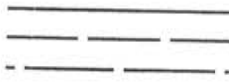


Identified  
1990 or Later



Otherwise  
Protected Areas  
Identified  
1991 or Later

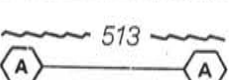
\* Coastal barrier areas are normally located within or adjacent to Special Flood Hazard Areas.



Floodplain Boundary



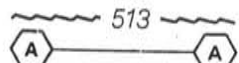
Floodway Boundary



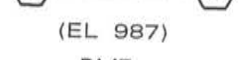
Zone D Boundary



Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.



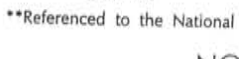
Base Flood Elevation Line Elevation in Feet\*\*



Cross Section Line



Base Flood Elevation in Feet Where Uniform Within Zone\*\*



Elevation Reference Mark

\*\*Referenced to the National Geodetic Vertical Datum of 1929

## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for possible updated flood hazard information prior to use of this map for property purchase or construction purposes.

Coastal base flood elevations apply only landward of 0.0' National Geodetic Vertical Datum of 1929 (NGVD), and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of special flood hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

ZONE X

NEW YORK STATE THRUWAY

287

304

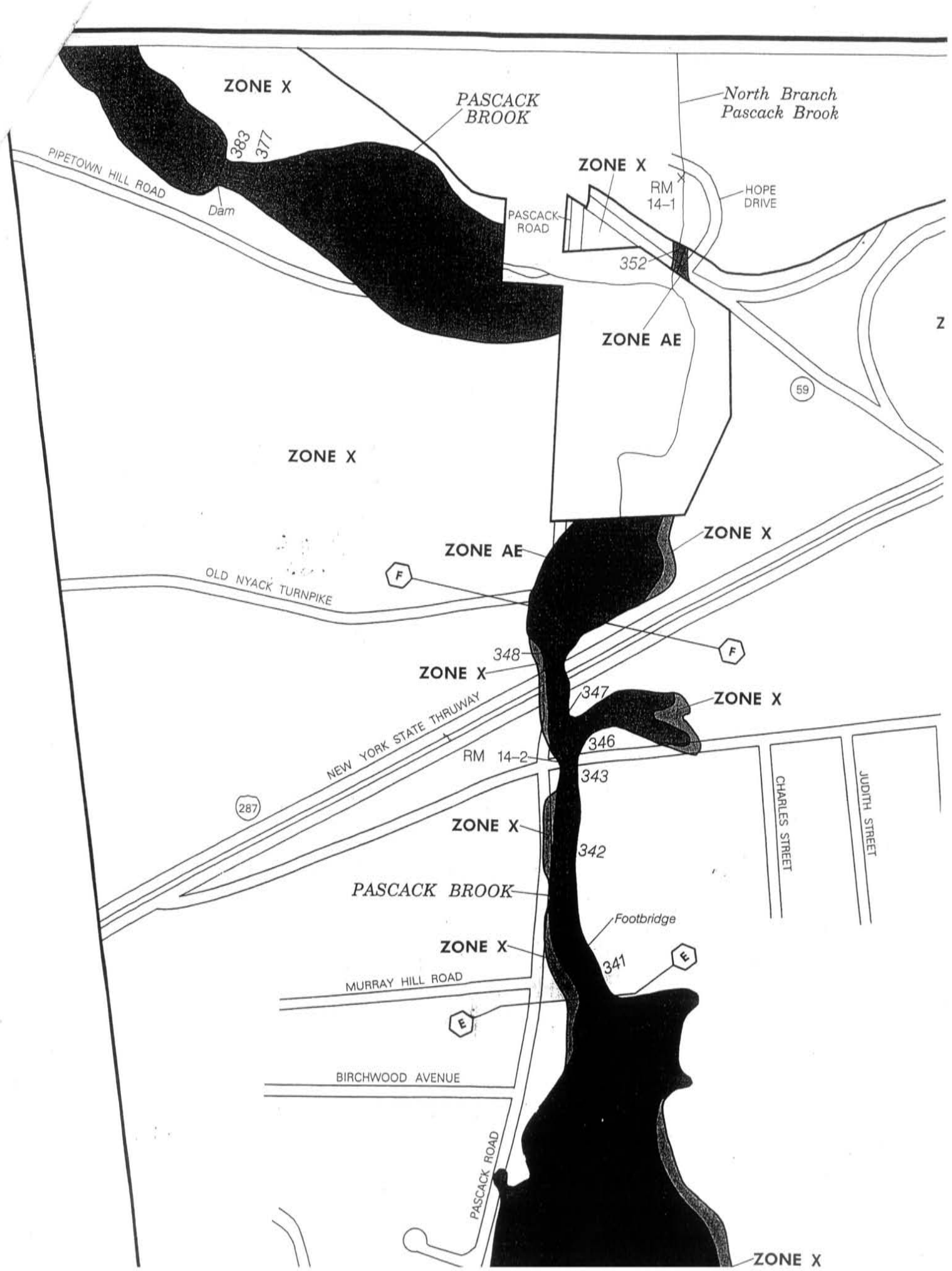
59A

## NOTES TO USERS

Additional information in areas where Base Flood Elevations have been determined, users are encouraged to consult Floodway Data tables contained within the Flood Insurance Study report that accompanies this FIRM. Users should be aware that the FIRM represent rounded whole-foot elevations not exactly reflect the flood elevation data presented in construction and/or floodplain management purposes, users should consult flood elevation data presented in the FIS report in addition to the data shown on this FIRM.

Mark (ERM) elevations listed on this map were obtained to establish vertical control for determination of floodplain boundaries portrayed on this map. Users should be aware that ERM elevations may have changed since the publication of this map. For up-to-date elevation information on National Geodetic Vertical Datum of 1929 (NGVD), please contact the Information Office at the NGS at (301) 713-3242, or visit their website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov). Map users should seek verification of non-NGS elevations when using these elevations for construction or other purposes.

**AVAILABILITY:** Digital files containing the thematic floodplain data from this map can be made available on CD-ROM by a currently archived in MicroStation design (DGN) file in the Universal Transverse Mercator (UTM) projection and datum of 1927 (NAD27). To obtain the digital files, send a request to the Flood Insurance Information Specialist, 2977 Prosperity Drive, Columbia, SC 29203. Telephone (703) 876-0148, Fax (703) 876-0073.





day of September, nineteen hundred and forty-five

Between SPRING VALLEY WATER WORKS AND SUPPLY COMPANY,

a corporation organized under the laws of the State of New York, having its principal office at 147 North Main Street, Spring Valley, County of Rockland and State of New York, party of the first part,

and ANTONIO BIANCO, of the Village of Spring Valley, County of Rockland, and State of New York,



part y of the second part,

Witnesseth, that the party of the first part, in consideration of

ONE (\$1.00) Dollars,

lawful money of the United States, and other valuable consideration,

paid by the part y of the second part,

does hereby grant and release unto the part y of the second part, his heirs, executors, administrators and assigns forever.

All those two certain lots, pieces or parcels of land and premises, situate, lying and being in Heyengaville, Town of Clarkstown, in the County of Rockland, and State of New York, bounded and described as follows, viz:

FIRST LOT: BEGINNING at a point in the centre of the public road leading from Spring Valley to Nyack, it being the southeast corner of the lot herein intended to be described, said point of beginning being the ending point of the third course in the deed from Julia F. Meister to George M. Dunlop et al., recorded in the Clerk's office of Rockland County in Book 243 of deeds, page 463, said point of beginning being also the beginning point in the deed from John D. Dunlop and wife to Ludwig-Goldfield Corporation recorded in Liber 256 of deeds, page 206 in said Clerk's office; running thence along the fourth course in the deed from Meister to Dunlop and along the last course in the deed from Dunlop to Ludwig-Goldfield Corporation, North 24 degrees 10 minutes east 229.79 feet thru an elm tree in said land to an iron pin at a corner; thence North 77 degrees 45 minutes west, 236.95 feet to an iron pin at a corner; thence south 33 degrees 3 minutes West, 145.27 feet to the centre of the public road aforesaid; thence along the centre line of said public road the following courses (1) South 51 degrees 13 minutes East, 50 feet; (2) South 55 degrees 1 minute east, 50 feet; (3) South 58 degrees 41 minutes east, 50 ft.; (4) South 59 degrees 39 minutes East 50 feet; (5) South 62 degrees 1 minute east 57.55 feet to the place of beginning. Containing 1.09 Acres of land more or less.

SECOND LOT: BEGINNING at an iron pin in the ground at the North-east corner of the above described lot and the southeast corner of the premises herein intended to be described as the second lot; thence North 24 degrees and 10 minutes East, 146 feet more or less to the centre line of the Pascack brook; thence returning to the point of beginning, and running Westerly along the North line of the above described lot, North 77 degrees 45 minutes West 10.22 feet; thence

LR 436 PAGE 402

parallel to the first course herein North 24 degrees 10 minutes East: 146 feet more or less to the centre line of the Pascack Brook; thence along the centre line of the Pascack brook, easterly down stream 10 feet more or less to the point where the first course of this description terminated. The intention here is to convey a right of way, or easement 10 feet in width for an out-let to a tail-race, or water-way.

Together with the right and burden with the duty to maintain the dam at the easterly end of Heyenga Lake at its present height and flood with water the lands now or formerly of Agnes Haerter above said dam now flooded and known as Heyenga Lake, and the right to draw water from said Heyenga Lake through the flume at its present level on the lands lying between said dam and the premises hereby granted, for the use of the mill or factory of said last mentioned premises, and the right to enter upon said lands lying between the premises hereby granted and said Heyenga Lake for the purpose of rebuilding or repairing the said dam, and flume from said Lake to mill or factory on the premises hereby granted. Said party of the second part by the acceptance of this deed covenants for himself, his heirs, executors and assigns, with said party of the first part to keep said dam in good repair, which covenant shall run with the land and be binding upon the property and its successive ownership.

The party of the second part, further covenants that he will indemnify the party of the first part, its successors and assigns, and predecessors in title, against any claims arising out of any covenants contained in the deeds by which the party of the first part or its predecessors in title, acquired title to the premises hereby conveyed, it being the intention of the parties hereto that the party of the second part will be forever released and discharged from any obligations arising out of such covenants.

Reserving, forever to the party of the first part, its successors and assigns the right to maintain, alter and repair a water supply running along the southwesterly end of the premises hereinbefore described within 20 feet from centre line of the concrete road or Nyack Turnpike to a point about 3 feet from the southwesterly corner of the old factory building and thence across the public road in a southerly course.

Being the same premises heretofore conveyed to the said Spring Valley Water Works and Supply Company, party of the first part, by the Pascack Land Company by Deed bearing date March 3, 1937 and recorded in the Rockland County Clerk's Office in Liber 357 of Deeds, Page 498 &c.

Also excepting an easement or right of way heretofore conveyed by Pascack Land Company to the Rockland Light and Power Company, by instrument bearing date July 13, 1928 and recorded in the Rockland County Clerk's office.

**Together** with the appurtenances and all the estate and rights of the party of the first part in and to said premises.

**To have and to hold** the premises herein granted unto the party of the second part, his heirs, executors, administrators and assigns for

SUBJECT to the exceptions, reservations, covenants and conditions set forth.



FAX TRANSMITTAL RE: LISTED SPECIES REQUEST  
U.S. FISH AND WILDLIFE SERVICE  
New York Field Office  
3817 Luker Road, Cortland, NY 13045  
Phone: (607) 753-9334 Fax: (607) 753-9699



March 14, 2006



To: Ann Cutignola

This responds to your January 17, 2006, request for listed species information in the vicinity of the Hyenga Lake multi-family residential project in the Town of Clarkstown, Rockland County, New York.

Except for occasional transient individuals, no Federally-listed or proposed endangered or threatened species under our jurisdiction are known to exist within the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Therefore, no further ESA coordination or consultation with the U.S. Fish and Wildlife Service (Service) is required. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of Federally-listed and proposed endangered and threatened species in New York\* is available for your information. If the proposed project is not completed within one year from the date of this FAX, we recommend that you contact us to ensure that the listed species presence/absence information for the proposed project is current. Should our determination change and any part of the proposed project be authorized, funded, or carried out, in whole or in part, by a Federal agency, further consultation between the Service and that Federal agency pursuant to the ESA may be necessary.

The above comments pertaining to endangered species under our jurisdiction are provided as technical assistance pursuant to the ESA. This response does not preclude additional Service comments under other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s)\* and New York Natural Heritage Program Information Services.\*

Thank you for your time. If you require additional information please contact me at (607) 753-9334. Future correspondence with us on this project should reference project file 60566.

Sincerely,

Robyn A. Niver  
Endangered Species Biologist

\*Additional information referred to above may be found on our website at:  
<http://www.fws.gov/northeast/nyfo/es/section7.htm>





1. APPROX. 5 SQUARE MILES
2. AVERAGE 1000 CALLS PER YEAR
3. ?
4. AVERAGE RESPONSE TIME IS 5 - 7 MINUTES
5. PERSONEL IS 130

THE FIRE DEPARTMENT HAS 4 ENGINES, 1  
HEAVY RESCUE,

1 EQUIPMENT TRUCK, 1 100' AERIAL, 1 AIR  
VAN AT THE

PRESENT TIME THERE IS AN ADDITIONAL  
100'+ AERIAL ON  
ORDER

6. CONSTRUCTION ON ANOTHER FIREHOUSE  
SHOULD BEGIN

APPROX. WITHIN 1 YEAR

7. THERE IS A ROCKLAND COUNTY MUTUAL  
AIDE SYSTEM

AMONG ALL THE FIRE DEPARTMENTS

*Post Spring Valley Fire Dist*

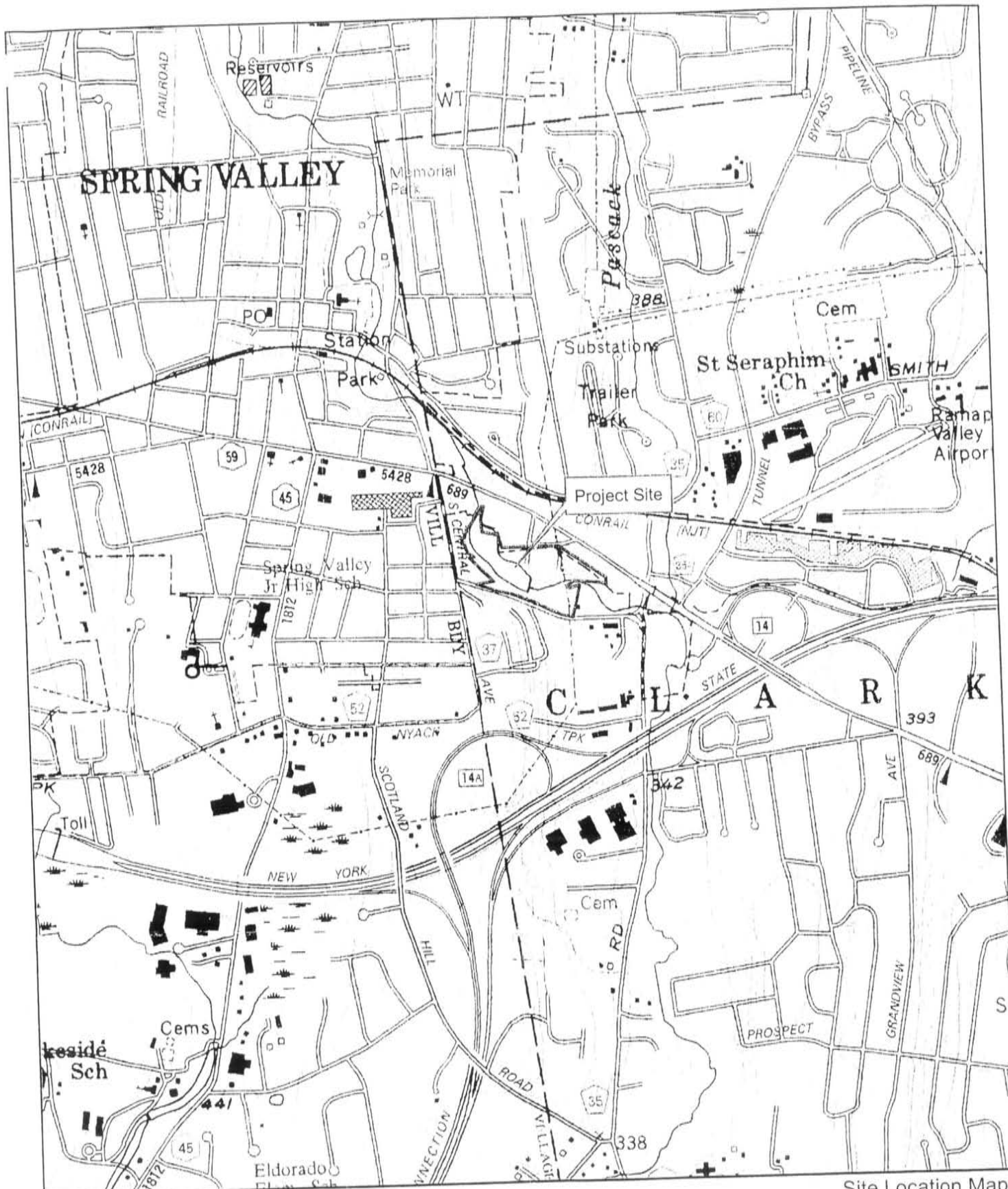
*Chairman Paul H. Maggio*  
*10 Clark Dr.*

*Manus, NY.*  
*10954*

*H 845-352-5407*

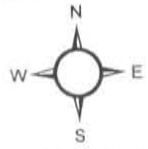
*CP 845-641-3147*





Site Location Map  
Hyenga Lake

Town of Clarkstown, Rockland County, New York  
Source: Rockland County Department of Planning  
Scale: NTS



FS EQ: 05220, HyengaLake/  
GIS/Site\_Location





***EAST RAMAPO CENTRAL SCHOOL DISTRICT***

OFFICE OF THE DISTRICT CLERK  
105 South Madison Avenue, Spring Valley, NY 10977  
Telephone: (845) 577-6015  
Facsimile: (845) 577-6038

***EDUCATION  
EQUALITY  
EXCELLENCE***

**JANET HARDWICK**  
*District Clerk*

March 6, 2006

Ms. Ann Cutignola, Associate Partner  
Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, NY 10516

Dear Ms. Cutignola:

We are in receipt of your request for information dated February 28, 2006, and received on March 1, 2006.

Please be advised once it has been determined whether or not this information exists and is available, we will be in touch with you, hopefully within the next couple of weeks.

Sincerely yours,

Janet S. Hardwick  
District Clerk

JSH/cd



**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

February 28, 2006

Ms. Diane Grammerstorf  
Business Office  
East Ramapo Central School District  
105 South Madison Avenue  
Spring Valley, NY 10977

Via fax: 845-577-6003

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

Dear Ms. Grammerstorf:


Per our phone conversation, I am preparing the environmental documentation for a proposed project within the East Ramapo Central School District. The proposed project consists of 80 units of Multifamily housing in 10 buildings plus a community center. Based on one to three bedrooms per home, we have projected a total future population of approximately 142 people, including 23 school age children. The site currently contains approximately 15 bungalow units.

In order to evaluate the fiscal impact of this project on the East Ramapo School District, Please forward to me the following information:

- Total dollar amount of the 2005/2006 school budget.
- The dollar amount of the school district revenue raised by property tax.
- Current enrollment by individual school.
- Please identify which schools students from the Hyenga Lake project would attend.
- I am also interested in the capacity each of these schools has to handle students new to the district.
- If the district has demographic multipliers which are used to project new students, please include that information.

Thanks in advance for your assistance. Please do not hesitate to call me should you have any questions.

Sincerely,



Ann Cutignola  
Associate Planner  
TIM MILLER ASSOCIATES, INC.







**TOWN OF CLARKSTOWN POLICE DEPARTMENT**  
20 MAPLE AVENUE, NEW CITY, NEW YORK 10956-5047

TEL (845) 639-5800

FAX (845) 639-5919

**Peter Noonan**  
CHIEF OF POLICE

Thomas Purtill  
CAPTAIN

Robert Mahon  
CAPTAIN

**February 17, 2006**

Tim Miller Associates  
10 North Street  
Cold Spring, NY 10616  
Att. Ann Cutignola

As per our telephone conversation this date regarding the proposed multifamily residential project as present in your letter dated January 17<sup>th</sup>, 2006; Calls for Service usually generated from the scope of this project would not severely impact the capabilities of this Department to deliver police services at our current level.

  
Lt. Steven T. Morgan

Serving the Hamlets of:

Bardonia • Central Nyack • Congers • Nanuet • New City • Rockland Lake • Upperville • Valley Cottage • West Nyack



**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

February 16, 2006

Mr. Edward Devine  
Executive Director  
Rockland County Drainage Agency  
Division of the Highway Department  
23 New Hempstead Road  
New City, NY 10956

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

Dear Mr. Devine:

Tim Miller Associates is preparing the environmental documentation for a proposed multifamily residential project, known as Hyenga Lake located in the Town of Clarkstown. The site is the subject of RCDA Permit application number 04-36. The site is located on the north side of Pipetown Hill Road, south of NYS Route 59. I have enclosed a site location map and an aerial view of the site for your reference. The site previously contained the Hyenga Lake dam which was washed away in Hurricane Floyd in September of 1999.

I have reviewed a letter from Leonard Jackson Associates dated March 21, 2005 requesting removal of the dam from the NYS DEC Dam Safety Unit inventory, and a letter from the Town of Clarkstown Planning Board, dated April 19, 2005 requesting that the dam be retained.

Can you please provide any information as to the former use and structure of the dam so we may include it in our environmental review. I would also appreciate any information on current flood plain conditions of the site.

Thank you for your attention in this matter. Please do not hesitate to call should you have any questions or need additional information.

Sincerely,



Ann Cutignola  
Associate Planner

TIM MILLER ASSOCIATES, INC.



**New York State Department of Environmental Conservation**  
**Division of Fish, Wildlife & Marine Resources**  
New York Natural Heritage Program  
625 Broadway, 5<sup>th</sup> floor, Albany, New York 12233-4757  
**Phone:** (518) 402-8935 • **FAX:** (518) 402-8925



February 15, 2006

Ann Cutignola  
Tim Miller Associates, Inc  
10 North St.  
Cold Spring, NY 10516

Dear Ms. Cutignola:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to an Environmental Assessment for the proposed Hyenga Lake Development, site as indicated on the map you provided, located on Pipetown Hill Road, Town of Clarkstown, Rockland County.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,  
  
Betty A. Ketcham, Information Services  
New York Natural Heritage Program

Enc.  
cc: Reg. 3, Wildlife Mgr.



## Bruce

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**From:** Joseph LaFiandra [LaFiandJ@co.rockland.ny.us]  
**Sent:** Wednesday, February 15, 2006 3:25 PM  
**To:** bfriedmann@timmlerassociates.com  
**Cc:** Dianne Philipps; j\_simoes@town.clarkstown.ny.us  
**Subject:** Re: Rockland County ESAs

Dear Mr. Friedmann:

Tax Lot 57.14-3-2 (formerly known as 6-B-4) in the Town of Clarkstown is NOT on the District's list or map of Environmentally Sensitive Areas (ESAs). If a lot was developed when the Environmental Protection Agency had designated the ESAs in 1983, then the lot would not have been considered an ESA. The lot in question has structures that appear to predate 1983.

Please reply or call this office at 845-365-6111 if you have any questions.

Yours truly,  
Joseph LaFiandra  
Engineer II  
Rockland County Sewer District No. 1

>>> "Bruce Friedmann" <bfriedmann@timmlerassociates.com> 2/15/2006 2:44:08 PM >>>  
Dear Ms. Philipps -

I am hoping that you can provide me with a determination regarding the presence/absence of any ESA in the area generally of the former Lake Hyenga in the southwest portion of Clarkstown, abutting the Village of Spring Valley.

We are writing an EAF for a proposed residential development on Section 57.14, Block 3, Parcel 2 on the Town of Clarkstown tax map (that includes the former Hyenga Lake and Hyenga Lake Dam) and have been advised by the Town planner, Mr. Jose Simoes, to contact the RCSD #1 for the following determination, as stated by him:

"The property may be an Environmentally Sensitive Area (ESA) as a result of Environmental Protection Agency (EPA) grants to the Rockland County Sewer District (RCDS #1). Application for ESA waiver may be required through the RCSD#1 and NYSDEC to secure waiver from EPA."

Could you please provide me assistance on the two concerns of Mr. Simoes by informing me whether the property is within an ESA, then, if so, provide the procedure for making an application to secure a waiver from the EPA.

Thank you for your assistance -

Bruce Friedmann  
Assistant Planner

Tim Miller Associates, Inc.  
Planning · Landscape Design · Traffic · Wetlands & Ecology  
Hydrogeology · Economics · Project Management · Permitting

-----  
-----  
10 North Street, Cold Spring, N.Y. 10516  
845.265.4400 voice 845.265.4418 fax  
url: www.timmlerassociates.com  
email: www.bfriedmann@timmlerassociates.com





**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

February 13, 2006

Ms. Maryellen Ferrara  
United Water New York  
360 West Nyack Road  
West Nyack, NY 10994

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

Dear Ms. Ferrara:

Per our recent phone conversation, and pursuant to my letter of February 1, 2006, I am enclosing a copy of the site plan for the proposed project, Hyenga Lake located on the north side of Pipetown Hill road south of NYS Route 59.

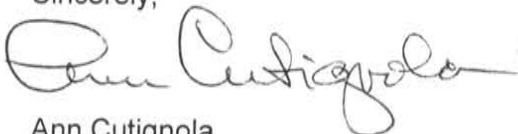
The proposed project consists of 80 units of Multifamily housing in 10 buildings plus a community center. Based on one to three bedrooms per home, we have projected a total future population of approximately 142 people, including 23 school age children. The site currently contains approximately 15 bungalow units which are receiving water service.

I am requesting that United Water of New York confirm there is sufficient water quantity and sufficient water pressure, and indicate their willingness provide water service to this proposed project.

Please identify the location and size of the closest water main in the vicinity of this project and specify what type of connection will be necessary for the project sponsor to provide.

Thank you for your assistance in this matter. Please do not hesitate to call me should you have any questions or need additional information.

Sincerely,



Ann Cutignola  
Associate Planner  
TIM MILLER ASSOCIATES, INC.



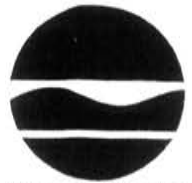
100 COPY

**New York State Department of Environmental Conservation  
Division of Fish, Wildlife and Marine Resources, Region 3**

21 South Putt Corners Road, New Paltz, New York 12561-1620

Phone: (845) 256-3161 • FAX: (845) 255-4659

Website: [www.dec.state.ny.us](http://www.dec.state.ny.us)



Denise M. Sheehan  
Commissioner

January 23, 2005

Bruce R. Friedmann  
Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, New York 10516

RE: Pascack Brook Information Requested

Dear Tim:

Per your request for fisheries and stream classification information on Pascack Brook, I am enclosing fisheries survey data and stream classification information. The last survey conducted in the vicinity of the proposed Hyenga Lk Residential Development was in 1977. DEC stocks rainbow trout and brook trout each spring from Pascack Road to Washington Ave in the Town of Orangetown - approximately three miles downstream from the proposed project. Pascack Brook has two stream classifications within the project boundary indicated in your correspondence; Class C(T) from the outlet of the lake (P987) downstream to near the NJ border where the last 100ft is Class A. The lake is Class B and upstream from the lake is Class C. If you have any questions regarding stream classification, please contact the Bureau of Environmental Permits at 845-256-3054.

Enclosed are fisheries survey data and stream classifications. If you have any fisheries related questions, please contact me at 845-256-3070.

Sincerely,

Leslie Surprenant  
Region 3 Fisheries Biologist

Enclosures.

STREAM SURVEY

Name & Key of Stream Pascack Creek NJ-5 Quality Classification C(T)

Section Entire Mileage (Section) -- Mileage (Entire) 7.7 mi.

County(s) Rockland Town(s) Orangetown

Quadrangle(s) Park Ridge

Watershed Lower Hudson Date 7/12/77 Authority M. Gann

Previous Stocking \_\_\_\_\_

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Postage Mileage (Section) \_\_\_\_\_ Posted Mileage (Entire) None

Accessibility (Section) \_\_\_\_\_ Accessibility (Entire) All

Trout Inhabited area (Section) \_\_\_\_\_ Trout inhabited area (Entire) None

Special features (dams, falls, pollution, dredging, erosion, etc.) \_\_\_\_\_

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Station Location	Upper (3)	Middle (2)	Lower (1)
Average Width (Actual) (Normal)	8 (6-10)	17 (5-20)	15 (6-25)
Depth	6 (4-8)	6 (4-15)	8' (2'-15')
Volume	1 cfs	7 cfs	10 cfs
Velocity	sluggish	moderate	moderate
Color	white	white	white
Turbidity	Moderate	moderate	Moderate
Altitude	330'	310'	220'
Bottom	R., Gr., Silt	Silt Bo, R., Br.	Bo, R., Gr.
Temperature	A. 78 W. 72	A. 74 W. 70	A. 74 W. 67
Time-Weather	1:30 overcast	12:30 rain	11:00 rain
Habitat	1	2	2
% Pool	0% G. 1	10% G. 1	10% G. 1
Shelter	1	1	1
Cover	1	3	3
Fertility	1	1	1
Forage	1	1	1
Soil Type	1	1	1
Wild Trout (F) No. per Acre	Not electrofished None Collected None coll.		
Trout: Non-Trout Estimate by Weight	--	1	1
Shocker Efficiency Adjusted No. per Acre	--	30%	40%
Length of Shocker Section (feet)	--	300	300
	0.5 below T-4	1.0 above T-1	0.3 above N.J. line

(LOWER 1)  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
**FISH COLLECTION OR SMALL STREAM SURVEY**

Survey Lower Hudson Date 7/12/77 Authority M. Gann  
Name and key Pascade Creek NJ-5 Quad Park Ridge  
Station location 0.3 abv. NJ Line County Rockland  
Length 300 Width 15 (6-25) Depth 8" (2"-3') Acres 0.11  
Flow 10 cfs Temp: A 74 W 67 Time (EST) 11:00  
Gear Coffelt DC Efficiency (yg trout) 40%  
Young trout per acre (adjusted total) None Collected.  
Factors: W 3 N 1 H 2 F 1 Total 7

**General notes:**

cover: excellent, overhanging trees,  
shelter: good, large boulders and rubble bottom.  
Some evidence of flood erosion.

Aquatic life (insect): Common caddis

Surveyed after brief heavy rainfall.  
Stream artificially high and discolored. Not  
posted at this vicinity. Worn paths along both  
banks indicate heavy use.

**Stocking policy:**

94-147 (5/76)  
Formerly FW-88

warm, none.

Name of species	Abundance	Number and description	
Long nose dace	V.abdt	500+	(2.0 - 3.5)
White Sucker	Abdt	100+	(5.0 - 8.0)
Crayfish	Abdt		
Blacknose dace	Few	1	(2.7)

(Middle 2)  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
FISH COLLECTION OR SMALL STREAM SURVEY

Survey Lower Hudson Date 7/12/77 Authority M. Gann  
Name and key Pascack Creek NJ-5 Quad Park Ridge  
Station location 1.0 abv. T 1 County Rockland  
Length 300' Width 17 (5-20) Depth 8" (2"-4") Acres 0.12  
Flow 7 cfs Temp: A 74 W 70 Time (EST) 12:30  
Gear Coffelt DC Efficiency (yg trout) 30%  
Young trout per acre (adjusted total) None Collected  
Factors: W 3 N 1 H 2 F 1 Total 2

General notes:

Cover: Excellent Overhanging trees.

Shelter: Good, rock and rubble bottom, some undercut banks and tree roots.

Aq. Insects: Caddis common

Surveyed after brief, heavy rainfall. Stream artificially high and discolored. Not posted at this vicinity. Recent channelization and rip-rap above station. Cover and shelter very poor at that point. Heavy deposits of red clay silt color stream with slightest disturbance.

Chemistry: pH - 7.5 O<sub>2</sub> 10 ppm  
M.O. - 96 ppm

Stocking policy:

Warm, none



Name of species	Abundance	Number and description
Blacknose dace	Abdt.	100 $\pm$ (2.5 - 3.5)
No other fish seen.		

(Upper 3)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
FISH COLLECTION OR SMALL STREAM SURVEY

Survey Lower Hudson Date 7/12/77 Authority M. Gann  
Name and key Pascack Creek NJ - 5 Quad Park Ridge  
Station location 0.5 bel. T 4 County Rockland  
Length - Width - Depth - Acres -  
Flow - Temp: A 78 W 72 Time (EST) 1:30  
Gear - Efficiency (yg trout) -  
Young trout per acre (adjusted total) -  
Factors: W - N - H - F - Total -

General notes:

Station not electrofished. Stream has been severely degraded at this point; channelized and rip-rapped. Virtually no cover or shelter. Flow estimated to be less than 1 cfs, and this after brief, heavy rainfall in morning. Stream probably goes dry to pools from this point upstream on an annual basis. Abundance of street runoff drains enter the stream in this vicinity. Not posted at this location. Aquatic insect life consists of sparse caddis. Abundance of mats of filamentous algae indicates enriched (polluted) habitat.

Stocking policy:

Small, warm, none.

94-14-7 (5/76)  
Formerly FW-88

**Recommendations:** Fishing rights, improvement, spearing, commercial bait, set lines or other:

---

**Posting Notes**

Majority of stream is not posted.

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**Miscellaneous:**

Habitat severely degraded in many locations. Channelized, rip-rapped, many street drains empty into stream, large deposits of very fine reddish silt.

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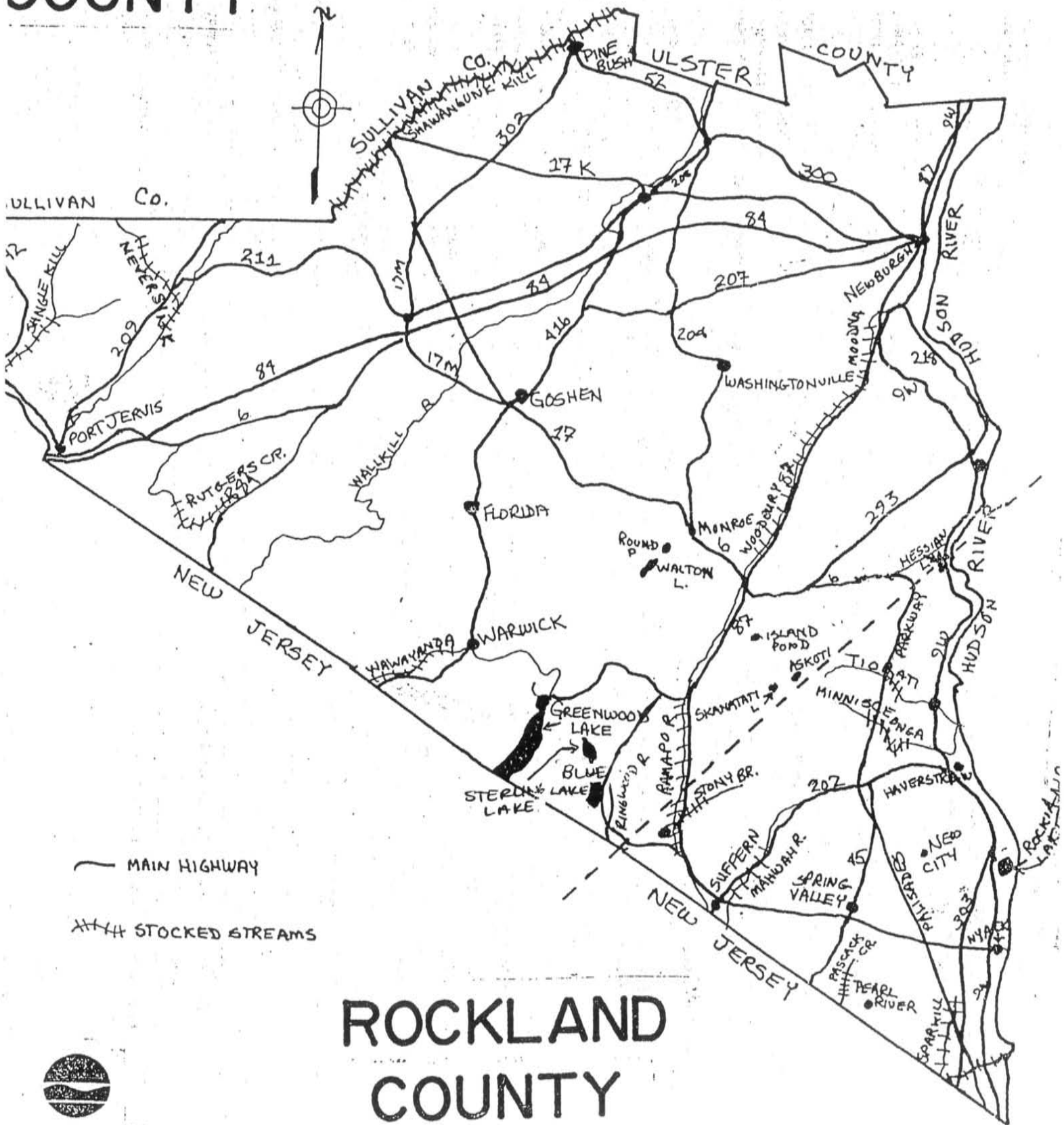
**Stocking Policy:**

Entire stream mouth to source (7.7 mi.): small, warm, none.

Waters Item No.	Index Number	Name	[Comments] Description	Map Ref No.	Class	Stand ards
162	NJ-4 portion	Muddy Creek	From 100 ft. upstream of New York-New Jersey border to source.	Q-23se	[D]C	[D]C
163	NJ-4-1,2	Tribs. of Muddy Creek		Q-23se	[D]C	[D]C
<u>163.</u>	<u>NJ-5 portion</u>	<u>Pascack Brook</u>	<u>From New York-New Jersey border to 100 ft. upstream.</u>	<u>Q-23se</u>	<u>A</u>	<u>A</u>
164	NJ-5 portion	Pascack Brook	From 100 ft. upstream of New York-New Jersey border to outlet of P987.	Q-23se	C	C(T)
165	NJ-5 portion	Pascack Brook	From inlet of P987 to outlet of P987e.	Q-23se	[D]C	[D]C
166	NJ-5 portion	Pascack Brook	From inlet of P987e to source.	Q-23se	[D]C	[D]C
<u>166.</u>	<u>NJ-5-1a and trib. portions</u>	<u>Tribs. of Pascack Brook</u>	<u>Portions of tribs. from New York-New Jersey border to 100 ft. upstream.</u>	<u>Q-23se</u>	<u>A</u>	<u>A</u>
167	NJ-5-1a and trib. [1a-1] portions	[Trib.] Tribs. of Pascack Brook [and subtrib.]	Portions of tribs. upstream from 100 ft. of New York-New Jersey border.	Q-23se	[D]C	[D]C
168	NJ-5-1b	Trib. of Pascack Brook		Q-23se	[D]C	[D]C
169	NJ-5-P986a	Trib. of Pascack Brook		Q-23se	C	C
170	NJ-5-1	Trib. of Pascack Brook		Q-23se	[D]C	[D]C

Waters Item No.	Index Number	Name	[Comments] Description	Map Ref No.	Class	Stand ards
171	NJ-5-4 [and tribs. 4-P 986b,4P 986c,4- P 986d,4P 986e]	Trib. of Pascack Brook [and subtribs.]		Q-23se Q-23ne	[D]C	[D]C
172	NJ-5-6a	Trib. of Pascack Brook		Q-23se	[D]C	[D]C
173	NJ-5-P987a	Trib. of Pascack Brook		Q-23se	[D]C	[D]C
174	NJ-5-P987c	Trib. of Pascack Brook		Q-23se	[D]C	[D]C
175	NJ-5-P987	Trib. of Pascack Brook		Q-23se B	B	B
176	NJ-5-7	Trib. of Pascack Brook		Q-23se Q-23ne	[D]C	[D]C
177	NJ-5-7-P987g	Subtrib. of Pascack Brook		Q-23ne B	B	B
178	NJ-5-8	Trib. of Pascack Brook		Q-23se Q-23ne	[D]C	[D]C
179	NJ-5-P987e	Trib. of Pascack Brook		Q-23se	[D]C	[D]C
180	NJ-5-8a	Trib. of Pascack Brook		Q-23se Q-23ne	[D]C	[D]C
181	NJ-5-8a-P987f	Subtrib. of Pascack Brook		Q-24ne B	B	B
182	NJ-5-9	Trib. of Pascack Brook		Q-23se	[D]C	[D]C
<u>182.</u>	<u>NJ-6 portion</u>	<u>Pine Brook</u>	<u>From New York-New Jersey border to 100 ft. upstream.</u>	<u>Q-23se A</u>	<u>A</u>	<u>A(TS)</u>

# ORANGE COUNTY



# ROCKLAND COUNTY



Prepared by the New York State Department of Environmental Conservation

Region 3 Fisheries Management Unit

ORANGE COUNTY STOCKING RECOMMENDATIONS		Town		Miles or		Date		Species		Number	
Water	Stocked Sections			acres							
Askoti Lake		Tuxedo		30 ac	Apr	BT		670			
Blue Lake		Warwick		115 ac	Mar	BT		90			
					Mar	RT		670			
					Mar	BT2Y		800			
Island Pond		Tuxedo		51 ac	Apr	ST		90			
Moodna Creek	Rte 32 bridge to Woodbury Creek	Cornwall		2.6	Mar	RT		1300			
					Mar	BT		2000			
					Mar	BT2Y		920			
Neversink River	Graham Rd to Oakland Valley Rd bridge	Deerpark		4.2	Apr	BT		330			
					Mar	BT		4580			
					Mar	BT2Y		520			
					Apr	BT		580			
Ramapo River	Rockland Co line to Arden Valley Rd	Tuxedo		6.9	Mar	BT		1750			
					Mar	RT		2000			
					Apr	BT		1410			
					Apr	BT2Y		380			
Ringwood River	NJ Line Upstream 1.0 Mi.	Warwick		1	Mar	BT		290			
Round Pond		Monroe		75 Ac	Mar	BT		830			
Rutgers Creek	Rte 22 to Logtown Rd	Greenville		8	Mar	BT2Y		190			
					Mar	RT		3100			
					Apr	BT		330			
Shawangunk Kill	Hardenburg Rd (Pine Bush) to Carboy Rd (Otisville)	Crawford		19.7	Mar	BT		1000			
					Mar	BT2Y		350			
					Mar	RT		4500			
					Apr	RT		400			
					Apr	BT		250			
Shingle Kill	Delaware R to Peenpeck Pd In Cahoonzie	Deerpark		3.6	Apr	BT		620			
					May	BT		210			
Shanataki Lake		Tuxedo		37 ac	Apr	BT		420			
Sterling Lake		Warwick		290 ac	Mar	RT		1800			
Walton Lake		Monroe		122 ac	Apr	BT		3330			
					Apr	BT2Y		330			
Wawayanda Creek	Slate line to Bairds Lane	Warwick		3.6	Mar	BT		670			
Woodbury Creek	Moodna Creek to Pine Hill Road	Cornwall		5.4	Apr	BT		500			
					May	BT		210			

ROCKLAND COUNTY STOCKING RECOMMENDATIONS		Town		Miles or		Date		Species		Number	
Water	Stocked Sections			acres							
Hessian Lake		Stony Point		38 ac	Mar	BT		670			
Mahwah River	Montibello Rd to Kakiat Park	Ramapo		2.7	Mar	BT2Y		90			
					Mar	BT		670			
					Apr	BT		170			
Miniscoongo Creek and north branch		Haverstraw		3.7	Mar	BT		1040			
					Mar	BT2Y		50			
					Apr	BT		160			
Pascack Brook	Pascack Rd to Washington Ave	Orangetown		0.9	Mar	RT		250			
					Apr	BT		170			
Ramapo River	Sloatsburg to Orange Co. Line	Ramapo		2.3	Mar	RT		700			
					Mar	BT		580			
					Mar	BT2Y		190			
					Apr	BT		290			
Rockland Lake		Clarkstown		256 ac	Fall	TGRM		800			
Sparkill Creek	Rte. 9W to Clausland Mtn. Rd.	Orangetown		2.5	Mar	BT		580			
					Apr	BT		80			
Stony Brook	Ramapo R to Spring Brook	Ramapo		2.5	Apr	BT		290			
					May	BT		170			
Tiorati Brook	Cedar Flats to 1.4 mi below Tiorati Lk	Stony Point		2.3	Apr	BT		290			
					May	BT		170			

Species codes: BT: brown trout yearlings  
 BT2Y: brown trout two year old  
 RT: rainbow trout  
 ST: brook trout  
 TGRM: tiger muskeel/unge

Updated March 2005





**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

January 17, 2006

Peter Noonan  
Chief of Police  
Clarkstown Police & Justice Court  
20 Maple Avenue  
New City, New York, 10956

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

Dear Chief Noonan:

Tim Miller Associates is preparing environmental documentation for a proposed multifamily residential project in the Town of Clarkstown. I have enclosed a site map for your reference. As shown on the site location map, the site is located on the north side of Pipetown Hill road south of NYS Route 59.

The proposed project consists of 80 units of Multifamily housing in 10 buildings plus a community center. Based on one to three bedrooms per home, we have projected a total future population of approximately 142 people, including 23 school age children.

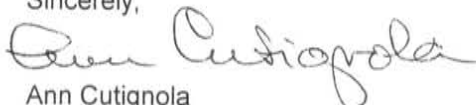
As part of the environmental review process, we wish to include any concerns your office may have relative to this proposed project. We would appreciate your written response regarding the effect of the increased population on the district's facilities, and the ability of the Police Department to provide police protection services to this property. Information which would be useful in that regard would include:

- the number of police calls per year
- service ratio (police officers to population served)
- your typical response time to a site in this location
- the location of police station(s) near the site
- your current manpower and equipment levels
- any anticipated department staff or facility expansion or equipment procurement plans

Your input is important. Should you not be able to provide written correspondence, I can be reached by telephone at the number shown below during the weekdays. Please include any departmental publications you feel might provide useful information on the Town of Clarkstown police department.

Thank you for your assistance in this matter. Please do not hesitate to call me should you have any questions or need additional information. I look forward to hearing from you.

Sincerely,



Ann Cutignola  
Associate Planner  
TIM MILLER ASSOCIATES, INC.



**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

January 17, 2006

East Spring Valley Fire Department  
10 Maple Avenue  
New City, NY 10956

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

Dear Chief:

Tim Miller Associates is preparing environmental documentation for a proposed multifamily residential project in the Town of Clarkstown. I have enclosed a site map for your reference. As shown on the site location map, the site is located on the north side of Pipetown Hill road south of NYS Route 59.

The proposed project consists of 80 units of Multifamily housing in 10 buildings plus a community center. Based on one to three bedrooms per home, we have projected a total future population of approximately 142 people, including 23 school age children.

As part of the environmental review process, we wish to include any concerns your office may have relative to this proposed project. We would appreciate your written response regarding the effect of the increased population on the area's facilities, and the ability of the East Spring Valley Fire Department to provide services to this property. Information which would be useful in that regard would include:

- your current service area/population served
- the number of emergency calls per year
- service ratio (emergency personnel to population served)
- your typical response time to a site in this location
- your current manpower and equipment levels
- any anticipated department staff or facility expansion or equipment procurement plans
- any overlap in jurisdiction with other police departments/jurisdictions, or backup service provided by neighboring communities

Your input is important. Should you not be able to provide written correspondence, I can be reached by telephone at the above number during the weekdays.

Thank you for your assistance in this matter. Please do not hesitate to call me should you have any questions or need additional information.

Sincerely,



Ann Cutignola  
Associate Planner  
TIM MILLER ASSOCIATES, INC.



**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

January 17, 2006

Nanuet Community Ambulance Corp.  
202 South Main Street  
Nanuet, NY 10954-3324

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

To Whom It May Concern:

Tim Miller Associates is preparing environmental documentation for a proposed multifamily residential project in the Town of Clarkstown. I have enclosed a site map for your reference. As shown on the site location map, the site is located on the north side of Pipetown Hill road south of NYS Route 59.

The proposed project consists of 80 units of Multifamily housing in 10 buildings plus a community center. Based on one to three bedrooms per home, we have projected a total future population of approximately 142 people, including 23 school age children.

As part of the environmental review process, we wish to include any concerns your office may have relative to this proposed project. We would appreciate your written response regarding the effect of the increased population on the area's facilities, and the ability of the Ambulance Core to provide services to this property. Information which would be useful in that regard would include:

- your current service area/population served
- The nearest hospital
- the number of emergency calls per year
- service ratio (emergency personnel to population served)
- your typical response time to a site in this location
- your current manpower and equipment levels
- any anticipated department staff or facility expansion or equipment procurement plans
- any overlap in jurisdiction with other ambulance departments, or backup service provided by neighboring communities

Your input is important. Should you not be able to provide written correspondence, I can be reached by telephone at the above number during the weekdays.

Thank you for your assistance in this matter. Please do not hesitate to call me should you have any questions or need additional information.

Sincerely,



Ann Cutignola  
Associate Planner  
TIM MILLER ASSOCIATES, INC.



**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

January 17, 2006

Mr. Charles Connington - Superintendent  
Clarkstown Department of Parks & Recreation  
31 Zukor Road  
New City, New York 10956

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

Dear Mr. Connington:

Tim Miller Associates is preparing environmental documentation for a proposed multifamily residential project in the Town of Clarkstown. I have enclosed a site map for your reference. As shown on the site location map, the site is located on the north side of Pipetown Hill road south of NYS Route 59.

The proposed project consists of 80 units of Multifamily housing in 10 buildings plus a community center. Based on one to three bedrooms per home, we have projected a total future population of approximately 142 people, including 23 school age children.


As part of the environmental review process, we wish to include any concerns your office may have relative to this proposed project. We would appreciate your written response regarding the effect of the increased population on the Parks & Recreation services provided to the residents in the Town of Clarkstown, and the ability of your department to provide these services to the people who will be associated with this property.

Please include any departmental publications you feel might provide useful information on the Parks & Recreation Facilities in the Town of Clarkstown. A listing of the parks and programs available to residents would be most useful. Please include any information you may have on the Long Trail, since it is in close proximity to the project site.

Your input is important. Should you not be able to provide written correspondence, I can be reached by telephone at the above number during the weekdays.

Thank you for your assistance in this matter. Please do not hesitate to call me should you have any questions or need additional information.

Sincerely,



Ann Cutignola  
Associate Planner  
TIM MILLER ASSOCIATES, INC.





**TIM  
MILLER  
ASSOCIATES, INC.**

10 North Street, Cold Spring, New York 10516

Phone (845) 265-4400

Fax (845) 265-4418

January 17, 2006

Mr. Jason P. Friedman  
Superintendent of Schools  
East Ramapo Central School District  
105 South Madison Avenue  
Spring Valley, NY 10977

**Re: Proposed Hyenga Lake - Multi-Family Development, Pipetown Hill Road  
Town of Clarkstown, Rockland County, NY**

Dear Mr. Friedman:

Tim Miller Associates is preparing environmental documentation for a proposed multifamily residential project in the Town of Clarkstown. I have enclosed a site map for your reference. As shown on the site location map, the site is located on the north side of Pipetown Hill road south of NYS Route 59.

The proposed project consists of 80 units of Multifamily housing in 10 buildings plus a community center. Based on one to three bedrooms per home, we have projected a total future population of approximately 142 people, including 23 school age children.

As part of the environmental review process, we wish to include any concerns your office may have relative to this proposed project. We would appreciate your written response regarding the effect of the increased population on the East Ramapo Central School District's facilities, and the ability of the School District to provide educational services to the children who will be associated with this property.

Please include any school district publications you feel might provide useful information on the school district, for example a list of the schools in the district and their respective enrollments. If possible please forward me a copy or a summary of the 2005-2006 school budget. Please include any available information on the routing of school buses, and the location of bus stops in this area. Please include any data you may have on Student multipliers used to project students based upon new construction.

Your input is important. Should you not be able to provide written correspondence, I can be reached by telephone at the above number during the weekdays.

Thank you for your assistance in this matter. Please do not hesitate to call me should you have any questions or need additional information.

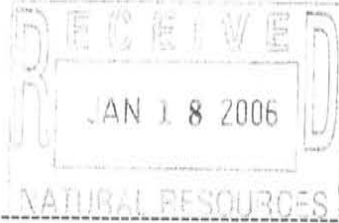
Sincerely,



Ann Cutignola  
Associate Planner  
TIM MILLER ASSOCIATES, INC.



**TIM  
MILLER  
ASSOCIATES, INC.**



-----  
*10 North Street, Cold Spring, NY 10516 (845) 265-4400 265-4418 fax www.timmillerassociates.com*

January 17, 2006

Ms. Leslie Surprenant  
NYS Department of Environmental Conservation  
Region 3  
21 South Putt Corner Road  
New Paltz, NY 12561

Re: Hyenga Lake Residential Development, Town of Clarkstown, Rockland County

Dear Mike: ?

Tim Miller Associates is preparing environmental documentation for a proposed residential development project at the above referenced 12.4 acre property. The project site location is shown on the enclosed USGS topographic map for your reference.

The project site lies to the northwest of the intersection of the NYS Thruway and Route 59 in the Town of Clarkstown, east of the Village of Spring Valley and contains the old lakebed of Hyenga Lake as well as a portion of Pascack Brook that flows through the lakebed. The dam creating Hyenga Lake was breached during Hurricane Floyd in 1999, and Pascack Brook now flows unimpeded by the dam into the Hackensack River drainage in New Jersey.

Would you please provide me with waterbody classifications for the Pascack Brook in its New York reaches, along with any available DEC fish survey information for the brook and for Hyenga Lake.

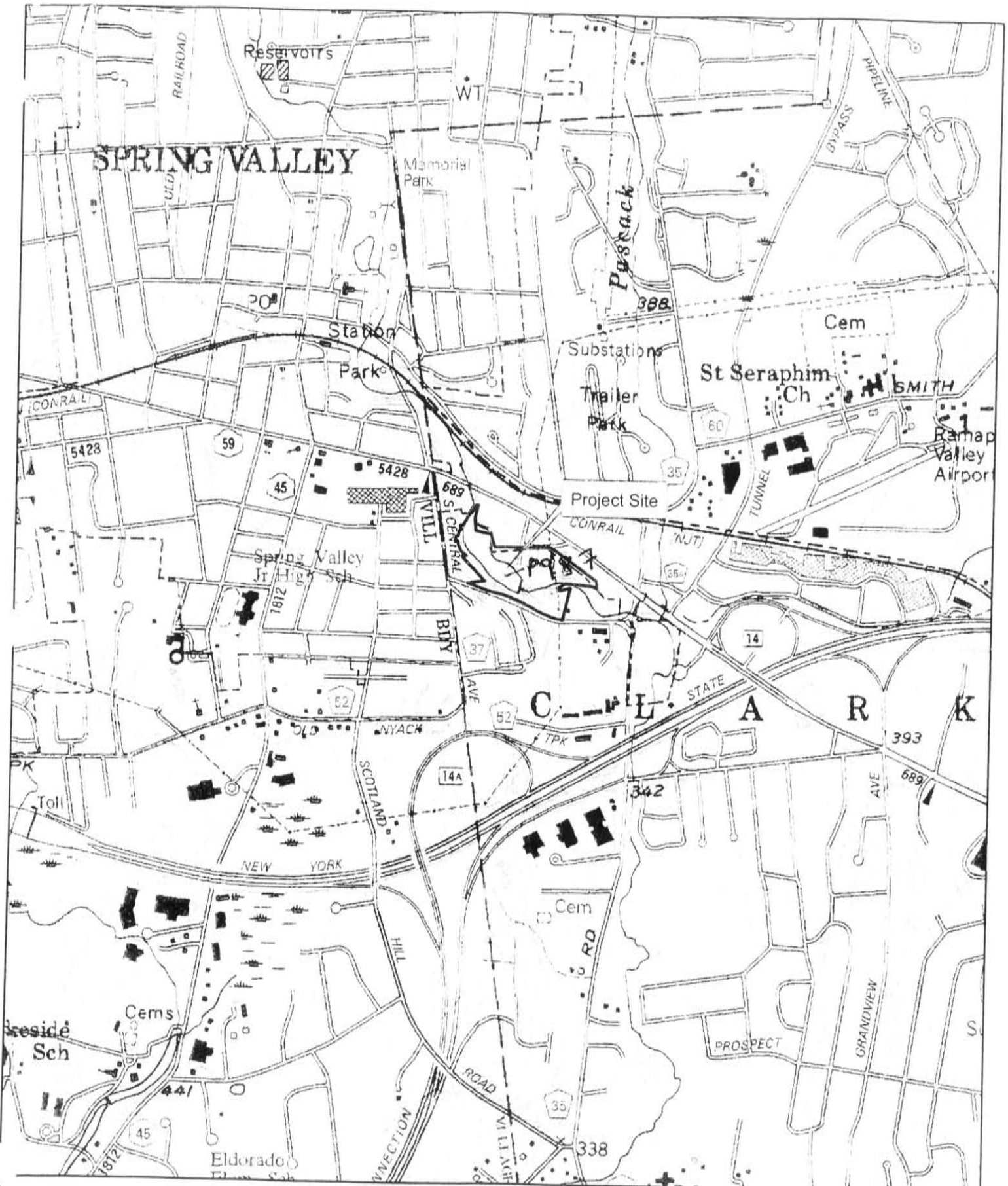
Please call me at (845) 265-4400 should you have any questions or need additional information.

Thank you,

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

Bruce R. Friedmann  
Environmental Scientist  
TIM MILLER ASSOCIATES, INC.

enclosure



1987

NJ-5

Site Location Map  
Hyenga Lake

Town of Clarkstown, Rockland County, New York

Source: Rockland County Department of Planning

Scale: NTS

**TOWN OF CLARKSTOWN  
DEPARTMENT OF ENVIRONMENTAL CONTROL  
INTER-OFFICE MEMORANDUM**

①

**DATE:** November 21, 2005  
**FROM:** Dennis M. Letson, P.E., Deputy Director  
 Joe Simoes, Town Planner  
**TO:** Planning Board  
**SUBJECT:** Hyenga Lake – 57.14-03-02



As a result of a meeting held between the applicant and his representatives, and representatives of the Town, the following is a list of potential impacts and the minimum level of information staff believes the Board would need in order to properly evaluate the potential significance of those impacts.

Impact on Land:

Proposed action will result in a physical change to the project site.

We have identified that there are significant cuts and fills associated with the project as presented. These include cuts of up to 18 feet, and tiered retaining wall construction of 16 feet total height. A cut and fill map and total quantities of material to be removed from the site, including number of truck trips required for removal should be provided.

Construction duration is indicated as greater than one year. Construction schedule should be provided.

Existing residences may contain hazardous materials that could be deposited in the soil during demolition. Prior use of the site may indicate the presence of other materials which have been disposed there. The applicant should specify where construction debris will be disposed and the pollution control measures that will be in place to protect against soil contamination.

Impact on Water:

Proposed action will affect a waterbody designated as protected.

The Pascack Brook crosses the parcel, and a new stream crossing is proposed to provide access to the project from Pipetown Hill Road. Hydraulic analysis has been submitted for review.

Utilities may also be routed into the site via this proposed crossing.

Proposed action will affect a non-protected existing or new body of water.

Filling or construction within Federally regulated wetlands is proposed. The applicant should provide comment from the ACoE.

Proposed action will affect surface or groundwater quality or quantity.

Construction is likely to cause siltation of existing stream and will require a discharge permit. Applicant shall have a SWPPP prepared for the project in accordance with the New York State Department of Environmental Conservation (NYSDEC) General Permit,

2

Stormwater Management Design Manual and the Standards for Erosion & Sediment Control.

The maintenance plan for the proposed detention basins should be provided.

The proposed development is estimated to consume 15,000 gallons of water per day. The applicant should provide some indication from the public water supplier as to whether they have adequate water pressure and supply to serve this development.

If the property is not currently in a water district, the water district will have to be extended to provide adequate fire protection.

The property may be an Environmentally Sensitive Area (ESA) as a result of Environmental Protection Agency (EPA) grants to the Rockland County Sewer District (RCSD #1). Application for ESA waiver may be required through the RCSD #1 and NYSDEC to secure waiver from EPA.

Proposed action has the potential to alter drainage flow or patterns, or surface water runoff.

Construction may cause substantial erosion and will alter the runoff volumes from the site. A drainage study has been submitted. Additional information is needed regarding erosion and sediment control.

Access road will cross the existing Pascack Brook (regulated stream), where the previous dam was destroyed by Tropical Storm Floyd, and the 100-year floodplain. Details for this crossing should be provided.

The applicant has provided a study on the flood control capability of Hyenga Lake Dam. The applicant should also provide a letter from the Rockland County Drainage Agency as to whether or not the dam should be reconstructed.

#### Impact on Air: - Construction Only.

Proposed action will affect air quality.

Projected emissions from construction vehicles and passenger vehicles for additional or new residents and proposed mitigation should be provided.

The anticipated construction duration and the extent of clearing and grading will generate dust during construction. Details of dust control measures should be provided.

Existing residences to be demolished may contain hazardous materials, such as asbestos. The applicant should specify the pollution control measures that will be in place to protect against airborne pollutants.

#### Impact on Plants and Animals:

Proposed action will affect non-threatened or non-endangered species.

Applicant should identify any resident or migratory fish, shellfish or wildlife species that may be impacted by the proposed development. Proposed methods of protecting existing species and mitigating impacts should be provided.

#### Impact on Historic and Archeological Resources:

Proposed action may impact an archeological site or fossil bed within the project site.

Applicant should obtain confirmation from State Historic Preservation Office (SHPO) that there is or is not likely to be any archeological artifacts or fossil bed on the site, and whether

the Hyenga Lake bungalow colony has any historic significance. A narrative of the historical use of the site should also be provided.

Impact on Transportation:

Proposed action will effect existing transportation systems.

Proposed action may result in major traffic problems. The major access is proposed from Pipetown Hill Road, where no access presently exists. Access to NYS Route 59 has not been adequately demonstrated, and occurs through a different municipality over a separate tax lot by easement. The applicant should provide assurances that access from NYS Route 59 can be obtained or develop an alternative means of access. A traffic study has been provided and will be reviewed by the Planning Board's traffic consultant. Additional details may be required. The affect of construction traffic on Pipetown Hill Road should also be studied. The proposed circulation and timing of construction vehicles should be provided.

Impact on Energy:

Proposed action will increase use of fuel and energy.

Existing utilities must be installed or extended to serve the proposed 80 residential units. Potential energy demand and conservation measures should be provided in project narrative.

Noise and Odor Impact:

Proposed action will generate objectionable odors, noise or vibration.

The applicant should provide estimated quantities and duration of noise, odor, vibration and volatile emissions from construction activities and methods for controlling same. The applicant should also provide information regarding permanent screening of the development from the traffic noise from NYS Route 59.

Impact on Public Health:

Proposed action may affect public health and safety.

Construction in the vicinity of the existing power lines presents the risk of equipment contact with high voltage wires. Methods of construction safety should be provided. Protection of people or permanent improvements in the vicinity of transmission lines should be described.

Impact on Growth and Character of the Community or Neighborhood:

Proposed action will affect the character of the existing community.

The effects on police, fire and ambulance services and the impact to the school district should be studied.

The proposal will replace the existing bungalow community with condominium units at a much higher density. The reconstruction has the potential to displace the existing population, which may be precluded from reoccupying the newly constructed units by virtue of increased sales or rental costs. Applicant should describe the potential effects of redevelopment on the current population, particularly in regard to the issues raised by the Legal Aid Society in correspondence of August 30, 2005.





TOWN OF CLARKSTOWN  
Department of Planning

JOSE C. SIMOES, Town Planner  
ROBERT GENESLAW, Planning Consultant  
10 Maple Avenue  
New City, New York 10956-5099  
(845) 639-2070 (phone)  
(845) 639-2071 (fax)  
planning@town.clarkstown.ny.us



1B

TOWN OF CLARKSTOWN  
Planning Board

SHIRLEY J. THORMANN, Chairwoman  
RUDOLPH J. YACYSHYN, Vice Chairman  
GILBERT J. HEIM, Member  
MARVIN S. BAUM, Member  
GEORGE A. HOEHMANN, Member  
RICHARD C. SHOBERG, Member  
ROBERT D. JACKSON, Member

639 2070

MEMO TO: Clarkstown Planning Board  
FROM: Jose Simoes, Town Planner *JS*  
SUBJECT: HYENGA LAKE SL, 57.14-3-2  
DATE: October 13, 2005

The Technical Advisory Committee requested that I provide the Planning Board a narrative on the environmental and planning issues related to the above referenced project. Located on the north side of Pipetown Hill Road and the west side of Pascack Road, the site of the former Hyenga Lake and associated Hyenga Lake Dam is comprised of 12.4 acres of MF-2 zoned property. The owner of said parcel is proposing to construct 80 multi-family housing units within 11 buildings on the site. As many of you know, on September 17, 1999, the torrential waters of Tropical Storm Floyd washed away Hyenga Dam and with it, Hyenga Lake. The elimination of lake and the dam altered the 100-year floodplain on the site, providing additional developable area on which to build. However, FEMA maps continue to show the floodplain that existed prior to Tropical Storm Floyd, and, as such a larger area of the site could be considered "land underwater or subject to flooding" which, in turn, reduces the amount of land that can be developed and the extent of permissible construction.

Site layouts for this project have continually shown the "existing" floodplain in the absence of the dam, as determined by the applicant's engineer. Dennis Letson has repeatedly requested that the prior conditions of the lake, dam and floodplain, as shown on the FEMA regulated floodplain maps, be depicted on the site layout, until such time that FEMA revises its maps. This was not been provided. The applicant's engineering consultant, Leonard Jackson, instead has requested that the NYS DEC Dam Safety Unit remove the dam from the NYS DEC Dam Inventory, in effort to have the FEMA floodplain maps revised. As directed by the Planning Board at their meeting of April 6, 2005, correspondence was sent under the signature of the Chairwoman to NYS DEC Dam Safety asking that they deny this request and require that the dam be restored to "reestablish Hyenga Lake as a potential aesthetic and recreational resource on the site and to prevent downstream flooding." No letter responding to the requests of either Leonard Jackson or the Planning Board were received by the Planning Department. However, on June 21, 2005, I did receive a phone call from Alan Daminitz of the NYS DEC Dam Safety Unit, informing me that his division simply inventories dams and can not require their construction or reconstruction.

- continued -

5

The environmental and planning concerns related to this site and the proposed project are numerous. Of particular environmental concern is the impact to downstream flooding that has resulted from the removal of the Hyenga Dam. The owner of the property has offered drainage easements to the Rockland County Drainage Agency. We do not know if the Drainage Agency would prefer to have the dam and lake restored to control downstream flooding, or whether FEMA may see some value in restoring the dam. Based on the SEQR Full Environmental Assessment Form (EAF) Part I, Project Information, provided by the applicant, Dennis Letson and I have filled out the EAF Part II, Project Impacts and their Magnitude, and found various potential environmental impacts, including, but limited to: construction on slopes greater than 15 percent, developing a site containing a protected water body, Federal wetlands, surface and groundwater discharge and traffic (see enclosed). Furthermore, the Legal Aid Society of Rockland County, Inc, in their letter dated August 30, 2005, states that the Planning Board, as part of the environmental review for this project, should study the "impact on the welfare of current residents of Hyenga Lake and low-income community as a whole" (see enclosed).

The Planning Board has yet to make a determination of significance under SEQRA. Examining the Planning Department's records, I found that on March 9, 1994, the Planning Board was presented with a development proposal for this site, which entailed the construction of 84 multifamily units with the dam and lake to remain or 113 multifamily units with the dam to be removed. At that time, the "traffic, drainage, engineering and electromagnetic fields" were identified as potential environmental issues and the Planning Board issued a positive declaration, requiring that a Draft EIS be prepared (see enclosed). The same issues exist today, perhaps even more acutely. As such, the Planning Board should consider issuing a positive declaration again, while exploring with FEMA and the Rockland County Drainage Agency whether the dam on this property should be restored for flood control purposes.

Encls.

# LEGAL AID SOCIETY OF ROCKLAND COUNTY, INC.

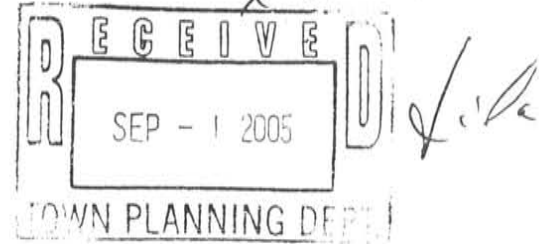
2 Congers Road  
New City  
New York 10956  
(845) 634-3627  
(845) 634-8505 Fax

August 30, 2005



X JS (FYI)  
X RB, X DEC,  
X BT, X DTA,  
X 7/14/05

Joe Simoes,  
Town of Clarkstown Department of Planning,  
10 Maple Avenue,  
New City, New York 10958-5099



Dear Mr Simoes,

We are writing to you regarding a petition by Howard Hellman and Vincent DeStaso requesting permission to demolish the existing residential buildings on a parcel of land known as "Hyenga Lake" and to develop approximately eighty apartments on this land.

We understand that the Town of Clarkstown Planning Board has been designated the "lead agency" in the environmental review of this project. Because of the many environmental and human impacts of this proposal, The Legal Aid Society of Rockland County, Inc., wishes to be considered an "interested party" in the process. Specifically, we would like to be informed if "scoping" will be conducted, to receive notice when draft or final environmental impact statements are out for comment and to receive notice of any public or other hearings regarding Hyenga Lake.

The Legal Aid Society has concerns regarding the environmental impact this project could have upon the local area. We understand that Hyenga Lake includes federal wetlands (*New York Environmental Conservation Law 24-0101 et seq*) and that the project plans propose the removal of a former dam to allow access to Pipetown Hill Road. As you are aware, the State Environmental Review Act (SEQRA) requires agencies to prepare an Environmental Impact Statement on any action they propose or approve which may have a significant impact on the environment (*New York Environmental Conservation Law 8-0109 [2] (b).*)

We would also like to emphasize that any Environmental Impact Statement should include a study of the impact on the welfare of the current residents of Hyenga Lake and the low-income community as a whole. Courts have held that the reach of the term "environment" in Environmental Impact Statements extends beyond the physical environment.

As stated by the Court of Appeals [*Chinese Staff and Workers Association v. City of New York*, 509 N.Y.S.2d 499 (1986)]:

“By their express terms, therefore, (both) SEQRA (and CEQR) require a lead agency to consider more than impacts upon the physical environment in determining whether to require the preparation of an EIS. In sum, population patterns and neighborhood character are physical conditions of the environment under SEQRA (and CEQR) regardless of whether there is any impact on the physical environment.” *Id.* at footnote 6.

Many of these tenants are low-income and ethnic minorities and will be rendered homeless by the demolition unless alternative appropriate housing is provided. In addition, this demolition impacts the low-income and minority population as a whole in Rockland County by causing a net loss of affordable housing. It involves the destruction of approximately twenty units serving low-income households and does not replace the affordable housing lost but instead replaces it with high-cost housing.

Please feel free to call myself or Karen Stark at 634 3627 should you have any questions or comments regarding the above.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'Megan McLeod', with a long horizontal flourish extending to the right.

Megan McLeod  
Staff Attorney

05220  
AC

479

26 Firemen Memorial Drive  
Pomona NY 10970  
Tel: (845) 354-4382 Fax: (845) 354-4401

**Leonard Jackson  
Associates**

# Fax

To: Tim Miller Associates	From: Rich Von Ronn
Att: Ann Cutignola	Date: January 30, 2006
Fax: 845-265-4418	Pages: 5 + Cover
Re: Hyenga Lake	CC:

Urgent   
 For Review   
 Please Comment   
 Please Reply   
 Please Recycle

Ann,

Attached is part of a technical addendum that was sent to the R.C.D.A. on April 29<sup>th</sup>, 2005.

This is the only thing we have that is close to what you requested. Please call with any questions.

Sincerely,

Rich Von Ronn



**COUNTY OF ROCKLAND  
DRAINAGE AGENCY**

**Division of the Highway Department**

23 New Hempstead Road  
New City, New York 10956  
(845) 638-5081

Fax: (845) 708-7116  
Email: highway@co.rockland.ny.us

**C. SCOTT VANDERHOEF**  
County Executive

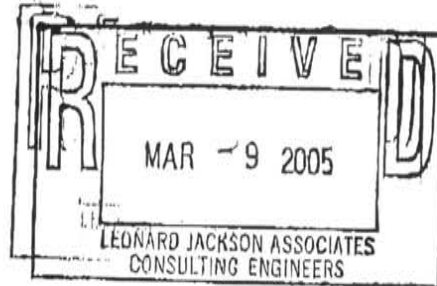
**CHARLES H. VEZZETTI**  
Superintendent of Highways  
Chairman, Drainage Agency

**EDWARD F. DEVINE**  
Executive Director

March 7, 2005

Leonard Jackson, P.E.  
26 Firemen's Memorial Drive  
Suite 201  
Pomona, New York 10970

**RE: RCDA Permit Application No. 04-36**  
**Hyenga Lake Town Homes**  
**Town of Clarkstown**  
**Tax Id No. 57.14-3-2**  
**Resource: Pascack Brook**



Dear Mr. Jackson:

The Rockland County Drainage Agency has received the following information regarding the above referenced matter:

1. Hyenga Lake Drainage Report Hydrologic and Hydraulic Analyses, Binders 1 through 3, prepared by Leonard Jackson Associates, dated 11/04;
2. Hyenga Lake Drawings No. 1 through 5, prepared by Atzl, Scatassa & Zigler P.C., dated December 17, 2004, last revised January 17, 2005; and

The project includes the construction of eleven residential townhouse units (a total of eighty-eight apartments) on 12.372 acres of land on which several smaller housing units are currently located. A total of 5.35 acres of land will be disturbed for the project. The project site is located adjacent to the Pascack Brook and the former Hyenga Lake site, on the northern side of the Brook, with portions of the project as close as 45-feet to the Brook. The former dam which impounded water to form Hyenga Lake (Hyenga Lake dam) will be completely removed and replaced with box culverts and a driveway to access the site from Pipetown Hill Road, from which there is currently no access to the site. The dam was washed out in September 1999 during Hurricane Floyd, and only a small portion of the dam still exists. The remaining portions of the dam are outside of the waterway, on the upper reaches of the stream banks. The current FEMA Flood Insurance Study of the Pascack Brook includes the Hyenga Lake dam in the analysis. By installing the culverts the floodplain will be changed significantly compared to the current FEMA floodplain boundary at the site.

The applicant is proposing a stormwater system at the site that consists of catch basins and storm drains, both in the roadways and the lots, which will convey stormwater to a pocket pond to provide water quality, but not water quantity reduction for the site. One (1) water quality pond is proposed which will discharge approximately 20-feet from the Pascack Brook then flow overland to the Brook. The location and nature of the existing stormwater system at the site is not known, however, it is known that there are no detention or water quality ponds.

Based on our review of the submitted materials the RCDA provides the following comments:

1. Please provide the RCDA with drawings that are stamped or sealed by either a New York State licensed professional engineer or architect. The plans submitted were not stamped or sealed by a licensed New York State professional engineer or architect.
2. The New York State Department of Environmental Conservation (NYSDEC) Dam Safety Section along with the NYSDEC Region 3 Division of Environmental Permits was contacted regarding the removal / decommissioning of the Hyenga Lake dam. The Dam Safety section indicated that based on their limited knowledge of the dam, the formal removal of the dam will likely not require a permit from the NYSDEC. Correspondence from the NYSDEC regarding the matter dated May 13, 2003 references permits that may be required, but no reference is specifically made to the removal of the dam. Correspondence from the NYSDEC indicating that no permits are required for removal of the dam should be provided. Also, the applicant should request that the dam be removed from the NYSDEC list of dams.
3. The Hyenga Lake dam was approximately 30-feet high. By formally removing this dam, the 100-year (FEMA regulated) floodplain will be lowered by as much as 26-feet adjacent to the project site. This will move the floodplain boundary horizontally approximately 180-feet closer to the Brook at the project site. Portions of the proposed project are located within the existing 100-year floodplain. The applicant has submitted a hydrologic and hydraulic study of the Brook to determine the new floodplain boundaries. In order to formally revise the floodplain boundaries, the applicant will need to have the revised floodplain boundary reviewed and approved the Federal Emergency Management Agency (FEMA). As you are aware, the applicant will need to submit an application to FEMA for a Letter of Map Revision (LOMR), which is a letter from FEMA that officially revises the current Flood Insurance Study to show changes to the floodplains. This application includes, but is not limited to, application forms, hydrologic and hydraulic computations, mapping, and public notifications.
4. The in-stream velocity of the Brook upstream of the dam has increased significantly due to the loss of the dam and impoundment (from 1 foot per second to 12 feet per second). Evidence of recent erosion has been observed. A stream restoration and stabilization plan should be provided along with supporting calculations. This is also important since the stream is being lowered in some areas, which will expose erodible substrate.
5. Please provide details for the box culverts including any wingwalls and/or retaining walls that are proposed. *Consent*
6. The project includes the construction of residential dwellings on greater than 5 acres of land, and accordingly the project must comply with the Phase II Stormwater Regulations. The present application is meeting the water quality requirements through use of a pocket pond. The information provided indicates that an exemption to the overbank flood and extreme storm requirements is justified because when the developed site condition is added to the hydrograph for the Pascack Brook, there is zero measurable change in the Pascack Brook discharge. In support of this exemption, please provide an

analysis of the pre- and post-development conditions (including the pocket pond) for the site alone (not combined with the Pascack Brook flow).

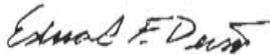
7. Comments regarding the proposed water quality pond are as follows:

- a. A maintenance plan should be provided for the pond which identifies the items outlined in the New York State Stormwater Management Design Manual.
- b. Rip-rap calculations should be provided for the pond discharge, and the need for protection at the pond inlet should be evaluated.
- c. The elevations for the pond outlet structure differ between the plans provided in the Hyenga Lake Drainage Report (by Leonard Jackson Associates) and the Hyenga Lake Drawings (by Atzl, Scatassa & Zigler P.C.). The correct elevations should be provided.
- d. Please provide cross sections of the pocket pond.

8. In accordance with Chapter 846, Rockland County Stream Control Act, please provide the RCDA with an environmental impact statement for the proposed project which provides sufficient information and details of the upstream and downstream impact of the proposed project with respect to the impact on aquatic life and habitat, fauna, biota, vegetation and wetlands. The environmental impact statement should also identify and describe any mitigating measures that will address the potential environmental impacts of the proposed project

Please provide the above requested information in order for the RCDA to continue its review. The RCDA will continue its review when the requested information is provided. Pursuant to the permit application guidelines, please provide the requested information in **triplicate**. Please contact Mr. Kevin Kenny of the RCDA if you have any questions regarding this matter.

Very truly yours,



Edward F. Devine  
Rockland County Drainage Agency

cc: Charles H. Vezzetti  
K. Luke Kalarickal, PE Town of Clarkstown  
Rockland County Department of Planning  
Town of Clarkstown Planning Board  
NYSDEC Division of Permits  
NYSDEC Dam Safety Section



(2)

N.Y.S.D.E.C. Dam Inventory

On Thursday March 24, 2005 we contacted Mr. Michael Stankiewicz, P.E. of the N.Y.S.D.E.C. Dam Safety Unit by telephone. In this conversation, he explained that the Hyenga Lake Dam can not be removed from the D.E.C.'s dam inventory for "historical reasons." Instead, it will remain in their records as a "failed" dam. Excluding other D.E.C permits which are not related to the dam, no permits need to be filed with the Dam Safety Unit regarding the installation of the proposed culvert. He can be contacted at the following address and phone number:

Dam Safety Unit

625 Broadway, 4<sup>th</sup> Floor

Albany, NY 12233-3507

Phone: (518)-402-8127.



**LJA****Leonard Jackson Associates Consulting Engineers**

26 FIREMENS MEMORIAL DRIVE • POMONA, NEW YORK 10970 • (845) 354-4382 FAX (845) 354-4401

April 19, 2005

County of Rockland Drainage Agency  
23 New Hempstead Road  
New City, New York 10956

Att: Ed Devine, Executive Director

Re: **RCDA Permit Application #04-36**  
Hyenga Lake Town Homes  
Town of Clarkstown  
Tax Id No. 57.14-3-2  
LJA # 03151

Dear Mr. Devine:

The following responds to your comment letter of March 7<sup>th</sup>, 2005 (copy attached). Responses are numbered in like order of your comments.

Comment # 1

- a) Refer for Section VIII of Technical Addendum: "Drawings"

Comment # 2

- a) Refer to Section I of Technical Addendum: "NYSDEC Dam Inventory"

Comment # 3

- a) LJA is in the process of preparing a Conditional Letter of Map Revision (CLOMR) application to FEMA and will submit it soon.

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Comment # 6

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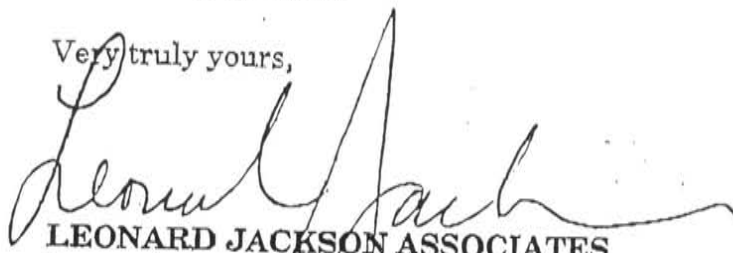
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- b) Refer to Section VI of Technical Addendum: "Rip-Rap calculations"
- c) LJA has contacted Atzl, Scatassa, and Zigler regarding the differences in elevations and advised them to make the necessary changes.
- d) Refer to Section V of Technical Addendum: "Water Quality Pond Plan"

Comment # 7

- a) Please refer to Section VII of Technical Addendum: "Environmental Impact Statement"

Very truly yours,



**LEONARD JACKSON ASSOCIATES**  
 Leonard Jackson, P.E.

cc: Howard Hellman  
 Ted Atzl - Atzl, Scatassa & Zigler

# Section I

## NYSDEC Dam Inventory

Technical Addendum

Hyenga Lake Town Homes

April 15, 2005

New York State Department of Environmental Conservation  
Division of Environmental Permits, Region 3  
21 South Putt Corners Road  
New Paltz, New York 12561-1620

Att: Margaret Duke

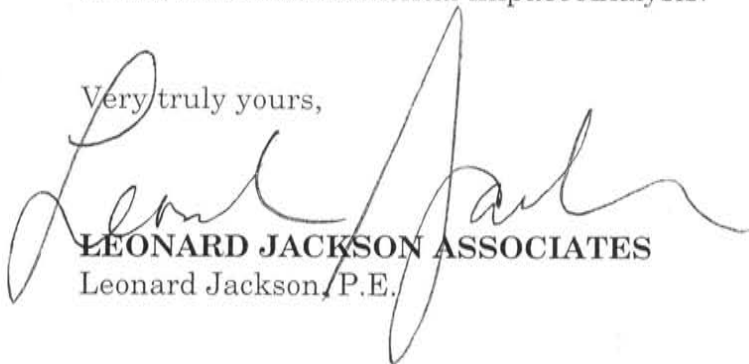
Re: Hyenga Lake Town Homes (LJA # 03151)

Dear Mrs. Duke:

The Hyenga Lake site is located on the Pascack Brook (DEC Water Index No. NJ-5; Class C(t)) in the Town of Clarkstown, adjacent to the Village of Spring Valley upstream and downstream of the site. The Hyenga Lake Dam was formerly located at this site but was breached and completely destroyed during rainfall associated with Tropical Storm Floyd in September of 1999.

We are proposing to place two 10' x 18' 3-sided culverts to cross over the Pascack Brook for the construction of a driveway for the Hyenga Lake Town Homes. Significant erosion at the site has been observed since the dam failed. Therefore, it is also proposed to provide channel improvements upstream and downstream of the proposed culvert. Attached is a Stream Disturbance Permit Application, site plan, detail, and Environmental Impact Analysis.

Very truly yours,



**LEONARD JACKSON ASSOCIATES**  
Leonard Jackson, P.E.

cc: Howard Hellman  
Ted Atzl – Atzl, Scatassa & Zigler





# JOINT APPLICATION FOR PERMIT



New York State  
United States Army Corps of Engineers

95-19-3 (8/00) pfp

Applicable to agencies and permit categories listed in Item 1. Please read all instructions on back. Attach additional information as needed. Please print legibly or type.

### 1. Check permits applied for:

#### NYS Dept. of Environmental Conservation

- Stream Disturbance (Bed and Banks)
- Navigable Waters (Excavation and Fill)
- Docks, Moorings or Platforms (Construct or Place)
- Dams and Impoundment Structures (Construct, Reconstruct or Repair)
- Freshwater Wetlands
- Tidal Wetlands
- Coastal Erosion Control
- Wild, Scenic and Recreational Rivers
- 401 Water Quality Certification
- Potable Water Supply
- Long Island Wells
- Aquatic Vegetation Control
- Aquatic Insect Control
- Fish Control

#### NYS Office of General Services

(State Owned Lands Under Water)

- Lease, License, Easement or other Real Property Interest Utility Easement (pipelines, conduits, cables, etc.)
- Docks, Moorings or Platforms (Construct or Place)

#### Adirondack Park Agency

- Freshwater Wetlands Permit
- Wild, Scenic and Recreational Rivers

#### Lake George Park Commission

- Docks (Construct or Place)
- Moorings (Establish)

#### US Army Corps of Engineers

- Section 404 (Waters of the United States)
- Section 10 (Rivers and Harbors Act)
- Nationwide Permit (s) Identify Number(s)

For Agency Use Only:  
DEC APPLICATION NUMBER

US ARMY CORPS OF ENGINEERS

### 2. Name of Applicant (Use full name)

Hyenga Lake LLC

### Telephone Number (daytime)

845-358-1200

### Mailing Address

100 Snake Hill Road

### Post Office

West Nyack

### State

NY

### Zip Code

10994

### 3. Taxpayer ID (If applicant is not an individual)

### 4. Applicant is a/an: (check as many as apply)

- Owner  Operator  Lessee  Municipality / Governmental Agency

### 5. If applicant is not the owner, identify owner here - otherwise, you may provide Agent/Contact Person information.

Owner or Agent/Contact Person  Owner  Agent /Contact Person

Leonard Jackson Associates

### Telephone Number (daytime)

845-354-4382

### Mailing Address

26 Firemens Memorial Drive

### Post Office

Pomona

### State

NY

### Zip Code

10970

### 6. Project / Facility Location (mark location on map, see instruction 1a.)

County: Rockland Town/City/Village: Clarkstown

Tax Map Section/ Block /Lot Number:

57.14-3-2

### Location (Including Street or Road)

Pipetown Hill Road

### Telephone Number (daytime)

None

### Post Office

Nanuet

### State

NY

### Zip Code

10954

### 7. Name of Stream or Waterbody (on or near project site)

Pascack Brook

### 8. Name of USGS Quad Map:

Park Ridge, NJ

### Location Coordinates:

NYTM-E 188765m NYTM-N 4 252350m

### 9. Project Description and Purpose: (Category of Activity e.g. new construction/installation, maintenance or replacement; Type of Structure or Activity e.g. bulkhead, dredging, filling, dam, dock, taking of water; Type of Materials and Quantities; Structure and Work Area Dimensions; Need or Purpose Served)

Installation of two 10' x 18' 3-sided culverts in the Pascack Brook with channel improvements for the driveway of the proposed Hyenga Lake Town Homes.

### 10. Proposed Use:

- Private  Public  Commercial

### 11. Will Project Occupy State Land?

- Yes  No

### 12. Proposed Start Date:

4/1/06

### 13. Estimated Completion Date:

8/1/06

14. Has Work Begun on Project? (If yes, attach explanation of why work was started without permit.)  Yes  No

15. List Previous Permit / Application Numbers and Dates: (If Any)

None

16. Will this Project Require Additional Federal, State, or Local Permits?

- Yes  No

If Yes, Please List: R.C.D.A. and Clarkstown Planning Board

### 17. If applicant is not the owner, both must sign the application

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than \$10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willfully falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Date 4/1/05 Signature of Applicant [Signature]

Title owner

Date 4/1/05 Signature of Owner [Signature]

Title [Signature]

# JOINT APPLICATION FOR PERMIT



New York State  
United States Army Corps of Engineers

Applicable to agencies and permit categories listed in Item 1. Please read all instructions on back. Attach additional information as needed. Please print legibly or type.

**1. Check permits applied for:**

**NYS Dept. of Environmental Conservation**

- Stream Disturbance (Bed and Banks)
- Navigable Waters (Excavation and Fill)
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- Potable Water Supply
- Long Island Wells
- Aquatic Vegetation Control
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**NYS Office of General Services**

(State Owned Lands Under Water)

- Lease, License, Easement or other Real Property Interest Utility Easement (pipelines, conduits, cables, etc.)
- Docks, Moorings or Platforms (Construct or Place)

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- Freshwater Wetlands Permit
- Wild, Scenic and Recreational Rivers

**Lake George Park Commission**

- Docks (Construct or Place)
- Moorings (Establish)

**US Army Corps of Engineers**

- Section 404 (Waters of the United States)
- Section 10 (Rivers and Harbors Act)
- Nationwide Permit (s) Identify Number(s)

For Agency Use Only:  
DEC APPLICATION NUMBER

US ARMY CORPS OF ENGINEERS

**2. Name of Applicant (Use full name)** **Telephone Number (daytime)**  
 Hyenga Lake LLC 845-358-1200

**Mailing Address**  
100 Snake Hill Road

<b>Post Office</b> West Nyack	<b>State</b> NY	<b>Zip Code</b> 10994
----------------------------------	--------------------	--------------------------

**3. Taxpayer ID (If applicant is not an individual)**

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**Owner or Agent/Contact Person**  Owner  Agent /Contact Person **Telephone Number (daytime)**  
 Leonard Jackson Associates 845-354-4382

**Mailing Address**  
26 Firemens Memorial Drive

<b>Post Office</b> Pomona	<b>State</b> NY	<b>Zip Code</b> 10970
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**6. Project / Facility Location (mark location on map, see instruction 1a.)**  
 County: Rockland Town/City/Village: Clarkstown Tax Map Section/Block /Lot Number: 57.14-3-2

**Location (including Street or Road)** **Telephone Number (daytime)**  
 Pipetown Hill Road None

<b>Post Office</b> Nanuet	<b>State</b> NY	<b>Zip Code</b> 10954	<b>7. Name of Stream or Waterbody (on or near project site)</b> Pascack Brook
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**8. Name of USGS Quad Map:** Park Ridge, NJ **Location Coordinates:**  
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---	---	---	---

**14. Has Work Begun on Project?** (If yes, attach explanation of why work was started without permit.)  Yes  No **15. List Previous Permit / Application Numbers and Dates:** (If Any)  
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**16. Will this Project Require Additional Federal, State, or Local Permits?**  Yes  No If Yes, Please List: R.C.D.A. and Clarkstown Planning Board

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Date 4/1/06 Signature of Applicant [Signature] Title owner  
 Date 4/1/06 Signature of Owner [Signature] Title it

**LJA**

Leonard Jackson Associates

Consulting Engineers

26 FIREMENS MEMORIAL DRIVE • POMONA, NEW YORK 10970 • (845) 354-4382 FAX (845) 354-4401

4

April 19, 2005

County of Rockland Drainage Agency  
23 New Hempstead Road  
New City, New York 10956

Att: Ed Devine, Executive Director

Re: **RCDA Permit Application #04-36**  
Hyenga Lake Town Homes  
Town of Clarkstown  
Tax Id No. 57.14-3-2  
LJA # 03151

Dear Mr. Devine:

The following responds to your comment letter of March 7<sup>th</sup>, 2005 (copy attached). Responses are numbered in like order of your comments.

Comment # 1

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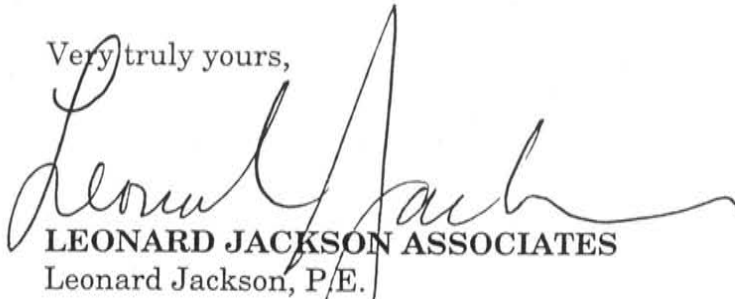
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Very truly yours,



**LEONARD JACKSON ASSOCIATES**  
Leonard Jackson, P.E.

cc: Howard Hellman  
Ted Atzl – Atzl, Scatassa & Zigler

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**LJA**

**Leonard Jackson Associates**

Consulting Engineers

26 FIREMENS MEMORIAL DRIVE • POMONA, NEW YORK 10970 • (845) 354-4382 FAX (845) 354-4401

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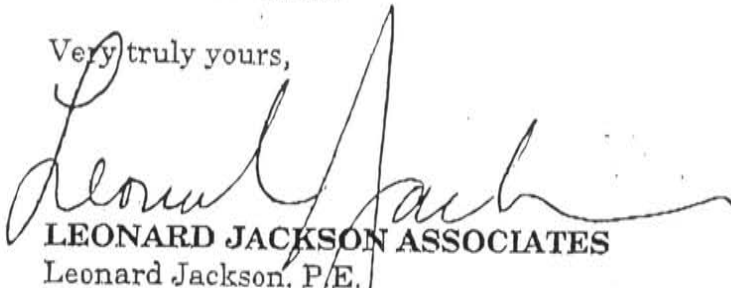
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- a) Refer to Section V of Technical Addendum: "Water Quality Pond Plan"
- b) Refer to Section VI of Technical Addendum: "Rip-Rap calculations"
- c) LJA has contacted Atzl, Scatassa, and Zigler regarding the differences in elevations and advised them to make the necessary changes.
- d) Refer to Section V of Technical Addendum: "Water Quality Pond Plan"

Comment # 8

- a) Please refer to Section VII of Technical Addendum: "Environmental Impact Statement"

Very truly yours,



**LEONARD JACKSON ASSOCIATES**  
Leonard Jackson, P.E.

cc: Howard Hellman  
Ted Atzl - Atzl, Scatassa & Zigler

# Section I

## NYSDEC Dam Inventory

# Technical Addendum

Hyenga Lake Town Homes



N.Y.S.D.E.C. Dam Inventory

On Thursday March 24, 2005 we contacted Mr. Michael Stankiewicz, P.E. of the N.Y.S.D.E.C. Dam Safety Unit by telephone. In this conversation, he explained that the Hyenga Lake Dam can not be removed from the D.E.C.'s dam inventory for "historical reasons." Instead, it will remain in their records as a "failed" dam. Excluding other D.E.C permits which are not related to the dam, no permits need to be filed with the Dam Safety Unit regarding the installation of the proposed culvert. He can be contacted at the following address and phone number:

Dam Safety Unit

625 Broadway, 4<sup>th</sup> Floor

Albany, NY 12233-3507

Phone: (518)-402-8127.



179

26 Firemen Memorial Drive  
Pomona NY 10970  
Tel: (845) 354-4382 Fax: (845) 354-4401

**Leonard Jackson  
Associates**

 COPY

# Fax

To: Tim Miller Associates	From: Rich Von Ronn
Att: Ann Cutignola	Date: January 30, 2006
Fax: 845-265-4418	Pages: 5 + Cover
Re: Hyenga Lake	CC:

Urgent   
 For Review   
 Please Comment   
 Please Reply   
 Please Recycle

Ann,

Attached is part of a technical addendum that was sent to the R.C.D.A. on April 29<sup>th</sup>, 2005.

This is the only thing we have that is close to what you requested. Please call with any questions.

Sincerely,

Rich Von Ronn

**LJA**

**Leonard Jackson Associates**

Consulting Engineers

26 FIREMENS MEMORIAL DRIVE • POMONA, NEW YORK 10970 • (845) 354-4382 FAX (845) 354-4401

April 19, 2005

Town of Clarkstown  
Department of Environmental Control.  
10 Maple Avenue  
New City, NY 10956

Att: K. Luke Kalarickal, P.E., L.S.

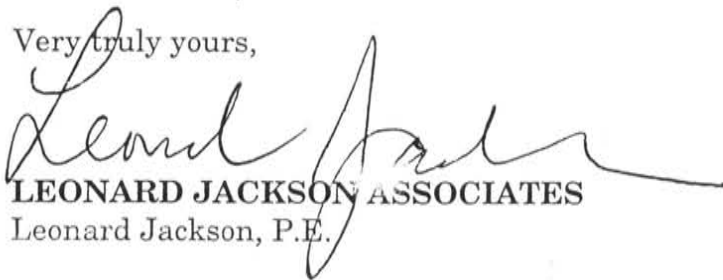
Re: **Hyenga Lake Town Homes**  
LJA #03151

Dear Mr. Kalarickal:

The Conditional Letter of Map Revision (C.L.O.M.R.) we will be submitting to F.E.M.A. for the Hyenga Lake Town Home site requires the signature of the community official responsible for floodplain management in Clarkstown. In the drainage report previously submitted to your office, a comparison of the profile from 10-year through 500-year frequency storms demonstrated that the hydraulic profile for the developed conditions with the new bridge is always at the elevation equal to or below the existing conditions profile upstream, through, and downstream of the site, thereby demonstrating that there are no offsite hydraulic effects resulting from the proposed development.

Attached is the application that requires the floodplain manager's signature.

Very truly yours,



**LEONARD JACKSON ASSOCIATES**  
Leonard Jackson, P.E.

cc: Howard Hellman  
Ted Atzl – Atzl, Scatassa & Ziegler  
Ed Devine - Rockland County Drainage Agency

P:\Word-Files\2003\03151\Letson 04-19-05.doc

TOWN OF CLARKSTOWN  
Department of Planning

JOSE C. SIMOES, Town Planner  
ROBERT GENESLAW, Planning Consultant  
10 Maple Avenue  
New City, New York 10956-5099  
(845) 639-2070 (phone)  
(845) 639-2071 (fax)  
planning@town.clarkstown.ny.us



TOWN OF CLARKSTOWN  
Planning Board

SHIRLEY J. THORMANN, Chairwoman  
RUDOLPH J. YACYSHYN, Vice Chairman  
GILBERT J. HEIM, Member  
MARVIN S. BAUM, Member  
GEORGE A. HOEHMANN, Member  
RICHARD C. SHOBERG, Member  
ROBERT D. JACKSON, Member

April 19, 2005

NYS DEC Dam Safety Unit  
635 Broadway, 4<sup>th</sup> Floor  
Albany, NY 12233-3507

Re: Hyenga Lake Dam

To Whom It May Concern:

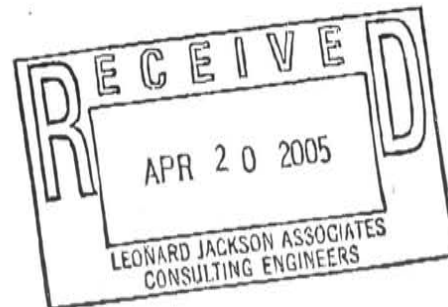
The NYS DEC Dam Safety Unit was recently sent a letter from Leonard Jackson Associates dated March 21, 2005 requesting the removal of a dam on property known as Hyenga Lake (tax parcel 57.14-3-2) from the NYS DEC dam inventory. Located on the Pascack Brook (DEC Water Index No. NJ-5; Class C), this dam collapsed during Tropical Storm Floyd in 1999.

The Clarkstown Planning Board respectfully requests that this petition be denied and the dam reconstructed. The Planning Board is currently reviewing a proposed development of 80 units of multi-family housing on the site and believes that the dam should be retained to reestablish Hyenga Lake as a potential aesthetic and recreational resource on the site and to prevent downstream flooding.

Sincerely,

Shirley Thormann  
Planning Board Chairwoman

C: Clarkstown Planning Board  
Rockland County Drainage Agency  
Atzl, Scatassa & Zigler  
Leonard Jackson Associates  
Donald Tracy



JS

6

TRACY & EDWARDS  
ATTORNEYS AT LAW  
317 LITTLE TOR ROAD SOUTH  
NEW CITY, NEW YORK 10956  
(845) 634-6404  
FAX: (845) 634-6538

DONALD S. TRACY  
JOHN S. EDWARDS

April 21, 2005

Ms. Shirley Thorman, Chairperson  
Clarkstown Planning Board  
10 Maple Avenue  
New City, New York 10956

**Re: Hyenga Lake**

Dear Ms. Thorman:

I have your letter of April 19<sup>th</sup> suggesting that the "Planning Board" believes that the dam should be retained to establish Hyenga Lake as a potential aesthetic and recreational resource on the site, etc. I am sure that some members of the board must recall what Hyenga Lake was before Hurricane Floyd destroyed the dam. It was, in effect, a polluted lake replete with usage as a dumping ground for such things as old washing machines, refrigerators, etc. – hardly anything that would be recreational or aesthetic.

Be that as it may, neither myself or my client have any recollection of the "Planning Board" resolving to suggest the retention of Hyenga Lake as a potential aesthetic and recreational resource and, therefore, we would request a copy of the minutes of any meeting at which that was the Planning Board's recommendation.

Thank you in advance for your cooperation and courtesy.

Very truly yours,

TRACY & EDWARDS

Donald S. Tracy

DST:sc  
cc: Mr. Howard Hellman

COPY

TOWN OF CLARKSTOWN  
Department of Planning

JOSE C. SIMOES, Town Planner  
ROBERT GENESLAW, Planning Consultant  
10 Maple Avenue  
New City, New York 10956-5099  
(845) 639-2070 (phone)  
(845) 639-2071 (fax)  
planning@town.clarkstown.ny.us



TOWN OF CLARKSTOWN  
Planning Board

SHIRLEY J. THORMANN, Chairwoman  
RUDOLPH J. YACYSHYN, Vice Chairman  
GILBERT J. HEIM, Member  
MARVIN S. BAUM, Member  
GEORGE A. HOEHMANN, Member  
RICHARD C. SHOBERG, Member  
ROBERT D. JACKSON, Member

April 19, 2005

NYS DEC Dam Safety Unit  
635 Broadway, 4<sup>th</sup> Floor  
Albany, NY 12233-3507

Re: Hyenga Lake Dam

To Whom It May Concern:

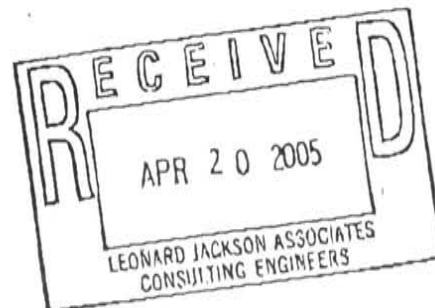
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The Clarkstown Planning Board respectfully requests that this petition be denied and the dam reconstructed. The Planning Board is currently reviewing a proposed development of 80 units of multi-family housing on the site and believes that the dam should be retained to reestablish Hyenga Lake as a potential aesthetic and recreational resource on the site and to prevent downstream flooding.

Sincerely,

Shirley Thormann  
Planning Board Chairwoman

C: Clarkstown Planning Board  
Rockland County Drainage Agency  
Atzl, Scatassa & Zigler  
Leonard Jackson Associates  
Donald Tracy



JS

July 5, 2005

Town of Clarkstown  
Department of Environmental Control  
10 Maple Avenue  
New City, NY 10956

Att: Dennis Letson, P.E.

Re: **Hyenga Lake**  
LJA #03151

Dear Mr. Letson:

We have prepared an Hydrologic analysis to determine the effects of the Hyenga Lake Dam on peak flows of the Pascack Brook. Our analysis concludes that peak flow rates are not significantly affected by the dam's presence or absence.

Our analysis evaluated peak flow rates with and without the dam for a range of flows from one year through the one hundred year frequencies. The results are summarized as follows:

Summary

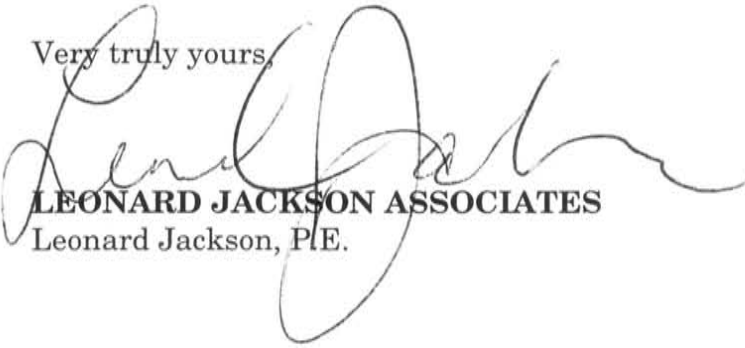
Peak Flow Rates on the Pascack Brook  
in the Vicinity of the Hyenga Lake Dam

Storm Interval	Flow Rate with Dam (cfs)	Flow Rate without Dam (cfs)	Δ change
1	403	404	+1
2	545	546	+1
5	773	774	+1
10	975	975	0
25	1135	1136	+1
100	1598	1598	0



The attached report summarizes analysis methodology and results.

Very truly yours,

A large, stylized handwritten signature in black ink, appearing to read 'Leonard Jackson', is written over the typed name and company information.

**LEONARD JACKSON ASSOCIATES**  
Leonard Jackson, P.E.

cc:

Howard Hellman

Ted Atzl – Atzl, Scatassa & Ziegler

P:\Word-Files\2003\03151\StorageAnalysis\Letson 6-29-05.doc



#930

Fax 358-1241

84

New York State Department of Environmental Conservation  
Division of Environmental Permits, Region 3  
21 South Putt Corners Road, New Paltz, New York 12561-1620  
Phone: (845) 256-3054, FAX: (845) 255-3042  
Website: www.dec.state.ny.us



July 7, 2005

Hyenga Lake, LLC  
100 Snake Hill Road  
West Nyack, NY 10994

Re: Hyenga Lake 80 Apartment Units  
Town of Clarkstown, Rockland County  
Pascack Brook, Index # NJ-5, Class C(t)  
DEC Application No. 3-3920-00537/00001

Notice of Incomplete Application

Dear Hyenga Lake, LLC:

The NYS Department of Environmental Conservation (DEC) has reviewed your application for the road crossing of Pascack Brook for the above referenced apartment complex and finds that this application is incomplete. The following is the information that we still require to proceed with the review:

**1) State Environmental Quality Review (SEQR)**

A determination of significance from the Town of Clarkstown Planning Board must be made before your application can be considered complete. This Department will take no further action on your permit application for this apartment complex until SEQR is satisfied.

**2) Protection of Waters**

Please re-submit a revised plan that provides for the use of a single larger culvert in place of the two 10 foot culverts. The use of dual culverts is not recommended by this Department's Bureau of Habitat staff because of potential environmental and maintenance problems. If you have questions regarding this you may call Jack Isaacs at (845) 256-3087.

*[Faint mirrored text from the reverse side of the page]*

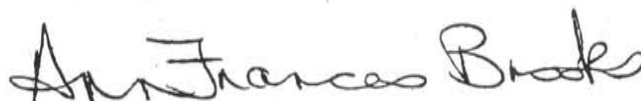
Hyenga Lake, LLC; July 6, 2005  
Hyenga Lake Apartments  
Page 2

### 3) Stormwater Pollution Prevention Plan

This project is subject to the federal stormwater discharge permit requirements for construction activities on greater than one acre of land. DEC has the responsibility for implementing this program. This project's estimated ground disturbance is greater than 5 acres. Therefore, you must provide a Stormwater Pollution Prevention Plan consistent with the SPDES General Permit for Stormwater Discharges from Construction Activities. If you need additional information in preparing these plans, consult the DEC Website: [www.dec.state.ny.us/website/dow/mainpage.htm](http://www.dec.state.ny.us/website/dow/mainpage.htm).

Please provide two copies of all information submitted in response to this notice. Thank you.

Sincerely,



AnnFrances Brooks  
Environmental Analyst, Region 3

CC. J. Isaacs  
US ACOE  
Town of Clarkstown Planning Board  
Leonard Jackson Associates  
~~Atzl, Scatassa & Zigler, P.C.~~

7/15/04  
9

July 15, 2004

County of Rockland Drainage Agency  
23 New Hempstead Road  
New City, New York 10956

Att: Ed Devine, Executive Director

Re: **Hyenga Lake Town Homes**  
LJA # 03151

Dear Mr. Devine:

Leonard Jackson Associates has been retained to design the storm drain system, water quality system and the bridge crossing of the Pascack Brook from Pipetown Hill Road for the subject project.

Attached is a preliminary layout of the project indicating the location of a water quality basin at the easterly edge of the site and the location of the bridge crossing.

A Rockland County Drainage Agency Permit for this project will be required.

The following narrative summarizes the proposed procedures to be followed in the project's design and permitting from various agencies.

#### FEMA

The Pasack Brook has been studied in detail by the Federal Emergency Management Agency. A Floodplain and Floodway was delineated by this office as consultants to FEMA. The elevation of the Hyenga Lake Dam and the construction of a new culvert or bridge coming from Pipetown Hill Road to the site will be addressed by obtaining a Conditional Letter of Map Revision (CLOMR) from the Federal Emergency Management Agency. The completion of the project will then yield a revision of the FEMA Flood Insurance Rate Map (FIRM) and Floodway Map.

#### NYSDEC

- 1) Water Quality Renovation will be provided by a sand filter system.
- 2) Peak rate of runoff detention will be waived by the NYSDEC upon demonstration that the project discharge directed to a fourth order stream, supplemented with an

7/15/04

## Leonard Jackson Associates

hydrologic analysis demonstrating that the project does not yield an increase in peak rate of runoff on the Pascack Brook.

- 3) A Pollution Prevention Plan / Erosion Control Plan will be prepared.
- 4) A NOI will be filed with the NYSDEC prior to construction.
- 5) An application will be made to the NYSDEC for a permit to cross this stream which is classified C(t).

### Corps of Engineers

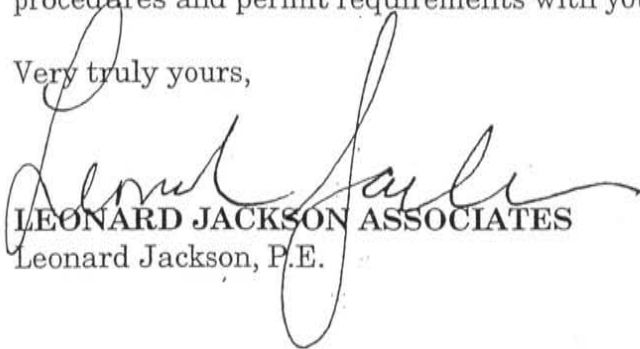
- 1) If a box culvert is utilized for the Pascack Brook Crossing then a Corps of Engineer – Waters of the U.S. permit application will be made.

### Rockland County Drainage Agency

- 1) A permit application will be made for the Pascack Brook Crossing and work within 100 ft. of the flood plain. The application materials submitted to the NYSDEC and Corps of Engineers will be included in our permit application to the RCDA.

We request a pre-application meeting to discuss this project and review the above procedures and permit requirements with your office.

Very truly yours,



LEONARD JACKSON ASSOCIATES  
Leonard Jackson, P.E.

LJ:leb

cc: Howard Hellman  
Ted Atzl – Atzl, Scatassa & Ziegler

TRACY & EDWARDS  
ATTORNEYS AT LAW  
317 LITTLE TOR ROAD SOUTH  
NEW CITY, NEW YORK 10956  
(845) 634-6404  
FAX: (845) 634-6538

DONALD S. TRACY  
JOHN S. EDWARDS

July 27, 2005

Mr. Rudolph Yacyshyn  
Town of Clarkstown  
Planning Department  
10 Maple Avenue  
New City, New York 10956

**Re: Hyenga Lake Site Layout/57.14-3-2**

Dear Chairman Yacyshyn:

The last meeting of the above referenced site plan that I have a record of was on April 28, 2005. Prior to that hearing we received a copy of a letter from Chairwoman Thorman requesting that the Hyenga Lake damn be reconstructed. That was followed by a communication from Leonard Jackson Associates dated July 5, 2005 to Dennis Letson which, though technical in nature, I am informed, shows that the reconstruction of the damn would present no hydrologic benefit.

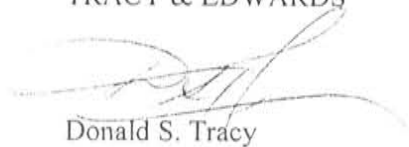
While we are aware of the proclivities of the NYSDEC to respond to communications, and more importantly, due to the fact that this applicant has no desire to reconstruct this damn, we seem to be at an impasse where this matter may languish on indefinitely.

Based upon the foregoing, it is respectfully requested that site plan review again be scheduled for a TAC meeting so that this matter may be processed in accordance with applicable law and within the parameters of the site plan authority of the Clarkstown Planning Board.

Thank you for your kind consideration of this request.

Very truly yours,

TRACY & EDWARDS



Donald S. Tracy

DST:sc  
cc: Ted Atzl (Via Fax 634-5543)  
Howard Hellman

COPY





Appendix B

Wetland Delineation and  
ACOE Jurisdictional Determination





DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT, CORPS OF ENGINEERS  
JACOB K. JAVITS FEDERAL BUILDING  
NEW YORK, N.Y. 10278-0090

August 29, 2003

REPLY TO  
ATTENTION OF:  
Eastern Permits Section

SUBJECT: Application Number 2003-00668-YR by Howard Hellman

Howard Hellman  
c/o Robert G. Torgersen  
3 Main Drive  
Nanuet, New York 10954-3033

Dear Mr. Hellman:

On June 17, 2003, the New York District of the U. S. Army Corps of Engineers received a request for a Department of the Army jurisdictional determination for the subject property noted below. This request was made by Robert G. Torgersen on your behalf. The site consists of approximately 12.4 acres within the Pascack Brook floodplain, Hackensack River at Spring Valley, Town of Clarkstown, Rockland County, New York.

Based on the material submitted and the observations of the representatives of this office during the site visit, this site has been determined to contain jurisdictional waters of the United States based on: the presence of wetlands determined by the occurrence of hydrophytic vegetation, hydric soils and wetland hydrology according to criteria established in the 1987 "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 that are either adjacent to or part of a tributary system and the presence of a defined water body (e.g. stream channel, lake, pond, river, etc.) which is part of a tributary system.

These jurisdictional waters of the United States are shown on the drawing titled "Wetlands Map", prepared by Atzl, Scatassa & Zigler P.C. dated April 28, 2003. This drawing indicates that there is one (1) wetland area and a brook on the project site which are part of a tributary system, and considered to be waters of the United States. The wetland trends approximately northwest to southeast through the west half of the property and is approximately 2.3 acres within the project boundary. The brook trends approximately northwest to southeast through the approximate southern half of the property.

This determination regarding the delineation shall be considered valid for a period of five years from the date of this letter. Enclosed is a Notification of Administrative Appeal Options which provides information on your acceptance of this approved jurisdictional determination.

This delineation/determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

It is strongly recommended that the development of the site be carried out in such a manner as to avoid as much as possible the discharge of dredged or fill material into the delineated waters of the United States. If the activities proposed for the site involve such discharges, authorization from this office may be necessary prior to the initiation of the proposed work. The extent of such discharge of fill will determine the level of authorization that would be required.

If any questions should arise concerning this matter, please contact Craig Spitz, of my staff, at (212) 264-3913.

Sincerely,



Dr. Marc Helman  
Chief, Eastern Permits Section

Enclosure

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Howard Hellman	File Number: 2003-00668	Date: August 15, 2003
Attached is:		See Section Below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input checked="" type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I:** The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cccwo/reg> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the New York District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations (JD) associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the New York District Engineer. Your objections must be received by the New York District Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the New York District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the New York District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the New York District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-ET-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the Division Engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-ET-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the Division Engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the New York District Engineer.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:  
Richard L. Tomer  
U.S. Army Corps of Engineers, New York District  
Jacob K. Javits Federal Building  
New York, NY 10278-0090  
(212) 264-9053 or 3996

If you only have questions regarding the appeal process you may also contact:  
James W. Haggerty, Regulatory Appeals Review Officer  
North Atlantic Division, U.S. Army Engineer Division  
Fort Hamilton Military Community  
General Lec Avenue, Building 301  
Brooklyn, NY 11252-6700  
(718) 765-7150  
E-mail: James.W.Haggerty@nad02.usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
----------------------------------	-------	-------------------

**U.S. Army Corps of Engineers - New York District  
Regulatory Branch**

**Basis for Jurisdictional Determination**

**Applicant: Howard Hellman RAMS #: 2003-00668**

**This site has been determined to contain jurisdictional waters of the United States based on one or more of the following:**

This site contains waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide (33 CFR 328.3(a)(1)).

This site contains interstate waters, including interstate wetlands (33 CFR 328.3(a)(2)).

This site contains other waters, such as intrastate lakes, rivers, streams, mudflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce (33 CFR 328.3(a)(3)) including any such waters which:

are or could be used by interstate or foreign travelers for recreation or other purposes.

have shellfish which are or could be taken and sold in interstate or foreign commerce.

are or could be used for industrial purpose by industries in interstate commerce.

This site contains:

commercially valuable timber products.

sand, gravel, oil, gas or other minerals of commerce.

other: \_\_\_\_\_

This site contains one or more impoundments of waters otherwise defined as waters of the United States under the definition (33 CFR 328.3(a)(4)).

This site contains one or more tributaries of waters as identified above (33 CFR 328.3(a)(5)).

This site contains a portion of the territorial seas (33 CFR 328.3(a)(6)).

This site contains wetlands according to the criteria established in the 1987 "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 which are adjacent to waters (other than waters that are themselves wetlands) as identified above (33 CFR 328.3(a)(7)).




Hyenga Lake  
Town Of Clarkstown  
Village of Spring Valley  
New York State Freshwater Wetlands  
Park Ridge Quad  
Scale 1"=4000 Ft





NOTE  
 AREA OF PASCACK BROOK  
 ON THIS SITE = 25,000 SQ.FT.  
 AREA OF WETLANDS  
 ON THIS SITE = 1.54 ACRES  
 TOTAL AREA OF SITE = 12.372 ACRES

203

REVISION	DATE	DESCRIPTION
 Theodore F. Atzl, P.L.S. Vittorio Scatasso, P.L.S. David M. Zigler, P.L.S. <b>ATZL, SCATASSA &amp; ZIGLER P.C.</b> SURVEYORS-PLANNERS 234 North Main Street • New City, New York 10956 Tel: (845) 634-4694 • FAX: (845) 634-5543 156 Orange Avenue • Walden, New York 12586 Tel: (845) 778-4590 • FAX: (845) 778-2385 Email: ASZSurveys@aol.com		
PROJECT: <b>HYENGA LAKE</b>		
VILLAGE OF SPRING VALLEY TOWN OF CLARKSTOWN ROCKLAND COUNTY, NEW YORK		
TITLE: <b>WETLANDS DELINEATION MAP</b>		
DRAWN BY: ASA	CHECKED BY: TFA	
DATE: APRIL 28, 2003	SCALE: 1 IN. = 50 FT.	
PROJECT NO:	DRAWING NO:	
930	1W	



Attachment C

Storm Water  
Pollution Prevention Plan



## Appendix D

### Hyenga Lake Drainage Report

The Hyenga Lake Drainage Report prepared by Leonard Jackson Associates, dated January, 2006 has been submitted under separate cover to the following agencies:

- Town of Clarkstown  
Department of Environmental Engineering
- Town of Clarkstown Planning Board
- Rockland County Drainage Agency



# Hyenga Lake

## **DRAINAGE REPORT**

## ***HYDROLOGIC AND HYDRAULIC ANALYSES***

## Table of Contents

- I. Pascack Brook
- II. Interior Storm Drainage System
- III. Detention System
- IV. Water Quality System



The Hyenga Lake Drainage Report prepared by Leonard Jackson Associates, dated January 2006 has been submitted under separate cover to the following agencies:

- Town of Clarkstown Department of Environmental Engineering
- Rockland County Drainage Agency



Appendix E

Hyenga Lake  
Flood Control Capability



**LJA**

Leonard Jackson Associates

**Consulting Engineers**

26 Firemens Memorial Drive . Pomona, New York 10970 . (845) 354-4382 . FAX (845) 354-4401

# Hyenga Lake

## **Flood Control Capability**

Storage vs. Discharge Analyses

REVISION  
DATE: 10/05  
JOB #03151



October 31<sup>th</sup>, 2005

Town of Clarkstown  
Department of Environmental Control  
10 Maple Avenue  
New City, NY 10956

Att: Dennis Letson, P.E.

Re: **Hyenga Lake**  
LJA #03151

Dear Mr. Letson:

We have prepared an Hydrologic analysis to determine the effects of the Hyenga Lake Dam on peak flows of the Pascack Brook. Our analysis concludes that peak flow rates are not significantly affected by the dam's presence or absence.

A. Our analysis evaluated peak flow rates with and without the dam for a range of flows from one year through the one hundred year frequencies. The results are summarized as follows:

Summary

Peak Flow Rate on the Pascack Brook  
in the Vicinity of Hyenga Lake Dam

Storm Interval	Flow Rate without Dam (cfs)	Flow Rate with Dam (cfs)	$\Delta$ change
1	404	403	-1
2	546	545	-1
5	774	773	-1
10	975	975	0
25	1136	1135	-1
100	1598	1598	0

B. In addition, we prepared an analysis evaluating peak flows if the lake water surface were lowered by 2 feet just prior to a one hundred year storm event. The results are as follows:

Summary  
Peak Flow Rate on the Pascack Brook  
in the Vicinity of Hyenga Lake Dam

Storm Interval	Flow Rate without Dam (cfs)	Flow Rate with Dam (cfs)	$\Delta$ change
1	404	401	-3
2	546	542	-4
5	774	773	-1
10	975	973	-2
25	1136	1133	-3
100	1598	1595	-3

C. An additional analysis was performed demonstrating the effect of the dam's water surface being mechanically lowered by two feet just prior to the peak of the storm (assuming this was possible). The results show that the dam would hold the peak flow for a time of 4 minutes and 31 seconds. During this period, at 2 minutes either side of the peak, there is no significant change in peak flow rate. Hence, no benefit is achieved.

In summary, there is no significant flood control benefit achieved by the dam.

The attached report summarizes analysis methodology and results.

Very truly yours,



**LEONARD JACKSON ASSOCIATES**  
Leonard Jackson, P.E.

cc:  
Howard Hellman  
Ted Atzl - Atzl, Scatassa & Ziegler



## Table of Contents

- I. Methodology
- II. Summary Tables
- III. HEC-RAS Analyses
- IV. HEC-1 Storage Analyses

## Methodology

The HEC-RAS hydraulic model of the Pascack Brook that derived the flood profiles and floodplain limits in the adopted FEMA Flood Insurance Study (FIS) of the Town of Clarkstown as utilized to calculate the volume of flood storage within the reach affected by the Hyenga Lake Dam for a series of discharges to derive the flood storage verses discharge relationship with and without the dam. The volume of flood storage for each flow between stations 22+391 and 23+690 was calculated by subtracting the cumulative volume of flood storage at the upstream sections from that of the lower sections.

For the condition where the dam exists, the permanent (dead) storage was deducted from the flood storage, although this calculation is superfluous as the difference in volumes from the upper section to the lower remains unchanged by this step. The attached tables summarize storage versus discharge relationship with and without dam conditions.

A hydrograph at the vicinity of the dam was created by the utilization of a 24 hour SCS type III storm discharge, drainage area, and time of concentration by calibrating an SCS hydrograph to match the 100 year peak discharge published in the FEMA Flood Insurance Study for the Town of Clarkstown. Once calibrated to match the 100 year discharge rate, different storm events for the other return intervals were applied to this hydrograph to yield hydrographs for the remaining intervals.

Each hydrograph was then routed through the storage versus discharge relationship derived from the hydraulics analysis. Routing was performed utilizing the HEC-1 hydrologic model yielding the following results:

### Summary

Peak Flow Rate on the Pascack Brook  
in the Vicinity of Hyenga Lake Dam

Storm Interval	Flow Rate without Dam (cfs)	Flow Rate with Dam (cfs)	$\Delta$ change
1	404	403	-1
2	546	545	-1
5	774	773	-1
10	975	975	0
25	1136	1135	-1
100	1598	1598	0

The resulting differences in discharge rates in the range of one cfs are not significant to the hydrological routing procedure.

For the second analysis, the starting conditions were altered so that 2 feet of the permanent (dead) storage was removed allowing the initial flow to be detained behind the

dam until the water reached the top of the dam. The resulting differences are also not significant to the hydrological routing procedure.

B Summary – Drop level 2 feet  
before storm

Peak Flow Rate on the Pascack Brook  
in the Vicinity of Hyenga Lake Dam

Storm Interval	Flow Rate without Dam (cfs)	Flow Rate with Dam (cfs)	$\Delta$ change
1	404	401	-3
2	546	542	-4
5	774	773	-1
10	975	973	-2
25	1136	1133	-3
100	1598	1595	-3

In third analysis, the permanent (dead) storage volume was lowered by 2 feet at the peak discharge during a one hundred year storm event. The peak discharge was then allowed to be detained behind the dam until the water reached the top. The flow was detained for 4 minutes and 31 seconds. During which the peak flow remains virtually unchanged.

Attached are supporting HEC-1, HEC-RAS, and related documentation.



## II. Summary Tables

## Summary Tables

A . Storage Vs. Discharge - Hydraulic Model With Dam

Flow (cfs)	Storage (acre-feet)				
	1 - Station 23-690	2 = Station 22+391	3 - Total Storage	4 = Dead Storage	5 Storage
			70.55	70.55	0
0.5	71.06	0.51	77	70.55	6.45
600	83.23	6.23	78.02	70.55	7.47
800	85.96	7.94	78.92	70.55	8.37
1000	88.17	9.25	79.78	70.55	9.23
1200	90.25	10.47	80.59	70.55	10.04
1400	92.32	11.73	81.33	70.55	10.78
1600	94.07	12.74	82.08	70.55	11.53
1800	96.15	14.07	82.78	70.55	12.23
2000	97.64	14.86	83.45	70.55	12.9
2200	99.50	16.05	84.13	70.55	13.58
2400	101.33	17.20			

B . Storage Vs. Discharge - Hydraulic Model Without Dam

Flow (cfs)	Storage (acre-feet)		
	1 - Station 23-690	2 = Station 22+393	3 Storage
			2.89
600	9.01	6.12	3.65
800	11.49	7.84	4.4
1000	13.57	9.17	5.14
1200	15.61	10.47	5.84
1400	17.66	11.82	6.54
1600	19.44	12.9	7.18
1800	21.49	14.31	7.87
2000	23.24	15.37	8.54
2200	25.29	16.75	9.17
2400	27.19	18.02	

C .Effective FEMA Dam while dropping water elevation 2' before storm

Summary  
Peak Flow Rate on the Pascack Brook  
in the Vicinity of Hyenga Lake Dam

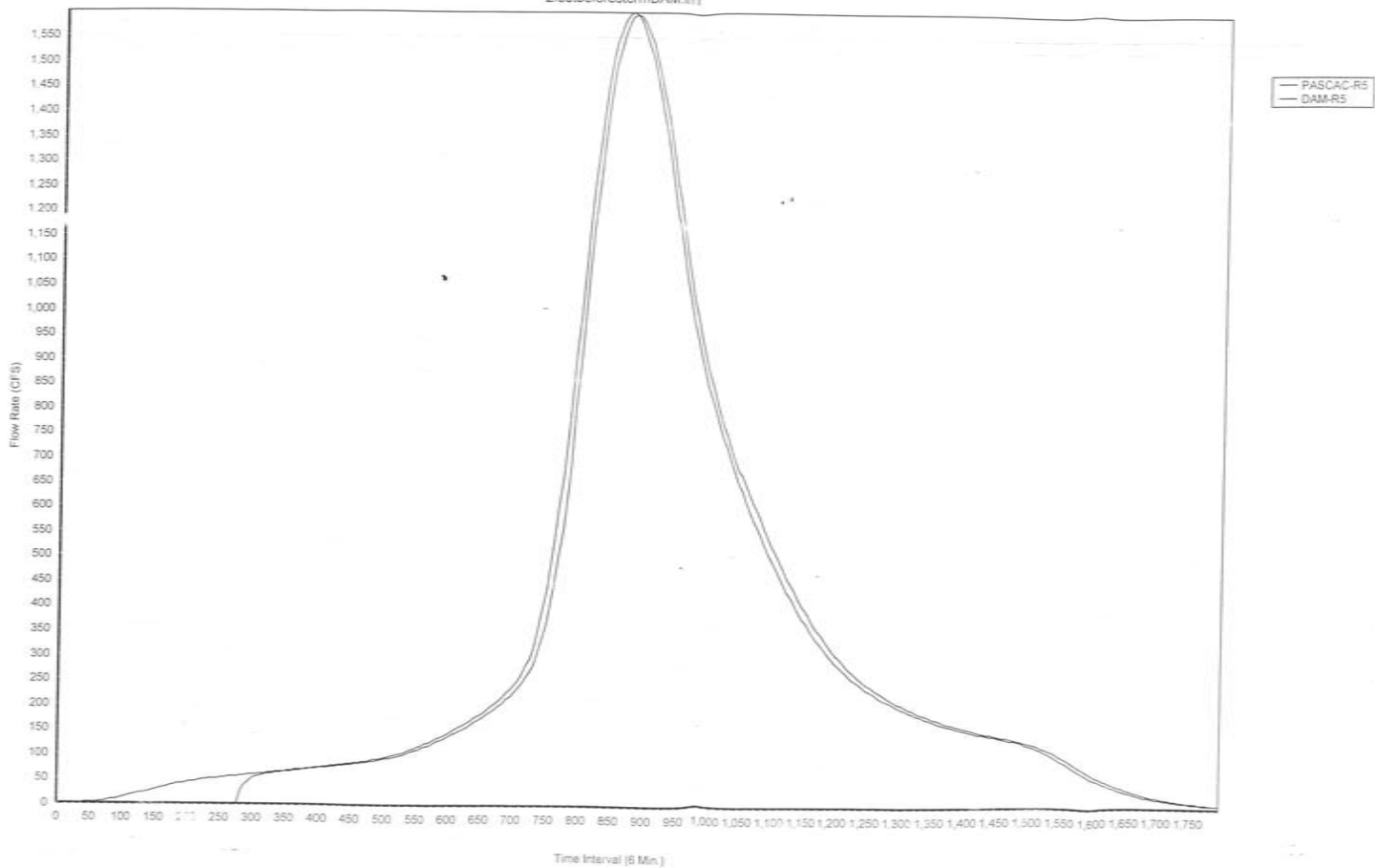
Storm Interval	Flow Rate without Dam (cfs)	Flow Rate with Dam (cfs)	$\Delta$ change
1	404	401	-3
2	546	542	-4
5	774	773	-1
10	975	973	-2
25	1136	1133	-3
100	1598	1595	-3

D .Effective FEMA Dam while dropping water elevation 2' during peak discharge

2 feet of Volume:	433,283	ft <sup>3</sup>
Peak Flow:	1,598	cfs
Time of detention during peak <sup>^</sup> :	271	sec
	4.52	min

<sup>^</sup>Refer to plotted hydrograph.

2feetbeforestormDAM.in1





### III. HEC-RAS Analyses

II-1 100-Year Effective FEMA Model with Dam

II-2 100-Year Existing Conditions Model without Dam

# EFFECTIVE FEMA UPSTREAM

Plan: effectFEMA RIVER-1 Reach-1 RS: 23690 BR D Profile: 1600

E.G. Elev (ft)	411.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	409.81	Reach Len. (ft)	0.50	0.50	0.50
Crit W.S. (ft)	409.79	Flow Area (sq ft)		162.76	
E.G. Slope (ft/ft)	0.013009	Area (sq ft)		162.76	
Q Total (cfs)	1600.00	Flow (cfs)		1600.00	
Top Width (ft)	54.19	Top Width (ft)		54.19	
Vel Total (ft/s)	9.83	Avg. Vel. (ft/s)		9.83	
Max Chl Dpth (ft)	3.91	Hydr. Depth (ft)		3.00	
Conv. Total (cfs)	14027.9	Conv. (cfs)		14027.9	
Length Wtd. (ft)	0.50	Wetted Per. (ft)		56.27	
Min Ch El (ft)	405.90	Shear (lb/sq ft)		2.35	
Alpha	1.00	Stream Power (lb/ft s)		23.09	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.75	85.26	5.06
C & E Loss (ft)	0.00	Cum SA (acres)	1.44	5.75	2.15

# EFFECTIVE FEMA DOWNSTREAM

Plan: effectFEMA RIVER-1 Reach-1 RS: 22391 Profile: 1600

E.G. Elev (ft)	410.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.020	0.080
W.S. Elev (ft)	410.24	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	404.69	Flow Area (sq ft)	8.50	1157.12	49.54
E.G. Slope (ft/ft)	0.000029	Area (sq ft)	8.50	1157.12	49.54
Q Total (cfs)	1600.00	Flow (cfs)	0.81	1594.26	4.93
Top Width (ft)	235.38	Top Width (ft)	9.01	176.00	50.37
Vel Total (ft/s)	1.32	Avg. Vel. (ft/s)	0.09	1.38	0.10
Max Chl Dpth (ft)	9.44	Hydr. Depth (ft)	0.94	6.57	0.98
Conv. Total (cfs)	298063.6	Conv. (cfs)	150.0	296995.1	918.5
Length Wtd. (ft)	10.00	Wetted Per. (ft)	9.23	180.21	50.52
Min Ch El (ft)	400.80	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.09	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	2.36	5.80	4.58
C & E Loss (ft)		Cum SA (acres)	1.03	1.10	1.97

## HEC-RAS Plan effect/FEMA River RIVER-1 Reach Reach-1 Profile 1600

Reach	River Sta	Profile	Q Total (cfs)	Mn El (ft)	W.S. Elev (ft)	Delta WS (ft)	E.G. Elev (ft)	Delta EG (ft)	Frcn Loss (ft)	C & E Loss (ft)	Vel Head (ft)	D Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Length Chnl (ft)	E.G. Slope (ft)	Vel Chnl (ft/s)
Reach-1	20880	1600	1600.00	345.10	351.08		352.24				1.15	628.67	939.40	131.92		0.009491	10.90
Reach-1	20950	1600	1600.00	346.20	351.31	0.23	353.07	0.84	0.85	0.18	1.76	70.12	1310.62	219.27	70.00	0.009181	11.59
Reach-1	20980	1600	1600.00	346.20	353.38	2.07	354.59	1.51	0.04	0.17	1.20	378.95	730.67	490.36	10.00	0.002169	12.85
Reach-1	20983	Bridge															
Reach-1	21005	1600	1600.00	344.20	354.93	-0.03	355.12	0.03	0.00	0.03	0.18	522.10	508.11	561.71	0.50	0.000992	5.88
Reach-1	21022	1600	1600.00	347.50	354.79	-0.16	355.60	0.48			0.82	282.36	751.74	585.90	17.00	0.002620	10.47
Reach-1	21026	1600	1600.00	350.00	354.08	0.20	355.63	0.03	0.01	0.02	0.65	300.98	675.32	633.72	3.00	0.003025	9.77
Reach-1	21030	1600	1600.00	348.70	355.37	0.39	355.67	0.04	0.01	0.04	0.30	123.59	1149.97	326.44	6.00	0.000555	5.14
Reach-1	21085	1600	1600.00	348.90	355.43	0.08	355.71	0.04	0.04	0.00	0.28	314.63	1053.66	231.81	55.00	0.010277	5.16
Reach-1	21150	1600	1600.00	349.30	355.48	0.05	355.80	0.08	0.08	0.01	0.32	20.47	1540.97	38.56	66.00	0.001311	4.63
Reach-1	21155	1600	1600.00	349.30	355.47	-0.01	355.81	0.01	0.00	0.01	0.34	10.08	1570.95	18.97	5.00	0.000323	4.73
Reach-1	21161	Bridge															
Reach-1	21166	1600	1600.00	349.30	356.12	0.51	358.25	0.12	0.00	0.12	0.13	37.71	1480.17	82.12	0.50	0.000067	2.97
Reach-1	21170	1600	1600.00	349.30	356.16	0.04	358.26	0.01	0.00	0.01	0.09	60.88	1342.19	176.94	4.00	0.000253	2.88
Reach-1	21210	1600	1600.00	349.50	356.11	-0.05	358.30	0.05	0.02	0.03	0.10	128.47	1319.38	152.18	40.00	0.000727	3.88
Reach-1	21260	1600	1600.00	351.00	356.10	0.00	358.36	0.06	0.04	0.02	0.26	206.97	1227.54	165.50	50.00	0.000939	4.61
Reach-1	21265	1600	1600.00	355.70	356.71	0.61	359.76	1.06	0.01	0.24	1.05	60.68	1392.78	156.54	5.00	0.000377	8.80
Reach-1	21270	1600	1600.00	352.40	359.72	1.02	359.86	0.10	0.00	0.09	0.13	41.48	1485.50	72.88	5.00	0.000343	2.95
Reach-1	21325	1600	1600.00	353.80	359.66	-0.07	359.94	0.08	0.04	0.05	0.28	62.60	1535.70	1.70	55.00	0.001697	4.32
Reach-1	21560	1600	1600.00	357.10	364.84	5.16	368.66	6.72	0.74	0.46	1.82	111.24	979.23	509.53	235.00	0.007842	13.52
Reach-1	21770	1600	1600.00	360.00	367.08	2.24	367.81	0.95	0.82	0.13	0.53	44.75	1018.92	536.33	210.00	0.002321	7.08
Reach-1	22000	1600	1600.00	364.70	371.74	4.85	373.70	8.09	0.53	0.43	1.97	53.32	1070.63	476.05	230.00	0.006455	13.50
Reach-1	22210	1600	1600.00	371.80	376.42	4.88	377.92	4.22	1.95	0.05	1.50	184.57	1326.18	89.25	210.00	0.010097	10.71
Reach-1	22380	1600	1600.00	379.00	383.39	6.98	386.46	7.54	1.57	0.17	2.07	29.61	1533.14	37.25	150.00	0.010849	11.77
Reach-1	22390	1600	1600.00	390.00	396.51	13.12	399.52	14.06	0.11	0.47	3.01	25.87	1535.89	38.24	20.00	0.003097	14.20
Reach-1	22390	Ini Struct															
Reach-1	22391	1600	1600.00	400.80	410.24	13.73	410.27	10.75			0.03	0.81	1594.26	4.93	10.00	0.000029	1.38
Reach-1	22400	1600	1600.00	395.10	410.26	0.02	410.28	0.00	0.00	0.00	0.02	8.04	1591.96	0.00	10.00	0.000010	1.02
Reach-1	22440	1600	1600.00	379.00	410.28	0.01	410.28	0.00	0.00	0.00	0.00	0.68	1599.32	0.00	40.00	0.000003	0.45
Reach-1	22750	1600	1600.00	376.10	410.28	0.00	410.28	0.00	0.00	0.00	0.00	3.88	1594.87	1.26	310.00	0.000001	0.35
Reach-1	23200	1600	1600.00	389.60	410.28	0.00	410.28	0.00	0.00	0.00	0.00	7.31	1591.67	1.02	450.00	0.000005	0.57
Reach-1	23340	1600	1600.00	396.10	410.26	-0.02	410.29	0.01	0.00	0.01	0.03	7.80	1588.60	3.51	140.00	0.000044	1.45
Reach-1	23550	1600	1600.00	400.70	410.10	-0.16	410.40	0.11	0.03	0.08	0.30	1600.00		210.00	0.001174	4.36	
Reach-1	23690	1600	1600.00	405.90	406.80	-0.30	411.31	0.91	0.31	0.60	1.51	1600.00		110.00	0.013077	6.85	
Reach-1	23690	Bridge															
Reach-1	23720	1600	1600.00	405.90	411.34	0.00	411.98	0.00	0.00	0.00	0.61	1600.00		0.50	0.003830	6.28	
Reach-1	23850	1600	1600.00	407.60	412.27	0.92	413.96	2.00	0.89	0.54	1.69	2.41	1887.29	10.30	130.00	0.015491	10.48
Reach-1	24000	1600	1600.00	411.40	417.10	4.83	419.10	5.14	2.16	0.99	2.00	53.48	1529.79	16.73	150.00	0.013374	11.58
Reach-1	24240	1600	1600.00	418.00	425.73	6.63	427.81	8.71	2.96	0.02	2.08	220.57	1131.16	248.20	240.00	0.011395	13.46
Reach-1	24800	1600	500.00	419.60	428.92	2.89	428.76	0.96	0.77	0.19	0.14	40.28	441.48	18.23	260.00	0.000444	3.21
Reach-1	24720	1600	500.00	422.00	428.72	0.09	428.81	0.15	0.13	0.02	0.20	5.31	493.87	0.82	220.00	0.000887	3.61
Reach-1	24840	1600	500.00	422.40	428.90	0.18	429.00	0.06	0.08	0.01	0.10	500.00		120.00	0.000466	2.64	
Reach-1	24850	1600	500.00	422.40	428.88	-0.02	429.02	0.02	0.00	0.02	0.14	500.00		100.00	0.000358	3.00	
Reach-1	24905	Bridge															
Reach-1	24900	1600	500.00	422.40	428.98	0.04	429.11	0.01	0.00	0.01	0.13	500.00		0.50	0.000337	2.95	
Reach-1	24970	1600	500.00	422.40	429.03	0.06	429.13	0.02	0.00	0.01	0.10	500.00		10.00	0.000427	2.48	
Reach-1	25000	1600	500.00	421.40	429.02	-0.02	429.15	0.03	0.01	0.01	0.14	27.69	453.89	18.42	30.00	0.000435	3.10
Reach-1	25250	1600	500.00	422.00	429.12	0.10	429.28	0.13	0.12	0.01	0.17	28.01	447.07	24.92	250.00	0.000560	3.46
Reach-1	25550	1600	500.00	423.60	429.30	0.19	429.49	0.21	0.20	0.01	0.19	10.85	477.95	11.10	300.00	0.000627	3.57
Reach-1	25640	1600	500.00	423.50	429.26	-0.04	429.71	0.22	0.09	0.13	0.45	12.65	482.88	4.46	90.00	0.001256	5.47
Reach-1	25645	Ini Struct															
Reach-1	25650	1600	500.00	430.30	433.61	4.34	434.68	4.96			1.07	19.67	453.37	20.65	10.00	0.002838	8.70
Reach-1	25670	1600	500.00	430.00	434.61	1.00	434.62	0.25	0.02	0.23	0.31	500.00		20.00	0.000596	4.50	
Reach-1	25690	1600	500.00	430.30	434.63	0.02	434.95	0.02	0.02	0.00	0.31	500.00		20.00	0.001803	4.47	
Reach-1	25701	Bridge															
Reach-1	25712	1600	500.00	430.30	434.91	0.31	435.17	0.07	0.00	0.07	0.26	500.00		0.50	0.001381	4.13	
Reach-1	25720	1600	500.00	430.30	434.92	0.01	435.18	0.01	0.01	0.00	0.26	500.00		8.00	0.001384	4.11	
Reach-1	25770	1600	500.00	428.70	435.13	0.21	435.24	0.68	0.03	0.02	0.11	24.48	466.37	9.16	50.00	0.000424	2.72
Reach-1	25850	1600	500.00	429.00	435.19	0.06	435.27	0.04	0.04	0.00	0.09	500.00		80.00	0.000494	2.39	
Reach-1	25875	1600	500.00	428.40	435.20	0.01	435.28	0.01	0.01	0.00	0.08	500.00		25.00	0.000382	2.37	
Reach-1	25885	Bridge															
Reach-1	25940	1600	500.00	428.70	435.22	0.00	435.31	0.00	0.00	0.00	0.09	500.00		10.50	0.000382	2.41	
Reach-1	26000	1600	500.00	428.20	435.26	0.04	435.34	0.02	0.02	0.01	0.07	16.13	466.75	17.13	60.00	0.000285	2.22
Reach-1	26250	1600	500.00	428.50	435.34	0.08	435.39	0.06	0.06	0.00	0.05	19.34	454.46	26.20	250.00	0.000184	1.92
Reach-1	26500	1600	500.00	428.80	435.39	0.05	435.44	0.04	0.04	0.00	0.04	13.90	474.88	11.22	250.00	0.000168	1.74
Reach-1	26760	1600	500.00	429.10	435.45	0.06	435.45	0.02	0.01	0.00	0.00	8.87	134.39	358.74	250.00	0.000020	0.55
Reach-1	26960	1600	500.00	429.70	435.42	-0.03	435.48	0.03	0.01	0.02	0.06	21.35	439.97	38.69	210.00	0.000277	2.00
Reach-1	27160	1600	500.00	430.00	435.49	0.07	435.53	0.05	0.05	0.00	0.04	23.68	375.83	100.49	190.00	0.000210	1.74
Reach-1	27190	1600	500.00	429.40	435.49	0.00	435.54	0.01	0.01	0.00	0.05	4.34	467.80	27.86	40.00	0.000295	1.87
Reach-1	27202	1600	500.00	429.40	435.49	0.00	435.55	0.00	0.00	0.00	0.05	3.78	472.04	24.19	12.00	0.000168	1.88
Reach-1	27206	Bridge															
Reach-1	27209	1600	500.00	429.80	435.56	0.09	435.61	0.02	0.00	0.02	0.06	11.55</					

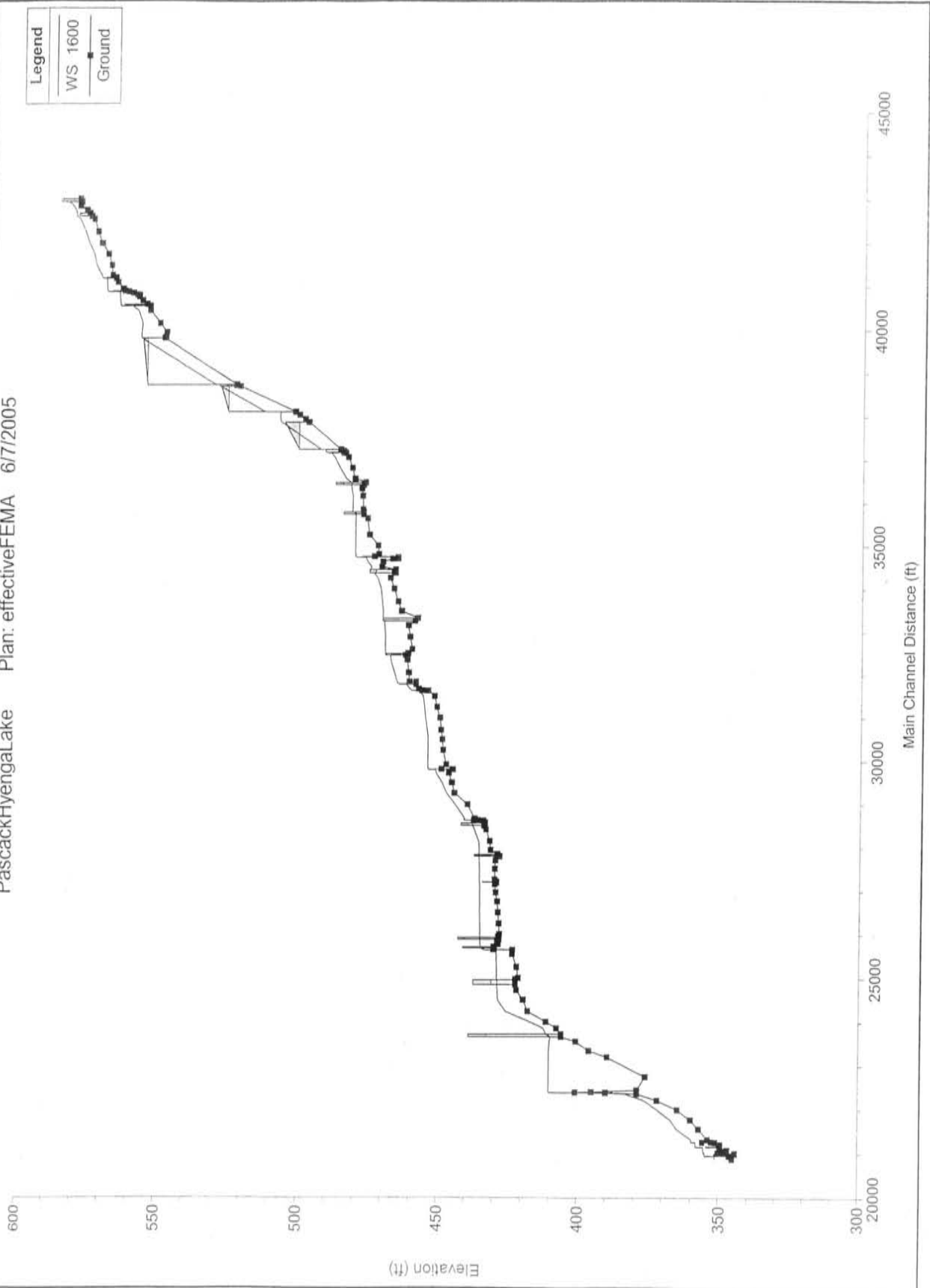
HEC-RAS Plan:effect/FEMA River:RIVER-1 Reach: Reach-1 Profile: 1600 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min EI (ft)	W.S. Elev (ft)	Delta WS (ft)	E.G. Elev (ft)	Delta EG (ft)	Frost Loss (ft)	C & E Loss (ft)	Vel Head (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Length Chnl (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	
Reach-1	30720	1600	500.00	449.80	454.73	0.28	455.23	0.52	0.45	0.07	0.50	28.84	440.21	30.95	220.00	0.002648	6.91	
Reach-1	31000	1600	500.00	450.20	455.46	0.73	455.75	0.53	0.51	0.02	0.30	29.66	461.23	9.11	240.00	0.001315	4.84	
Reach-1	31250	1600	500.00	451.40	455.85	0.39	456.15	0.40	0.40	0.00	0.31	36.26	425.74	37.99	250.00	0.001935	4.75	
Reach-1	31500	1600	500.00	452.30	456.35	0.60	456.88	0.73	0.88	0.07	0.64	10.77	468.43	20.80	250.00	0.003843	6.06	
Reach-1	31625	1600	500.00	454.40	457.92	1.58	458.88	2.00	0.95	0.13	0.96				125.00	0.014921	7.86	
Reach-1	31630	1600	500.00	456.80	459.88	1.75	460.89	2.01	0.07	0.08	1.22				500.00	5.00	0.011601	8.85
Reach-1	31635	1600	500.00	458.80	460.60	1.01	461.00	0.11	0.02	0.09	0.31				500.00	5.00	0.001681	4.47
Reach-1	31670	1600	500.00	458.00	461.27	0.58	462.51	1.51	0.12	0.28	1.24	9.23	485.02	5.75	35.00	0.009120	9.07	
Reach-1	31775	1600	500.00	459.00	462.32	1.05	463.29	0.72	0.69	0.03	0.91				500.00	105.00	0.004907	7.86
Reach-1	31780	1600	500.00	459.00	463.11	0.79	465.02	1.78	0.04	0.50	1.00				500.00	5.00	0.010883	11.08
Reach-1	31781	1600																
Reach-1	31785	1600	500.00	459.00	464.66	1.02	465.44	0.24	0.00	0.23	0.79	19.01	497.67	13.32	0.50	0.003194	7.35	
Reach-1	31790	1600	500.00	459.00	465.47	0.81	465.93	0.16	0.00	0.16	0.16	5.17	482.25	12.56	4.00	0.000305	3.28	
Reach-1	31835	1600	500.00	459.00	465.90	0.03	465.95	0.02	0.02	0.00	0.15	7.23	472.20	20.57	46.00	0.000592	3.19	
Reach-1	31840	1600	500.00	461.40	465.75	0.25	466.42	0.77	0.01	0.15	0.66	113.46	312.85	73.70	5.00	0.008530	8.14	
Reach-1	32055	1600	500.00	461.70	466.74	0.98	468.24	1.82	0.71	0.25	1.50	10.60	484.61	4.79	210.00	0.001805	9.97	
Reach-1	32365	1600	500.00	462.20	468.09	1.35	468.69	0.45	0.38	0.06	0.59	14.00	393.58	92.42	300.00	0.000442	6.94	
Reach-1	32455	1600	500.00	462.70	468.22	0.13	468.76	0.09	0.08	0.01	0.56	50.03	394.08	55.81	105.00	0.000716	6.73	
Reach-1	32476	1600																
Reach-1	32484	1600	500.00	461.90	469.85	0.00	469.97	0.01			0.11	115.88	282.18	91.94	0.50	0.000118	3.47	
Reach-1	32500	1600	500.00	461.90	469.94	0.09	469.98	0.02	0.00	0.02	0.04	163.00	206.36	129.74	6.00	0.000215	2.42	
Reach-1	32590	1600	500.00	460.50	469.94	0.00	470.02	0.03	0.02	0.01	0.08	105.16	308.69	85.95	80.00	0.000279	2.83	
Reach-1	32880	1600	500.00	461.20	469.94	0.01	470.16	0.17	0.12	0.05	0.24	24.33	395.18	80.49	290.00	0.000696	4.43	
Reach-1	33150	1600	500.00	461.80	470.21	0.27	470.37	0.19	0.18	0.01	0.16	150.33	293.87	55.60	270.00	0.000616	4.12	
Reach-1	33261	1600	500.00	459.50	470.37	0.15	470.42	0.05	0.01	0.03	0.05	27.81	434.46	37.73	101.00	0.000052	1.95	
Reach-1	33283	1600																
Reach-1	33314	1600	500.00	456.50	470.94	0.00	470.98	0.00			0.04	35.70	412.51	51.69	0.50	0.000034	1.87	
Reach-1	33480	1600	500.00	464.20	470.82	-0.13	471.14	0.16	0.02	0.14	0.32	99.71	322.98	77.31	160.00	0.001507	5.94	
Reach-1	33700	1600	500.00	465.50	471.13	0.32	471.49	0.35	0.34	0.01	0.36	26.72	409.01	64.28	220.00	0.001630	5.07	
Reach-1	34000	1600	500.00	467.00	471.62	0.48	472.38	0.89	0.77	0.12	0.77	29.98	405.78	64.23	300.00	0.004685	7.74	
Reach-1	34290	1600	500.00	468.30	472.81	1.19	473.94	1.56	1.45	0.11	1.13	36.27	380.96	82.77	250.00	0.007395	9.71	
Reach-1	34395	1600	500.00	467.00	474.27	1.46	474.34	0.40	0.08	0.32	0.07	110.79	352.42	35.79	116.00	0.000231	2.42	
Reach-1	34405	1600																
Reach-1	34443	1600	500.00	466.50	475.38	1.88	475.43	0.00			0.05	131.40	318.73	46.87	0.50	0.000294	2.18	
Reach-1	34500	1600	500.00	471.30	474.90	-0.48	476.01	0.58	0.05	0.53	1.11		495.90	4.10	57.00	0.014824	8.50	
Reach-1	34820	1600	500.00	471.00	476.26	1.36	476.76	0.75	0.66	0.06	0.50	4.72	484.69	10.29	120.00	0.000304	5.77	
Reach-1	34695	1600	500.00	467.80	476.81	0.55	476.82	0.05	0.01	0.05	0.51		500.00		75.00	0.000020	0.69	
Reach-1	34700	1600	500.00	465.60	476.81	0.00	476.82	0.00	0.00	0.00	0.00		500.00		5.00	0.000010	0.56	
Reach-1	34725	1600	500.00	465.80	476.81	0.00	476.82	0.00	0.00	0.00	0.01		500.00		25.00	0.000007	0.77	
Reach-1	34749	1600																
Reach-1	34750	1600	500.00	474.00	480.72	3.91	480.75	3.93			0.03		500.00		25.00	0.000019	1.42	
Reach-1	34800	1600	500.00	472.50	480.76	0.04	480.76	0.01	0.00	0.01	0.00	415.20	81.56	3.24	50.00	0.000001	0.13	
Reach-1	35000	1600	500.00	472.80	480.76	0.00	480.76	0.00	0.00	0.00	0.00	1.70	497.06	1.24	200.00	0.000001	0.13	
Reach-1	35260	1600	500.00	476.80	480.75	-0.01	480.77	0.01	0.00	0.01	0.02	351.48	129.10	10.42	250.00	0.000078	0.27	
Reach-1	35630	1600	500.00	476.50	480.78	0.03	480.84	0.07	0.08	0.01	0.06	328.76	155.54	15.71	380.00	0.000458	0.55	
Reach-1	35720	1600	500.00	477.30	480.85	0.08	480.91	0.07	0.07	0.00	0.08	371.73	128.27	0.00	90.00	0.001571	2.10	
Reach-1	35726	1600	500.00	477.30	480.55	-0.31	481.26	0.35	0.02	0.33	0.72	322.64	177.15	0.01	6.00	0.001176	11.15	
Reach-1	35763	1600																
Reach-1	35779	1600	500.00	477.30	481.46	0.06	481.77	0.01	0.00	0.01	0.31	329.44	170.54	0.02	0.50	0.000351	7.53	
Reach-1	35785	1600	500.00	477.30	481.64	0.38	481.87	0.09	0.01	0.09	0.02	372.99	127.00	0.01	6.00	0.000412	1.40	
Reach-1	35840	1600	500.00	477.70	481.86	0.02	481.88	0.01	0.01	0.00	0.02	357.85	139.47	2.68	55.00	0.000173	0.75	
Reach-1	36160	1600	500.00	478.30	481.80	-0.07	482.12	0.24	0.15	0.09	0.32		500.00		310.00	0.000376	4.53	
Reach-1	36320	1600	500.00	478.70	482.30	0.50	482.42	0.31	0.29	0.02	0.12	5.54	484.64	9.82	170.00	0.000948	2.84	
Reach-1	36400	1600	500.00	477.90	482.29	-0.01	482.56	0.13	0.09	0.04	0.27		500.00		80.00	0.001373	4.16	
Reach-1	36410	1600	500.00	477.90	482.15	-0.13	482.71	0.19	0.01	0.15	0.50		500.00		10.00	0.000675	6.00	
Reach-1	36438	1600																
Reach-1	36460	1600	500.00	477.20	482.39	0.00	482.80	0.00	0.00	0.00	0.41		500.00		0.50	0.000574	5.11	
Reach-1	36470	1600	500.00	477.20	482.66	0.29	482.87	0.00	0.00	0.07	0.19		500.00		10.00	0.000242	3.45	
Reach-1	36550	1600	500.00	481.10	484.22	1.54	485.24	2.37	0.06	0.25	1.02	46.54	448.27	5.19	80.00	0.011284	8.54	
Reach-1	36800	1600	500.00	482.00	486.51	2.29	487.44	2.20	2.19	0.01	0.93	61.52	398.01	40.47	250.00	0.006900	8.60	
Reach-1	37050	1600	500.00	483.50	488.37	1.86	489.49	2.05	1.99	0.06	1.12	41.88	416.00	42.12	250.00	0.009151	9.28	
Reach-1	37140	1600	500.00	484.50	489.46	1.09	490.12	0.63	0.59	0.05	0.66	70.73	386.45	42.82	90.00	0.004883	7.31	
Reach-1	37150	1600	500.00	485.20	489.45	-0.01	490.66	0.54	0.05	0.28	1.22	120.87	296.33	82.81	10.00	0.004806	11.20	
Reach-1	37156	1600																
Reach-1	37162	1600	500.00	485.20	491.55	0.06	491.77	0.01	0.00	0.01	0.23	173.20	218.28	108.52	0.50	0.000852	5.55	
Reach-1	37170	1600	500.00	484.90	491.61	0.06	491.79	0.02	0.00	0.01	0.18	107.21	330.99	61.80	8.00	0.000428	4.10	
Reach-1	37195	1600	500.00	485.30	491.85	0.04	491.81	0.02	0.00	0.00	0.17	209.66	194.17	96.18	25.00	0.001506	4.70	
Reach-1	37225	1600	500.00	486.30	491.68	0.03	491.85	0.03	0.03	0.00	0.17	26.63	453.12	20.25	30.00	0.000841	3.44	
Reach-1	37230	1600	500.00	486.30	493.36	1.68	493.83	1.98	0.01	0.15	0.47	129.39	201.26	169.36	5.00	0.015663	8.28	
Reach-1	37645	1600																
Reach-1	37650	1600	500.00	497.80	507.33	0.00	507.83	0.00			0.30	79.34	280.54	140.12	0.50</			

HEC-RAS Plan-effect/FEMA River: RIVER-1 Reach: Reach-1 Profile: 1600 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min El (ft)	W S Elev (ft)	Delta WS (ft)	E G Elev (ft)	Delta EG (ft)	Frict Loss (ft)	C & E Loss (ft)	Vel Head (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Length Chnl (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)
Reach-1	41203	Bridge															
Reach-1	41215	1600	500.00	566.40	571.43	0.00	571.54	0.00			0.11	193.60	173.44	132.96	0.50	0.001291	3.92
Reach-1	41270	1600	500.00	567.80	571.68	0.25	572.53	0.99	0.16	0.37	0.85	224.91	255.58	19.51	65.00	0.012315	9.83
Reach-1	41500	1600	500.00	568.10	573.60	1.93	574.03	1.50	1.45	0.04	0.42	69.61	229.17	201.22	230.00	0.003633	7.36
Reach-1	41750	1600	500.00	569.40	574.65	1.04	574.95	0.92	0.91	0.01	0.30	94.66	169.40	215.64	250.00	0.003488	6.72
Reach-1	42000	1500	500.00	571.60	576.32	1.67	576.96	2.01	1.10	0.10	0.65	105.33	290.41	98.26	250.00	0.005819	8.25
Reach-1	42280	1600	500.00	573.10	577.72	1.40	578.70	1.74	1.84	0.10	0.98	96.62	340.47	62.61	260.00	0.006639	9.52
Reach-1	42550	1600	500.00	574.60	579.71	1.69	580.64	1.94	1.93	0.00	0.93	78.60	338.83	82.66	250.00	0.006505	9.24
Reach-1	42820	1600	500.00	575.80	580.73	1.02	581.19	0.55	0.41	0.14	0.46	121.31	169.75	178.94	70.00	0.005403	8.12
Reach-1	42855	Bridge															
Reach-1	42890	1600	500.00	576.30	581.09	0.00	581.42	0.00			0.32	136.05	167.31	164.64	0.50	0.004746	7.27
Reach-1	42790	1600	500.00	577.30	581.45	0.38	581.63	0.41	0.39	0.03	0.38	221.52	179.46	98.99	70.00	0.006654	7.56
Reach-1	42890	1600	500.00	579.70	582.43	0.97	582.55	0.72	0.70	0.03	0.13	207.07	86.93	206.00	100.00	0.007273	5.79
Reach-1	42940	1600	500.00	579.10	583.95	1.53	585.21	2.66	0.83	0.34	1.28	111.06	290.62	98.32	80.00	0.015808	11.29
Reach-1	42950	1600	500.00	579.10	584.71	0.78	586.54	1.92	0.95	0.28	1.82	66.67	376.93	56.40	10.00	0.002168	12.44
Reach-1	42986	Bridge															
Reach-1	43010	1600	500.00	579.70	586.82	0.00	587.98	0.00			0.86	156.95	213.44	126.61	0.50	0.000975	11.26
Reach-1	43020	1600	500.00	579.70	586.84	0.01	587.68	0.00	0.01	0.00	0.65	157.11	212.68	129.01	10.00	0.000964	11.21

PascackhyengaLake Plan: effectiveFEMA 6/7/2005



# EXISTING CONDITIONS UPSTREAM

Plan: prop10x18ARi RIVER-1 Reach-1 RS: 23690 BR D Profile: 1600

E.G. Elev (ft)	411.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.01	Wt. n-Val.		0.035	
W.S. Elev (ft)	410.45	Reach Len. (ft)	0.50	0.50	0.50
Crit W.S. (ft)	409.81	Flow Area (sq ft)		198.74	
E.G. Slope (ft/ft)	0.007459	Area (sq ft)		198.74	
Q Total (cfs)	1600.00	Flow (cfs)		1600.00	
Top Width (ft)	58.76	Top Width (ft)		58.76	
Vel Total (ft/s)	8.05	Avg. Vel. (ft/s)		8.05	
Max Chl Dpth (ft)	4.55	Hydr. Depth (ft)		3.38	
Conv. Total (cfs)	18526.3	Conv. (cfs)		18526.3	
Length Wtd. (ft)	0.50	Wetted Per. (ft)		61.08	
Min Ch El (ft)	405.90	Shear (lb/sq ft)		1.52	
Alpha	1.00	Stream Power (lb/ft s)		12.20	
Frcn Loss (ft)	0.00	Cum Volume (acre-ft)	3.96	9.11	6.37
C & E Loss (ft)	0.15	Cum SA (acres)	1.64	1.75	2.59



# EXISTING CONDITIONS DOWNSTREAM

Plan: prop10x18ARi RIVER-1 Reach-1 RS: 22393 Profile: 1600

E.G. Elev (ft)	382.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.18	Wt. n-Val.	0.080	0.035	0.080
W.S. Elev (ft)	380.31	Reach Len. (ft)	55.00	65.00	75.00
Crit W.S. (ft)	380.31	Flow Area (sq ft)	14.08	125.90	10.64
E.G. Slope (ft/ft)	0.010093	Area (sq ft)	14.08	125.90	10.64
Q Total (cfs)	1600.00	Flow (cfs)	44.38	1525.97	29.65
Top Width (ft)	38.72	Top Width (ft)	7.25	26.00	5.47
Vel Total (ft/s)	10.62	Avg. Vel. (ft/s)	3.15	12.12	2.79
Max Chl Dpth (ft)	4.86	Hydr. Depth (ft)	1.94	4.84	1.95
Conv. Total (cfs)	15925.7	Conv. (cfs)	441.7	15188.9	295.1
Length Wtd. (ft)	65.00	Wetted Per. (ft)	8.50	26.28	7.00
Min Ch El (ft)	375.45	Shear (lb/sq ft)	1.04	3.02	0.96
Alpha	1.25	Stream Power (lb/ft s)	3.29	36.59	2.67
Frctn Loss (ft)		Cum Volume (acre-ft)	2.44	5.52	4.94
C & E Loss (ft)		Cum SA (acres)	1.06	1.02	2.17

HECRAS Plan: proj10x16ARI River: RIVER-1 Reach: Reach-1 Profile: 1600

Reach	River Sta	Profile	Q Total (cfs)	Min El (ft)	W.S. Elev (ft)	Delta WS (ft)	E.G. Elev (ft)	Delta EG (ft)	Froth Loss (ft)	C & E Loss (ft)	Vel Head (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Length Chnl (ft)	E.G. Slope (ft/m)	Vel Chnl (ft/s)
Reach-1	20880	1600	1600.00	345.10	351.08		352.24				1.18	528.87	939.40	131.92		0.009491	10.90
Reach-1	20950	1600	1600.00	346.20	351.31	0.23	353.07	0.84	0.65	0.18	1.76	70.12	1310.82	219.27	70.00	0.009181	11.69
Reach-1	20950	1600	1600.00	346.20	353.38	2.07	354.59	1.51	0.04	0.17	1.20	378.95	730.67	490.38	10.00	0.002169	12.85
Reach-1	20883	Bridge															
Reach-1	21005	1600	1600.00	344.20	354.93	-0.03	356.12	0.03	0.00	0.03	0.18	532.19	508.11	561.71	0.50	0.000602	5.85
Reach-1	21022	1600	1600.00	347.50	354.78	-0.16	356.00	0.48			0.82	262.36	751.74	565.90	17.00	0.002630	10.47
Reach-1	21025	1600	1600.00	350.00	354.68	0.20	355.63	0.03	0.01	0.02	0.65	260.96	675.32	633.72	3.00	0.003026	9.77
Reach-1	21030	1600	1600.00	348.70	355.37	0.36	355.67	0.04	0.01	0.04	0.30	123.69	1149.97	326.44	5.00	0.000556	5.14
Reach-1	21085	1600	1600.00	346.90	355.43	0.06	355.71	0.04	0.04	0.00	0.28	314.63	1053.56	231.81	55.00	0.001027	6.16
Reach-1	21150	1600	1600.00	349.30	355.48	0.05	355.80	0.09	0.08	0.01	0.32	20.47	1540.97	38.56	65.00	0.001311	4.63
Reach-1	21155	1600	1600.00	346.30	355.47	-0.01	355.81	0.01	0.00	0.01	0.34	10.08	1570.95	18.97	5.00	0.000322	4.73
Reach-1	21181	Bridge															
Reach-1	21166	1600	1600.00	349.30	356.12	0.51	358.25	0.12	0.00	0.12	0.13	37.71	1480.17	82.12	0.50	0.000057	2.67
Reach-1	21170	1600	1600.00	349.30	356.10	0.04	358.26	0.01	0.00	0.01	0.09	80.88	1342.19	179.94	4.00	0.000253	2.65
Reach-1	21210	1600	1600.00	349.50	356.11	-0.05	358.30	0.05	0.02	0.03	0.19	128.47	1310.38	152.15	40.00	0.006727	3.85
Reach-1	21260	1600	1600.00	351.00	356.10	0.00	358.38	0.08	0.04	0.02	0.26	208.07	1227.54	165.50	50.00	0.000930	4.61
Reach-1	21265	1600	1600.00	355.70	356.71	0.61	359.76	1.40	0.01	0.24	1.05	60.88	1392.78	156.54	5.00	0.003377	8.85
Reach-1	21270	1600	1600.00	352.40	356.73	1.02	359.86	0.10	0.00	0.39	0.13	41.46	1485.56	72.98	5.00	0.000343	2.95
Reach-1	21325	1600	1600.00	353.80	359.08	-0.07	359.94	0.05	0.04	0.05	0.28	62.80	1538.70	1.70	58.00	0.001697	4.32
Reach-1	21560	1600	1600.00	357.10	364.84	5.16	366.66	6.72	0.74	0.46	1.82	111.24	979.23	509.53	235.00	0.007842	13.52
Reach-1	21770	1600	1600.00	360.00	367.08	2.24	367.61	0.95	0.82	0.13	0.53	44.75	1018.92	536.33	210.00	0.002321	7.08
Reach-1	22000	1600	1600.00	363.90	369.44	2.36	371.10	3.49	0.92	0.34	1.65	158.93	1089.57	353.50	230.00	0.008536	12.29
Reach-1	22180	1600	1600.00	367.20	372.92	3.48	374.02	3.52	1.23	0.01	1.70	173.50	1204.10	222.40	150.00	0.007865	11.90
Reach-1	22210	1600	1600.00	369.00	375.73	2.81	377.63	3.01	0.50	0.06	1.90	49.92	941.75	608.33	60.00	0.008532	13.96
Reach-1	22328	1600	1600.00	373.10	378.77	3.03	380.46	2.83	1.02	0.06	1.68	204.43	1130.84	264.73	118.00	0.008766	12.12
Reach-1	22360	Culvert															
Reach-1	22393	1600	1600.00	375.45	380.31		382.50				2.18	44.38	1525.97	30.65	65.00	0.010093	12.12
Reach-1	22420	1600	1600.00	376.50	382.37	2.05	383.10	0.60	0.17	0.44	0.73	23.43	1551.33	25.25	37.00	0.002539	6.96
Reach-1	22530	1600	1600.00	378.00	384.02	1.65	386.61	3.51	0.44	0.50	2.59	77.46	1460.21	62.94	100.00	0.009200	13.48
Reach-1	22650	1600	1600.00	379.80	386.83	2.81	388.58	1.95	1.00	0.07	1.93	344.29	957.09	268.08	120.00	0.008417	14.02
Reach-1	22760	1600	1600.00	381.80	388.24	1.61	390.14	1.59	1.15	0.00	1.80	251.23	551.96	796.81	110.00	0.013613	17.14
Reach-1	22870	1600	1600.00	384.50	389.95	1.71	390.98	0.83	0.75	0.09	1.03	31.01	1535.68	33.31	110.00	0.003976	8.29
Reach-1	22935	1600	1600.00	385.70	390.47	0.53	392.07	1.09	0.38	0.17	1.59	226.69	1208.16	165.21	95.00	0.008130	11.50
Reach-1	23140	1600	1600.00	387.50	393.17	2.69	394.75	2.88	2.49	0.00	1.58	890.15	482.81	227.23	295.00	0.017192	16.20
Reach-1	23200	1600	1600.00	389.00	394.87	1.70	395.07	0.33	0.19	0.14	0.20		1600.00		80.00	0.001244	3.61
Reach-1	23350	1600	1600.00	391.40	397.15	2.28	399.06	3.99	0.41	0.51	1.91	177.76	1009.31	412.03	150.00	0.00816	13.60
Reach-1	23500	1600	1600.00	398.00	403.96	6.81	406.52	7.46	1.46	0.20	2.57	135.34	1388.28	76.38	150.00	0.009062	13.71
Reach-1	23640	1600	1600.00	400.00	405.80	1.91	407.90	1.38	1.32	0.05	2.04	168.01	1160.07	271.62	140.00	0.009137	13.19
Reach-1	23660	1600	1600.00	405.90	409.80	3.94	411.31	3.41	0.22	0.16	1.50		1600.00		20.00	0.013068	9.84
Reach-1	23690	Bridge															
Reach-1	23720	1600	1600.00	405.90	411.24	0.00	411.89	0.00	0.00	0.00	0.85		1600.00		0.50	0.004123	6.46
Reach-1	23850	1600	1600.00	407.60	412.27	1.03	413.96	2.07	0.93	0.52	1.89	2.41	1587.29	10.30	130.00	0.015491	10.48
Reach-1	24000	1600	1600.00	411.40	417.10	4.83	419.10	5.14	2.16	0.09	2.00	53.48	1529.79	16.73	150.00	0.013374	11.58
Reach-1	24240	1600	1600.00	418.00	425.73	8.83	427.81	8.71	2.96	0.02	2.08	220.57	1131.16	248.26	240.00	0.011395	13.46
Reach-1	24500	1600	500.00	419.60	428.62	2.89	428.78	0.98	0.77	0.19	0.14	40.28	441.48	16.23	260.00	0.000444	3.21
Reach-1	24720	1600	500.00	422.40	428.72	3.09	428.91	0.15	0.13	0.02	0.20	5.31	493.87	0.82	220.00	0.000867	3.61
Reach-1	24840	1600	500.00	422.40	428.80	0.18	429.00	0.09	0.08	0.01	0.10		500.00		120.00	0.000496	2.54
Reach-1	24850	1600	500.00	422.40	428.88	-0.02	429.02	0.02	0.00	0.01	0.14		500.00		10.00	0.000360	3.01
Reach-1	24908	Bridge															
Reach-1	24960	1600	500.00	422.40	428.96	0.03	429.00	0.00	0.00	0.00	0.14		500.00		0.50	0.000341	2.96
Reach-1	24970	1600	500.00	422.40	429.00	0.05	429.10	0.01	0.00	0.00	0.10		500.00		10.00	0.000435	2.49
Reach-1	25000	1600	500.00	421.40	428.99	-0.02	429.13	0.03	0.01	0.01	0.14	27.54	454.15	16.31	30.00	0.000442	3.12
Reach-1	25260	1600	500.00	422.00	429.09	0.10	430.26	0.13	0.13	0.01	0.17	27.95	447.33	24.76	250.00	0.000588	3.47
Reach-1	25550	1600	500.00	423.60	429.26	0.19	429.47	0.21	0.21	0.01	0.19	10.87	478.10	11.03	300.00	0.000840	3.58
Reach-1	25640	1600	500.00	423.50	429.24	-0.04	429.70	0.22	0.09	0.13	0.45	12.60	482.96	4.44	90.00	0.001274	5.50
Reach-1	25648	Inl Struct															
Reach-1	25650	1600	500.00	430.30	433.61	4.37	434.68	4.98			1.07	19.67	453.37	26.95	10.00	0.002638	8.70
Reach-1	25670	1600	500.00	430.00	434.61	1.00	434.92	0.25	0.02	0.23	0.31		500.00		20.00	0.000596	4.80
Reach-1	25690	1600	500.00	430.30	434.63	0.02	434.95	0.02	0.02	0.00	0.31		500.00		20.00	0.001503	4.47
Reach-1	26701	Bridge															
Reach-1	25712	1600	500.00	435.30	434.01	0.31	435.17	0.07	0.00	0.07	0.28		500.00		0.50	0.001361	4.13
Reach-1	25720	1600	500.00	435.30	434.82	0.01	435.18	0.01	0.01	0.00	0.26		500.00		8.00	0.001364	4.11
Reach-1	25770	1600	500.00	428.70	435.13	0.21	435.24	0.05	0.03	0.02	0.11	24.48	468.37	9.16	50.00	0.000424	2.72
Reach-1	25850	1600	500.00	428.00	435.19	0.06	435.27	0.04	0.04	0.00	0.09		500.00		80.00	0.000494	2.39
Reach-1	25875	1600	500.00	428.40	435.20	0.01	435.28	0.01	0.01	0.00	0.09		500.00		25.00	0.000362	2.37
Reach-1	25885	Bridge															
Reach-1	25940	1600	500.00	428.70	435.23	0.00	435.31	0.00	0.00	0.00	0.09		500.00		10.80	0.000382	2.41
Reach-1	26000	1600	500.00	428.20	435.26	0.04	435.34	0.02	0.02	0.01	0.07	16.13	466.76	17.13	60.00	0.000285	2.22
Reach-1	26260	1600	500.00	428.50	435.34	0.08	435.39	0.09	0.06	0.00	0.05	19.34	454.46	26.20	250.00	0.000184	1.92
Reach-1	26500	1600	500.00	428.80	435.39	0.05	435.44	0.04	0.04	0.00	0.04	13.90	474.86	11.22	250.00	0.000168	1.74
Reach-1	26																

HECRAS Plan prog10x16AR) River RIVER-1 Reach Reach-1 Profile 1600 (Continued)

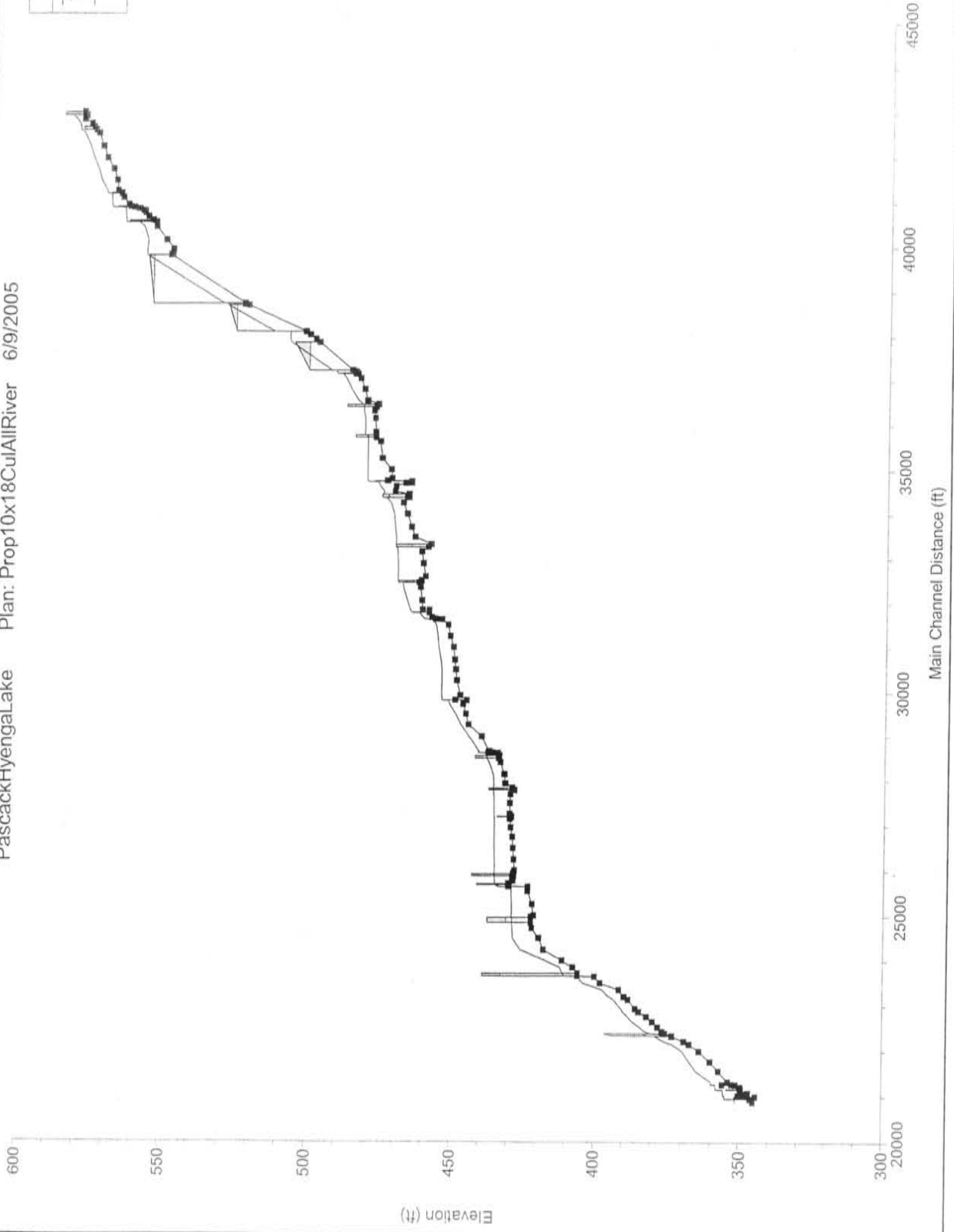
Reach	River Sta	Profile	Q Total (cfs)	Min El (ft)	W S Elev (ft)	Delta WS (ft)	E.G. Elev (ft)	Delta EG (ft)	Frcn Loss (%)	C & E Loss (%)	Vel Head (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Length Chnl (ft)	E.G. Slope (ft/m)	Vel Chnl (ft/s)
Reach-1	20815																
Reach-1	20810	1600	500.00	449.50	454.35	2.46	454.39	2.47			0.04		500.00		6.00	0.00043	1.60
Reach-1	20820	1600	500.00	447.80	454.39	0.04	454.40	0.01	0.01	0.01		3.11	499.83	0.05	104.00	0.00056	0.82
Reach-1	30250	1600	500.00	449.00	454.38	-0.01	454.47	0.06	0.04	0.02	0.08	59.51	374.59	65.00	330.00	0.00044	2.83
Reach-1	30500	1600	500.00	449.40	454.44	0.06	454.71	0.24	0.16	0.05	0.26	9.84	496.40	0.76	260.00	0.00161	4.13
Reach-1	30720	1600	500.00	449.80	454.73	0.28	455.23	0.52	0.45	0.07	0.50	28.84	440.21	30.06	220.00	0.00268	6.01
Reach-1	31000	1600	500.00	450.20	455.46	0.73	455.75	0.53	0.51	0.02	0.30	29.06	461.23	9.11	280.00	0.001316	4.54
Reach-1	31250	1600	500.00	451.40	455.85	0.39	456.15	0.40	0.40	0.00	0.31	39.26	425.74	37.09	250.00	0.001039	4.73
Reach-1	31500	1600	500.00	452.30	456.35	0.50	456.88	0.73	0.66	0.07	0.54	10.77	468.43	20.80	260.00	0.003843	6.06
Reach-1	31625	1600	500.00	454.90	457.92	1.58	458.88	2.00	0.85	0.13	0.96		500.00		125.00	0.014921	7.88
Reach-1	31630	1600	500.00	456.80	459.68	1.75	480.88	2.01	0.07	0.08	1.22		500.00		5.00	0.011601	8.85
Reach-1	31635	1600	500.00	456.80	460.69	1.01	481.00	0.11	0.02	0.09	0.31		500.00		5.00	0.001861	4.47
Reach-1	31670	1600	500.00	458.00	461.27	0.58	482.51	1.51	0.12	0.28	1.24	9.23	485.02	5.75	35.00	0.009120	9.07
Reach-1	31775	1600	500.00	456.00	462.32	1.05	463.23	0.72	0.66	0.03	0.91		500.00		105.00	0.004907	7.66
Reach-1	31780	1600	500.00	459.00	463.11	0.79	465.02	1.78	0.04	0.50	1.90		806.00		5.00	0.010683	11.58
Reach-1	31783																
Reach-1	31788	1600	500.00	459.00	464.68	1.02	465.44	0.24	0.00	0.23	0.76	19.01	467.67	13.32	0.50	0.003194	7.35
Reach-1	31790	1600	500.00	459.00	465.47	0.81	465.63	0.10	0.00	0.19	0.16	5.17	482.25	12.58	4.00	0.003305	3.29
Reach-1	31835	1600	500.00	459.00	465.50	0.03	465.65	0.02	0.02	0.00	0.15	7.23	472.20	20.87	45.00	0.000562	3.16
Reach-1	31840	1600	500.00	461.40	465.75	0.25	466.42	0.77	0.01	0.15	0.66	113.45	312.85	73.70	5.00	0.008530	8.14
Reach-1	32050	1600	500.00	461.70	466.74	0.99	468.24	1.82	0.71	0.25	1.50	10.80	484.61	4.79	210.00	0.001865	6.97
Reach-1	32350	1600	500.00	462.20	468.09	1.35	468.99	0.45	0.36	0.09	0.89	14.00	393.58	92.42	300.00	0.000842	6.94
Reach-1	32455	1600	500.00	462.70	468.22	0.13	468.78	0.09	0.08	0.01	0.62	50.03	394.09	95.88	105.00	0.000719	8.73
Reach-1	32475																
Reach-1	32464	1600	500.00	461.90	469.85	0.00	469.97	0.01			0.11	115.88	292.18	91.94	0.50	0.000118	3.47
Reach-1	32500	1600	500.00	461.90	469.94	0.09	469.98	0.02	0.00	0.02	0.04	163.90	206.36	126.74	6.00	0.000215	2.42
Reach-1	32560	1600	500.00	460.50	469.94	0.00	470.02	0.03	0.02	0.01	0.08	105.16	308.89	85.95	90.00	0.000279	2.83
Reach-1	32680	1600	500.00	461.20	469.94	0.01	470.19	0.17	0.12	0.05	0.24	24.33	395.18	80.49	290.00	0.000995	4.43
Reach-1	33150	1600	500.00	461.80	470.21	0.27	470.37	0.19	0.16	0.01	0.16	150.33	293.87	55.80	370.00	0.000918	4.12
Reach-1	33251	1600	500.00	459.50	470.37	0.15	470.42	0.05	0.01	0.53	0.05	27.81	434.40	37.73	101.00	0.000652	1.95
Reach-1	33283																
Reach-1	33314	1600	500.00	468.50	470.94	0.00	470.98	0.00			0.04	35.70	412.01	51.69	0.50	0.000304	1.87
Reach-1	33460	1600	500.00	464.20	470.82	-0.13	471.14	0.16	0.02	0.14	0.32	99.71	322.98	77.31	166.00	0.001507	5.94
Reach-1	33700	1600	500.00	465.50	471.13	0.32	471.49	0.35	0.34	0.01	0.36	26.72	409.01	64.28	220.00	0.001607	5.30
Reach-1	34000	1600	500.00	467.00	471.62	0.48	472.38	0.69	0.77	0.12	0.77	29.98	405.78	64.23	300.00	0.004665	7.74
Reach-1	34250	1600	500.00	468.30	472.81	1.19	473.94	1.56	1.45	0.11	1.13	36.27	380.96	82.77	250.00	0.00735	9.71
Reach-1	34368	1600	500.00	467.00	474.27	1.46	474.34	0.40	0.08	0.32	0.07	110.79	352.42	36.79	116.00	0.000231	2.42
Reach-1	34405																
Reach-1	34443	1600	500.00	466.60	475.38	1.88	475.43	0.00			0.05	131.40	318.73	46.87	0.50	0.000294	2.18
Reach-1	34800	1600	500.00	471.30	474.90	-0.48	476.01	0.58	0.05	0.53	1.11		495.90	4.10	57.00	0.014824	8.50
Reach-1	34820	1600	500.00	471.00	476.26	1.38	476.76	0.75	0.69	0.06	0.50	4.72	484.99	10.29	120.00	0.003444	5.77
Reach-1	34695	1600	500.00	467.80	476.81	0.55	476.82	0.05	0.01	0.55	0.01		500.00		75.00	0.000520	0.86
Reach-1	34700	1600	500.00	465.80	476.81	0.00	476.82	0.00	0.00	0.00	0.00		500.00		5.00	0.000610	0.56
Reach-1	34725	1600	500.00	465.80	476.81	0.00	476.82	0.00	0.00	0.00	0.01		500.00		25.00	0.000007	0.77
Reach-1	34749																
Reach-1	34750	1600	500.00	474.00	480.72	3.91	480.75	3.93			0.03		500.00		25.00	0.000018	1.42
Reach-1	34800	1600	500.00	472.50	480.76	0.04	480.76	0.01	0.00	0.01	0.00	416.20	81.58	3.24	50.00	0.000001	0.13
Reach-1	35000	1600	500.00	472.80	480.76	0.00	480.76	0.00	0.00	0.00	0.00	1.70	497.08	1.24	200.00	0.000001	0.13
Reach-1	35250	1600	500.00	475.80	480.75	-0.01	480.77	0.01	0.00	0.01	0.02	351.48	129.10	16.42	250.00	0.000078	0.27
Reach-1	35630	1600	500.00	476.50	480.78	0.03	480.84	0.07	0.06	0.01	0.06	328.76	155.64	16.71	360.00	0.000458	0.36
Reach-1	35720	1600	500.00	477.30	480.85	0.08	480.91	0.07	0.07	0.00	0.06	371.73	128.27	0.00	99.00	0.001571	2.10
Reach-1	35726	1600	500.00	477.30	480.55	-0.31	481.26	0.35	0.02	0.33	0.72	322.84	177.15	0.01	6.00	0.011788	11.15
Reach-1	35753																
Reach-1	35779	1600	500.00	477.30	481.46	0.06	481.77	0.01	0.00	0.01	0.31	329.44	170.54	0.02	0.50	0.000351	7.53
Reach-1	35785	1600	500.00	477.30	481.84	0.38	481.87	0.09	0.01	0.09	0.02	372.69	127.00	0.01	6.00	0.000412	1.40
Reach-1	35840	1600	500.00	477.70	481.80	0.02	481.88	0.01	0.01	0.00	0.02	357.85	139.47	2.68	55.00	0.000173	0.75
Reach-1	36150	1600	500.00	478.30	481.80	-0.07	482.12	0.24	0.15	0.09	0.32		500.00		310.00	0.003786	4.53
Reach-1	36320	1600	500.00	478.70	482.30	0.50	482.42	0.31	0.29	0.02	0.12	5.54	484.64	9.82	170.00	0.000848	2.84
Reach-1	36400	1600	500.00	477.90	482.29	-0.01	482.56	0.13	0.09	0.04	0.27		500.00		80.00	0.001373	4.16
Reach-1	36410	1600	500.00	477.90	482.15	-0.13	482.71	0.16	0.01	0.15	0.58		500.00		10.00	0.000975	6.90
Reach-1	36435																
Reach-1	36460	1600	500.00	477.20	482.30	0.00	482.80	0.00	0.00	0.00	0.41		500.00		0.50	0.000574	5.11
Reach-1	36470	1600	500.00	477.20	482.68	0.29	482.87	0.07	0.00	0.07	0.16		500.00		10.00	0.000242	3.45
Reach-1	36650	1600	500.00	481.10	484.22	1.54	485.24	2.37	0.08	0.25	1.02	46.54	448.27	5.19	80.00	0.011284	8.54
Reach-1	36800	1600	500.00	482.00	485.51	2.29	487.44	2.20	2.19	0.01	0.93	61.52	398.01	40.47	250.00	0.006999	8.80
Reach-1	37050	1600	500.00	483.50	488.37	1.86	489.49	2.05	1.99	0.06	1.12	41.88	416.00	42.12	250.00	0.009151	9.26
Reach-1	37140	1600	500.00	484.50	489.46	1.09	490.12	0.63	0.98	0.05	0.66	70.73	386.45	42.82	90.00	0.004883	7.31
Reach-1	37150	1600	500.00	485.20	489.45	-0.01	490.68	0.54	0.05	0.28	1.22	120.87	296.33	82.81	10.00	0.004806	11.26
Reach-1	37158																
Reach-1	37162	1600	500.00	485.20	491.55	0.06	491.77	0.01	0.00	0.01	0.23	173.20	318.28	106.52	0.50	0.000682	5.55
Reach-1	37170	1600	500.00	484.90	491.81	0.06	491.79	0.02	0.00	0.01	0.18	107.21	330.99	61.80	8.00	0.000426	4.16
Reach-1	37195	1600	500.00	485.30	491.65	0.04	491.81	0.02									

HE-CRAS Plan prop10x18ARI River RIVER-1 Reach Reach-1 Profile 1600 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Mh El (ft)	W.S. Elev (ft)	Delta WS (ft)	E.G. Elev (ft)	Delta EG (ft)	Frict Loss (ft)	C & E Loss (ft)	Vel Head (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Length Chnl (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)
Reach-1	40900	Bridge															
Reach-1	40910	1600	500.00	563.20	566.64	0.00	569.70	0.00			0.06	181.59	136.74	179.67	0.50	0.001065	2.87
Reach-1	40960	1600	500.00	563.90	569.70	0.06	569.75	0.05	0.05	0.00	0.06	352.07	74.09	72.94	50.00	0.000950	3.40
Reach-1	41110	1600	500.00	565.70	569.85	0.16	569.91	0.15	0.15	0.00	0.05	436.11	43.94	19.95	150.00	0.001100	2.88
Reach-1	41200	1600	500.00	566.40	569.85	-0.01	570.33	0.43	0.21	0.22	0.48	148.90	228.97	122.12	90.00	0.007895	7.84
Reach-1	41208	Bridge															
Reach-1	41215	1600	500.00	569.40	571.43	0.00	571.54	0.00			0.11	193.60	173.44	132.96	0.50	0.001291	3.92
Reach-1	41270	1600	500.00	567.80	571.88	0.25	572.53	0.69	0.16	0.37	0.85	224.91	255.58	19.51	55.00	0.012316	6.83
Reach-1	41500	1600	500.00	568.10	573.80	1.93	574.03	1.50	1.45	0.04	0.42	69.61	220.17	201.22	230.00	0.003833	7.35
Reach-1	41750	1600	500.00	569.40	574.65	1.04	574.95	0.62	0.91	0.01	0.30	84.96	189.40	215.64	250.00	0.003466	6.72
Reach-1	42000	1600	500.00	571.60	576.32	1.67	576.96	2.01	1.10	0.10	0.65	105.33	296.41	98.26	250.00	0.005819	8.25
Reach-1	42280	1600	500.00	573.10	577.72	1.40	578.70	1.74	1.64	0.10	0.98	89.92	340.47	62.61	260.00	0.006559	9.52
Reach-1	42550	1600	500.00	574.80	579.71	1.99	580.84	1.64	1.93	0.00	0.93	78.60	338.83	82.56	290.00	0.006505	9.24
Reach-1	42820	1600	500.00	576.60	580.73	1.02	581.19	0.55	0.41	0.14	0.46	121.31	199.75	178.94	70.00	0.005403	8.12
Reach-1	42655	Bridge															
Reach-1	42690	1600	500.00	576.30	581.09	3.00	581.42	0.00			0.32	138.05	167.31	194.64	0.50	0.004748	7.27
Reach-1	42760	1600	500.00	577.30	581.45	0.36	581.83	0.41	0.39	0.03	0.38	221.52	179.40	96.99	70.00	0.006654	7.56
Reach-1	42800	1600	500.00	579.70	582.43	0.97	582.55	0.72	0.70	0.03	0.13	207.07	86.93	205.00	100.00	0.007273	6.79
Reach-1	42640	1600	500.00	579.10	583.95	1.83	585.21	2.68	0.83	0.34	1.26	111.06	290.62	98.32	80.00	0.015808	11.29
Reach-1	42650	1600	500.00	579.10	584.71	0.76	585.54	1.32	0.05	0.28	1.82	66.67	376.93	56.40	10.00	0.002168	13.44
Reach-1	42680	Bridge															
Reach-1	43010	1600	500.00	579.70	586.82	0.00	587.68	0.00			0.85	158.95	213.44	129.61	0.50	0.000976	11.28
Reach-1	43020	1600	500.00	579.70	586.84	0.01	587.68	0.00	0.01	0.00	0.85	157.11	212.98	129.61	10.00	0.000984	11.21

PascackHyengalLake Plan: Prop10x18CulAIIIRiver 6/9/2005

Legend	
—	WS 1600
—●—	Ground





## IV. HEC-1 Storage Analysis

III-1 Effective FEMA Model with Dam

III-2 Existing Conditions Model without Dam

III-3 Reconstructed Dam Model

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.....
FLOOD HYDROGRAPH PACKAGE (HEC-1)
      JUN 1998
      VERSION 4.1
RUN DATE 09JUN05 TIME 11:17:02
.....

```

```

.....
U.S. ARMY CORPS OF ENGINEERS
HYDROLOGIC ENGINEERING CENTER
609 SECOND STREET
DAVIS, CALIFORNIA 95616
(916) 756-1104
.....

```

## EFFECTIVE FEMA MODEL WITH DAM

```

      X   X   XXXXXXXX   XXXXXX   X
      X   X   X           X   X   XX
      X   X   X           X   X   X
      XXXXXXXX   XXXX   X   XXXXXX   X
      X   X   X           X   X   X
      X   X   X           X   X   X
      X   X   XXXXXXXX   XXXXXX   XXX

```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1RW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON PM-CAPD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION.

NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE, SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY, DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL, LOSS RATE:GREEN AND AMPT INFILTRATION

KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1

HEC-1 INPUT

PAGE 1

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1          ID          -----EXIST10.HIOUT-----
2          ID
3          HYDROLOGY FOR: HYENGA LAKE #03151
4          ID          TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK
5          ID
6          ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES
7          ID          JUNE, 2005 -RVR
8          ID
9          ID          ANALYSIS PARAMETERS:
10         ID          EXISTING FEMA STORAGE
11         ID          STORM RECURRENCE INTERVALS = 100 YEAR
12         ID          HYDROGRAPH METHOD: SCS
13         ID          RAINFALL DISTRIBUTION: SCS TYPE III
14         ID
15         ID          24 HOUR RAINFALL DATA:
16         ID          1 YEAR: 2.5 INCHES
17         ID          2 YEAR: 3.2 INCHES
18         ID          5 YEAR: 4.2 INCHES
19         ID          10 YEAR: 5.0 INCHES
20         ID          25 YEAR: 5.6 INCHES
21         ID          100 YEAR: 7.2 INCHES
22         ID
23         ID          ** NOTE: TOTAL RAINFALLS CALIBRATED TO MATCH THE 100 YEAR FLOW AS PUBLIS
24         ID          BY FEMA. THE ADOPTED 100 YEAR FEMA DISCHARGE IS 1600 CFS. SITE
25         ID          DISCHARGES CALIBRATED TO MATCH THE 100 YEAR FLOOD AS CALCULATED
26         ID          FROM THE RATIONAL METHOD.
27         ID          *DIAGRAM
28         ID          IT          6          0          0          300
29         ID          IC          3          0
30         ID          JR          PREC          2.5          3.2          4.2          5          5.6          7.2
31         ID
32         ID          KK          PASCAC          RUNOFF FROM THE PASCACK BROOK SUB-BASIN TO HYENGA LAKE DAM
33         ID          KM
34         ID          KM          * DRAINAGE AREA = 2741 AC = 4.28 SQ. MI.
35         ID          KM          * TIME OF CONCENTRATION = 2.23 HRS
36         ID          KM
37         ID          KO          1          1          21
38         ID          BA          4.382
39         ID          PB          1.0
40         ID          IN          6
41         ID          PC          0          0.001          0.002          0.003          0.004          0.005          0.006          0.007          0.008          0.009
42         ID          PC          0.010          0.011          0.012          0.013          0.014          0.015          0.016          0.017          0.018          0.019
43         ID          PC          0.020          0.021          0.022          0.023          0.024          0.026          0.027          0.028          0.029          0.030
44         ID          PC          0.030          0.031          0.032          0.034          0.035          0.036          0.037          0.038          0.040          0.041
45         ID          PC          0.042          0.043          0.045          0.046          0.047          0.049          0.050          0.051          0.053          0.054
46         ID          PC          0.055          0.057          0.058          0.060          0.061          0.063          0.064          0.066          0.067          0.069
47         ID          PC          0.070          0.072          0.074          0.075          0.077          0.079          0.080          0.082          0.084          0.085
48         ID          PC          0.087          0.089          0.091          0.093          0.095          0.097          0.100          0.103          0.106          0.109
49         ID          PC          0.112          0.115          0.118          0.121          0.124          0.127          0.130          0.134          0.137          0.140
50         ID          PC          0.144          0.148          0.151          0.155          0.159          0.163          0.167          0.171          0.176          0.180
51         ID          PC          0.185          0.189          0.194          0.199          0.205          0.210          0.216          0.222          0.228          0.235
52         ID          PC          0.242          0.250          0.258          0.266          0.276          0.287          0.298          0.312          0.328          0.363
53         ID          PC          0.416          0.500          0.584          0.638          0.673          0.689          0.702          0.714          0.725          0.734
54         ID          PC          0.743          0.751          0.758          0.766          0.772          0.779          0.785          0.790          0.796          0.801

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1

HEC-1 INPUT

PAGE 2

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
54         PC          0.806          0.811          0.816          0.821          0.825          0.829          0.834          0.838          0.842          0.845
55         PC          0.849          0.853          0.857          0.860          0.864          0.867          0.870          0.874          0.877          0.880
56         PC          0.886          0.889          0.892          0.895          0.898          0.900          0.903          0.906          0.908          0.910
57         PC          0.911          0.913          0.915          0.917          0.919          0.920          0.922          0.924          0.925          0.927
58         PC          0.929          0.930          0.932          0.933          0.935          0.936          0.938          0.939          0.941          0.942
59         PC          0.944          0.945          0.946          0.948          0.949          0.951          0.952          0.953          0.955          0.956
60         PC          0.957          0.958          0.960          0.961          0.962          0.963          0.965          0.966          0.967          0.968
61         PC          0.969          0.971          0.972          0.973          0.974          0.975          0.976          0.977          0.978          0.979

```



62	PC	0.981	0.982	0.983	0.984	0.985	0.986	0.987	0.988	0.989	0.990
63	PC	0.991	0.992	0.993	0.994	0.995	0.996	0.997	0.998	0.999	1.000
64	LS	1.0	32.621	30							
65	UD	2.23									
66	KE										
67	KH										
68	RS	1	FLOW	-1							
69	SV	0	7.47	8.37	9.33	10.04	10.72	11.53	12.23	12.6	13.58
70	SC	0	800	1000	1200	1400	1600	1800	2000	2200	2400
71	PO		1		1	21					
72	EE										

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW  
 NO. (---) CONNECTOR (---) RETURN OF DIVERTED OR PUMPED FLOW  
 29 PASCAC  
 V  
 V  
 66 DAM

\*\*\* RUNOFF ALSO COMPUTED AT THIS LOCATION

.....  
 \* FLOOD HYDROGRAPH PACKAGE (HEC-1) \*  
 \* JUN 1998 \*  
 \* VERSION 4.1 \*  
 \* RUN DATE 09JUN05 TIME 11:17:02 \*  
 .....

.....  
 \* U.S. ARMY CORPS OF ENGINEERS \*  
 \* HYDROLOGIC ENGINEERING CENTER \*  
 \* 609 SECOND STREET \*  
 \* DAVIS, CALIFORNIA 95616 \*  
 \* (916) 756-1104 \*  
 .....

-----EXISTING FLOW-----

HYDROLOGY FOR: HYENGA LAKE #03151  
 TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK

ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES  
 JUNE, 2005 -RVR

ANALYSIS PARAMETERS:  
 EXISTING FEMA STORAGE  
 STORM RECURRENCE INTERVALS = 100 YEAR  
 HYDROGRAPH METHOD: SCS  
 RAINFALL DISTRIBUTION: SCS TYPE III

24 HOUR RAINFALL DATA: 1 YEAR: 2.5 INCHES  
 2 YEAR: 3.2 INCHES  
 5 YEAR: 4.2 INCHES  
 10 YEAR: 5.0 INCHES  
 25 YEAR: 5.6 INCHES  
 100 YEAR: 7.2 INCHES

\*\* NOTE: TOTAL RAINFALLS CALIBRATED TO MATCH THE 100 YEAR FLOW AS PUBLIS  
 BY FEMA. THE ADOPTED 100 YEAR FEMA DISCHARGE IS 1600 CFS. SITE  
 DISCHARGES CALIBRATED TO MATCH THE 100 YEAR FLOOD AS CALCULATED  
 FROM THE RATIONAL METHOD.

27 IO OUTPUT CONTROL VARIABLES  
 IPRNT 3 PRINT CONTROL  
 IPLOT 0 PLOT CONTROL  
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA  
 NMIN 6 MINUTES IN COMPUTATION INTERVAL  
 IDATE 1 0 STARTING DATE  
 ITIME 0000 STARTING TIME  
 NO 300 NUMBER OF HYDROGRAPH ORDINATES  
 NDDATE 2 0 ENDING DATE  
 NDTIME 0554 ENDING TIME  
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .10 HOURS  
 TOTAL TIME BASE 29.90 HOURS

ENGLISH UNITS  
 DRAINAGE AREA SQUARE MILES  
 PRECIPITATION DEPTH INCHES  
 LENGTH, ELEVATION FEET  
 FLOW CUBIC FEET PER SECOND  
 STORAGE VOLUME ACRE-Feet  
 SURFACE AREA ACRES  
 TEMPERATURE DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION  
 NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION  
 RATIOS OF PRECIPITATION  
 2.50 3.20 4.20 5.00 5.60 7.20

.....

.....  
 \* 29 KE PASCAC \*  
 \* RUNOFF FROM THE PASCACK BROOK SUB-BASIN TO HYENGA LAKE DAM \*  
 .....



(INCHES) .543 .811 .821 .821  
 (AC-FT) 127. 190. 192. 192.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*

HYDROGRAPH AT STATION PASCAC  
 FOR PLAN 1, RATIO = 3.20

TOTAL RAINFALL = 3.20, TOTAL LOSS = 2.09, TOTAL EXCESS = 1.11

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW		29.90-HR
(CFS)	(HR)	(CFS)	24-HR	72-HR	
547.	14.50	147.	129.	105.	105.
		(INCHES) .736	1.095	1.107	1.107
		(AC-FT) 172.	256.	259.	259.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*

HYDROGRAPH AT STATION PASCAC  
 FOR PLAN 1, RATIO = 4.20

TOTAL RAINFALL = 4.20, TOTAL LOSS = 2.64, TOTAL EXCESS = 1.56

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW		29.90-HR
(CFS)	(HR)	(CFS)	24-HR	72-HR	
775.	14.50	492.	182.	147.	147.
		(INCHES) 1.044	1.542	1.559	1.559
		(AC-FT) 244.	360.	364.	364.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*

HYDROGRAPH AT STATION PASCAC  
 FOR PLAN 1, RATIO = 5.00

TOTAL RAINFALL = 5.00, TOTAL LOSS = 3.05, TOTAL EXCESS = 1.95

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW		29.90-HR
(CFS)	(HR)	(CFS)	24-HR	72-HR	
976.	14.50	620.	228.	185.	185.
		(INCHES) 1.315	1.932	1.953	1.953
		(AC-FT) 307.	451.	456.	456.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*

HYDROGRAPH AT STATION PASCAC  
 FOR PLAN 1, RATIO = 5.60

TOTAL RAINFALL = 5.60, TOTAL LOSS = 3.33, TOTAL EXCESS = 2.27

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW		29.90-HR
(CFS)	(HR)	(CFS)	24-HR	72-HR	
1137.	14.50	721.	264.	214.	214.
		(INCHES) 1.531	2.240	2.265	2.265
		(AC-FT) 358.	524.	529.	529.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*

HYDROGRAPH AT STATION PASCAC  
 FOR PLAN 1, RATIO = 7.20

TOTAL RAINFALL = 7.20, TOTAL LOSS = 4.04, TOTAL EXCESS = 3.16

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW		29.90-HR
(CFS)	(HR)	(CFS)	24-HR	72-HR	
1600.	14.50	1015.	368.	299.	299.
		(INCHES) 2.154	3.127	3.160	3.160
		(AC-FT) 503.	731.	738.	738.

CUMULATIVE AREA = 4.38 SQ MI

.....

66 EE .....  
 .....  
 ..... DAM .....  
 .....  
 .....

ROUTE FLOWS THROUGH HYENGA LAKE

71 KO OUTPUT CONTROL VARIABLES  
 IPRT 3 PRINT CONTROL  
 IPLOT 1 PLOT CONTROL  
 OSCAL 0 HYDROGRAPH PLOT SCALE  
 IPNCH 1 PUNCH COMPUTED HYDROGRAPH  
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT  
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED  
 ISAVE 100 LAST ORDINATE PUNCHED OR SAVED  
 TIMINT .100 TIME INTERVAL IN HOURS

HYDROGRAPH ROUTING DATA

68 KE STORAGE ROUTING  
 NSTPS 1 NUMBER OF SUBREACHES  
 ITYPE FLOW TYPE OF INITIAL CONDITION  
 RSVRIC -1.00 INITIAL CONDITION  
 X .00 WORKING R AND D COEFFICIENT

69 SV STORAGE 7.0 7.5 8.4 9.2 10.0 10.8 11.5 12.3 12.8 13.6

70 SC DISCHARGE 0. 800. 1000. 1200. 1400. 1600. 1800. 2000. 2200. 2400.

\*\*\*

\*\*\* WARNING \*\*\* MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 1200. TO 1400.  
 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.  
 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

\*\*\*

HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 2.50

PEAK FLOW + (CFS)	TIME (HR)	(CFS)	MAXIMUM AVERAGE FLOW			29.90-HR
			6-HR	24-HR	72-HR	
403.	14.60	256.	96.	78.	78.	
		(INCHES) 543	.811	.820	.820	
		(AC-FT) 127.	190.	192.	192.	
PEAK STORAGE + (AC-FT)	TIME (HR)	(AC-FT)	MAXIMUM AVERAGE STORAGE			29.90-HR
			6-HR	24-HR	72-HR	
4.	14.50	2.	1.	1.	1.	
CUMULATIVE AREA =			4.38 SQ MI			

\*\*\*

HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 3.20

PEAK FLOW + (CFS)	TIME (HR)	(CFS)	MAXIMUM AVERAGE FLOW			29.90-HR
			6-HR	24-HR	72-HR	
545.	14.60	347.	129.	105.	105.	
		(INCHES) 735	1.095	1.107	1.107	
		(AC-FT) 172.	256.	259.	259.	
PEAK STORAGE + (AC-FT)	TIME (HR)	(AC-FT)	MAXIMUM AVERAGE STORAGE			29.90-HR
			6-HR	24-HR	72-HR	
5.	14.60	3.	1.	1.	1.	
CUMULATIVE AREA =			4.38 SQ MI			

\*\*\*

HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 4.20

PEAK FLOW + (CFS)	TIME (HR)	(CFS)	MAXIMUM AVERAGE FLOW			29.90-HR
			6-HR	24-HR	72-HR	
773.	14.60	492.	182.	147.	147.	
		(INCHES) 1,043	1,542	1,559	1,559	
		(AC-FT) 244.	360.	364.	364.	
PEAK STORAGE + (AC-FT)	TIME (HR)	(AC-FT)	MAXIMUM AVERAGE STORAGE			29.90-HR
			6-HR	24-HR	72-HR	
7.	14.60	5.	2.	1.	1.	
CUMULATIVE AREA =			4.38 SQ MI			

\*\*\*

HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 5.00

PEAK FLOW + (CFS)	TIME (HR)	(CFS)	MAXIMUM AVERAGE FLOW			29.90-HR
			6-HR	24-HR	72-HR	
975.	14.50	619.	228.	185.	185.	
		(INCHES) 1,314	1,931	1,953	1,953	
		(AC-FT) 307.	451.	456.	456.	
PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			

+	(AC-FT)	(HR)	6-HR	24-HR	72-HR	29.90-HR
	8.	14.50	6.	2.	2.	2.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*

HYDROGRAPH AT STATION DAM  
FOR PLAN 1, RATIO = 5.60

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW				
+	(CFS)	(HR)	6-HR	24-HR	72-HR	29.90-HR	
+	1135.	14.50	(CFS)	751.	264.	214.	214.
			(INCHES)	1.516	0.240	0.265	0.265
			(AC-FT)	356.	524.	529.	529.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
+	(AC-FT)	(HR)	6-HR	24-HR	72-HR	29.90-HR
+	9.	14.50	6.	2.	2.	2.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*

HYDROGRAPH AT STATION DAM  
FOR PLAN 1, RATIO = 7.20

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW				
+	(CFS)	(HR)	6-HR	24-HR	72-HR	29.90-HR	
+	1598.	14.50	(CFS)	1015.	368.	299.	299.
			(INCHES)	2.153	1.126	1.159	1.159
			(AC-FT)	503.	731.	738.	738.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
+	(AC-FT)	(HR)	6-HR	24-HR	72-HR	29.90-HR
+	11.	14.50	8.	3.	2.	2.

CUMULATIVE AREA = 4.38 SQ MI

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS  
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES  
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION					
				RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6
				2.50	3.20	4.20	5.00	5.60	7.20
HYDROGRAPH AT	PASCAC	4.38	1 FLOW	404.	547.	775.	976.	1137.	1600.
			TIME	14.40	14.50	14.50	14.50	14.50	14.50
ROUTED TO	DAM	4.38	1 FLOW	403.	545.	773.	975.	1135.	1598.
			TIME	14.60	14.60	14.60	14.50	14.50	14.50

\*\*\* NORMAL END OF HEC-1 \*\*\*

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.....
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
* RUN DATE 07JUN05 TIME 14:49:25
.....

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.....
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
.....

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## EXISTING CONDITIONS WITHOUT DAM

```

X X XXXXXXX XXXXX X
X X X XXXXX X XX
X X X X X X
XXXXXXXX XXXX X XXXXX X
X X X X X X
X X X X X X
X X XXXXXXX XXXXX XXX

```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HECIGS, HECIDE, AND HECIKW. THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE, SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY, DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL, LOSS RATE:GREEN AND AMPT INFILTRATION KINEMATIC WAVE; NEW FINITE DIFFERENCE ALGORITHM

1

HEC-1 INPUT PAGE 1

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1 ID -----EXIST10.HIOUT-----
2 ID
3 ID HYDROLOGY FOR: HYENGA LAKE #03151
4 ID TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK
5 ID
6 ID ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES
7 ID JUNE, 2005 -RVR
8 ID
9 ID ANALYSIS PARAMETERS:
10 ID PROPOSED STORAGE
11 ID STORM RECURRENCE INTERVALS = 100 YEAR
12 ID HYDROGRAPH METHOD: SCS
13 ID RAINFALL DISTRIBUTION: SCS TYPE III
14 ID
15 ID 24 HOUR RAINFALL DATA: 1 YEAR: 2.5 INCHES
16 ID 2 YEAR: 3.2 INCHES
17 ID 5 YEAR: 4.2 INCHES
18 ID 10 YEAR: 5.0 INCHES
19 ID 25 YEAR: 5.6 INCHES
20 ID 100 YEAR: 7.2 INCHES
21 ID
22 ID ** NOTE: TOTAL RAINFALLS CALIBRATED TO MATCH THE 100 YEAR FLOW AS PUBLIS
23 ID BY FEMA. THE ADOPTED 100 YEAR FEMA DISCHARGE IS 1600 CFS. SITE
24 ID DISCHARGES CALIBRATED TO MATCH THE 100 YEAR FLOOD AS CALCULATED
25 ID FROM THE RATIONAL METHOD.
26 ID *DIAGRAM
27 IT 6 0 0 300
28 IO 3 0
JR PREC 2.5 3.2 4.2 5 5.6 7.2
29 KK PASCAC RUNOFF FROM THE PASCACK BROOK SUB-BASIN TO HYENGA LAKE DAM
30 KM
31 KM *****
32 KM * DRAINAGE AREA = 2741 AC = 4.28 SQ. MI.
33 KM * TIME OF CONCENTRATION = 2.23 HRS
34 KM *****
35 KM
36 KO 1 1 21
37 BA 4.382
38 PB 1.0
39 IN 6
40 PC 0
41 PC 0.010 0.011 0.012 0.013 0.014 0.015 0.016 0.017 0.018 0.019
42 PC 0.020 0.021 0.022 0.023 0.024 0.026 0.027 0.028 0.029 0.030
43 PC 0.030 0.031 0.032 0.034 0.035 0.036 0.037 0.038 0.040 0.041
44 PC 0.042 0.043 0.045 0.046 0.047 0.049 0.050 0.051 0.053 0.054
45 PC 0.055 0.057 0.058 0.060 0.061 0.063 0.064 0.066 0.067 0.069
46 PC 0.070 0.072 0.074 0.075 0.077 0.079 0.080 0.082 0.084 0.085
47 PC 0.087 0.089 0.091 0.093 0.095 0.097 0.100 0.103 0.106 0.109
48 PC 0.112 0.115 0.118 0.121 0.124 0.127 0.130 0.134 0.137 0.140
49 PC 0.144 0.148 0.151 0.155 0.159 0.163 0.167 0.171 0.176 0.180
50 PC 0.185 0.189 0.194 0.199 0.205 0.210 0.216 0.222 0.228 0.235
51 PC 0.242 0.250 0.258 0.266 0.276 0.287 0.298 0.312 0.328 0.363
52 PC 0.416 0.500 0.584 0.638 0.673 0.689 0.702 0.714 0.725 0.734
53 PC 0.743 0.751 0.758 0.766 0.772 0.779 0.785 0.790 0.796 0.801

```

1

HEC-1 INPUT PAGE 2

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
54 PC 0.806 0.811 0.816 0.821 0.825 0.829 0.834 0.838 0.842 0.845
55 PC 0.849 0.853 0.857 0.860 0.864 0.867 0.870 0.874 0.877 0.880
56 PC 0.886 0.889 0.892 0.895 0.898 0.900 0.903 0.906 0.908 0.910
57 PC 0.911 0.913 0.915 0.917 0.919 0.920 0.922 0.924 0.925 0.927
58 PC 0.929 0.930 0.932 0.933 0.935 0.936 0.938 0.939 0.941 0.942
59 PC 0.944 0.945 0.946 0.948 0.949 0.951 0.952 0.953 0.955 0.956
60 PC 0.957 0.958 0.960 0.961 0.962 0.963 0.965 0.966 0.967 0.968
61 PC 0.969 0.971 0.972 0.973 0.974 0.975 0.976 0.977 0.978 0.979
62 PC 0.981 0.982 0.983 0.984 0.985 0.986 0.987 0.988 0.989 0.990

```

63	PC	0.991	0.992	0.993	0.994	0.995	0.996	0.997	0.998	0.999	1.000
64	LS	1.0	32.621	30							
65	UD	2.23									
66	KK	DAM									
67	KM	ROUTE FLOWS THROUGH PROPOSED CHANNEL									
68	RS	1	FLOW	-1							
69	SV	0	3.65	4.4	5.14	5.84	6.54	7.18	7.87	8.54	9.17
70	SQ	0	800	1000	1200	1400	1600	1800	2000	2200	2400
71	KC		1		1	21					
72	ZZ										

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW  
 KC CONNECTOR (--->) RETURN OF DIVERTED OR PUMPED FLOW  
 ZS PASCAC  
 V  
 V  
 KK DAM

(\*) RUNOFF ALSO COMPUTED AT THIS LOCATION

FLOOD HYDROGRAPH PACKAGE (HEC-1)  
 JUN 1998  
 VERSION 4.1  
 RUN DATE 07JUN05 TIME 14:49:25

U.S. ARMY CORPS OF ENGINEERS  
 HYDROLOGIC ENGINEERING CENTER  
 605 SECOND STREET  
 DAVIS, CALIFORNIA 95616  
 (916) 756-1104

-----EXIST10.H1OUT-----

HYDROLOGY FOR: HYENGA LAKE #03151  
 TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK  
 ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES  
 JUNE, 2005 -RVR

ANALYSIS PARAMETERS:  
 PROPOSED STORAGE  
 STORM RECURRENCE INTERVALS = 100 YEAR  
 HYDROGRAPH METHOD: SCS  
 RAINFALL DISTRIBUTION: SCS TYPE III

24 HOUR RAINFALL DATA:  
 1 YEAR: 2.5 INCHES  
 2 YEAR: 3.2 INCHES  
 5 YEAR: 4.2 INCHES  
 10 YEAR: 5.0 INCHES  
 25 YEAR: 5.6 INCHES  
 100 YEAR: 7.2 INCHES

\*\* NOTE: TOTAL RAINFALLS CALIBRATED TO MATCH THE 100 YEAR FLOW AS PUBLIS BY FEMA. THE ADOPTED 100 YEAR FEMA DISCHARGE IS 1600 CFS. SITE DISCHARGES CALIBRATED TO MATCH THE 100 YEAR FLOOD AS CALCULATED FROM THE RATIONAL METHOD.

27 IO OUTPUT CONTROL VARIABLES  
 IPRNT 3 PRINT CONTROL  
 IPLOT 0 PLOT CONTROL  
 QSCAL 0. HYDROGRAPH PLOT SCALE  
 IT HYDROGRAPH TIME DATA  
 NMIN 6 MINUTES IN COMPUTATION INTERVAL  
 IDATE 1 0 STARTING DATE  
 ITIME 0000 STARTING TIME  
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES  
 NDDATE 2 0 ENDING DATE  
 NDTIME 0554 ENDING TIME  
 ICENT 19 CENTURY MARK  
 COMPUTATION INTERVAL .10 HOURS  
 TOTAL TIME BASE 29.90 HOURS

ENGLISH UNITS  
 DRAINAGE AREA SQUARE MILES  
 PRECIPITATION DEPTH INCHES  
 LENGTH, ELEVATION FEET  
 FLOW CUBIC FEET PER SECOND  
 STORAGE VOLUME ACRE-FEET  
 SURFACE AREA ACRES  
 TEMPERATURE DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION  
 NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION  
 RATIOS OF PRECIPITATION  
 2.50 3.20 4.20 5.00 5.60 7.20

29 KK PASCAC RUNOFF FROM THE PASCACK BROOK SUB-BASIN TO HYENGA LAKE DAM







IPRNT 3 PRINT CONTROL  
 IPLOT 1 PLOT CONTROL  
 QSCAL 0. HYDROGRAPH PLOT SCALE  
 IPNCH 1 PUNCH COMPUTED HYDROGRAPH  
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT  
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED  
 ISAV2 300 LAST ORDINATE PUNCHED OR SAVED  
 TIMINT .100 TIME INTERVAL IN HOURS

HYDROGRAPH ROUTING DATA

22 RR STORAGE ROUTING  
 NRIFS 1 NUMBER OF SUBREACHES  
 ITYP FLOW TYPE OF INITIAL CONDITION  
 RSVFIC -1.00 INITIAL CONDITION  
 X .00 WORKING R AND D COEFFICIENT  
 25 RV STORAGE 0. 3.7 4.4 5.1 5.8 6.5 7.2 7.9 8.5 9.2  
 70 SQ DISCHARGE 0. 800. 1000. 1200. 1400. 1600. 1800. 2000. 2200. 2400.

\*\*\* WARNING \*\*\* MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 800. TO 2400.  
 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.  
 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

\*\*\*  
 HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 1.50

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.90-HR
404.	14.50	256.	96.	78.	78.
		(INCHES) .543	.811	.820	.820
		(AC-FT) 127.	190.	192.	192.
PEAK STORAGE + (AC-FT)		MAXIMUM AVERAGE STORAGE			
2.	14.50	6-HR	24-HR	72-HR	29.90-HR
		1.	0.	0.	0.
		CUMULATIVE AREA = 4.38 SQ MI			

\*\*\*  
 HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 3.20

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.90-HR
546.	14.50	347.	129.	105.	105.
		(INCHES) .736	1.095	1.107	1.107
		(AC-FT) 172.	256.	259.	259.
PEAK STORAGE + (AC-FT)		MAXIMUM AVERAGE STORAGE			
2.	14.50	6-HR	24-HR	72-HR	29.90-HR
		2.	1.	0.	0.
		CUMULATIVE AREA = 4.38 SQ MI			

\*\*\*  
 HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 4.20

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.90-HR
774.	14.50	492.	182.	147.	147.
		(INCHES) 1.044	1.542	1.559	1.559
		(AC-FT) 244.	360.	364.	364.
PEAK STORAGE + (AC-FT)		MAXIMUM AVERAGE STORAGE			
4.	14.50	6-HR	24-HR	72-HR	29.90-HR
		2.	1.	1.	1.
		CUMULATIVE AREA = 4.38 SQ MI			

\*\*\*  
 HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 5.00

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.90-HR
975.	14.50	619.	228.	185.	185.
		(INCHES) 1.314	1.932	1.953	1.953
		(AC-FT) 307.	451.	456.	456.
PEAK STORAGE + (AC-FT)		MAXIMUM AVERAGE STORAGE			

+	(AC-FT)	(HR)	6-HR	24-HR	72-HR	29.90-HR
	4.	14.50	3.	1.	1.	1.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\*                    \*\*\*                    \*\*\*                    \*\*\*                    \*\*\*

HYDROGRAPH AT STATION                    DAM  
FOR PLAN 1, RATIO = 5.60

PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	29.90-HR
+	(CFS)	(HR)					
	1136.	14.50	(CFS)	723.	262.	214.	214.
			(INCHES)	1.539	2.240	2.265	2.265
			(AC-FT)	352.	524.	529.	529.

PEAK STORAGE	TIME		6-HR	MAXIMUM AVERAGE STORAGE	24-HR	72-HR	29.90-HR
+	(AC-FT)	(HR)					
	1.	14.50					
			1.	1.	1.	1.	1.

CUMULATIVE AREA = 4.38 SQ MI

\*\*\*                    \*\*\*                    \*\*\*                    \*\*\*                    \*\*\*

HYDROGRAPH AT STATION                    DAM  
FOR PLAN 1, RATIO = 7.20

PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	29.90-HR
+	(CFS)	(HR)					
	1598.	14.50	(CFS)	1015.	368.	299.	299.
			(INCHES)	2.154	1.127	1.159	1.159
			(AC-FT)	503.	731.	738.	738.

PEAK STORAGE	TIME		6-HR	MAXIMUM AVERAGE STORAGE	24-HR	72-HR	29.90-HR
+	(AC-FT)	(HR)					
	7.	14.50					
			4.	2.	1.	1.	1.

CUMULATIVE AREA = 4.38 SQ MI

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS  
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES  
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION						
				RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	
				2.50	3.20	4.20	5.00	5.60	7.20	
HYDROGRAPH AT	PASCAC	4.38	1	FLOW	404.	547.	775.	976.	1137.	1600.
				TIME	14.40	14.50	14.50	14.50	14.50	14.50
ROUTED TO	DAM	4.38	1	FLOW	404.	546.	774.	975.	1136.	1598.
				TIME	14.50	14.50	14.50	14.50	14.50	14.50

\*\*\* NORMAL END OF HEC-1 \*\*\*

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.....
FLOOD HYDROGRAPH PACKAGE (HEC-1)
      JUN 1998
      VERSION 4.1
.....
RUN DATE 27OCT05 TIME 11:07:24
.....

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.....
U.S. ARMY CORPS OF ENGINEERS
HYDROLOGIC ENGINEERING CENTER
609 SECOND STREET
DAVIS, CALIFORNIA 95616
(916) 756-1104
.....

```

## DAM WATER ELEVATION DROPPED 2' BEFORE STORM

```

X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXXXX XXXX X XXXXX X
X X X X X X
X X X X X X
X X XXXXXXX XXXXX XXX

```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1G, HEC1DB, AND HEC1KW. THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT. THE DEFINITION OF -AMSK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION.

NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE, SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY, DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL, LOSS RATE:GREEN AND AMPT INFILTRATION, KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

HEC-1 INPUT PAGE 1

```

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5 ID
6 ID ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES
7 ID JUNE, 2005 -RVR
8 ID
9 ID ANALYSIS PARAMETERS:
10 ID EXISTING FEMA STORAGE
11 ID STORM RECURRENCE INTERVALS = 100 YEAR
12 ID HYDROGRAPH METHOD: SCS
13 ID RAINFALL DISTRIBUTION: SCS TYPE III
14 ID
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16 ID 2 YEAR: 3.2 INCHES
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23 ID BY FEMA. THE ADOPTED 100 YEAR FEMA DISCHARGE IS 1600 CFS. SITE
24 ID DISCHARGES CALIBRATED TO MATCH THE 100 YEAR FLOOD AS CALCULATED
25 ID
26 ID FROM THE RATIONAL METHOD,
27 ID *DIAGRAM
28 IT 6 0 0 300
29 IO 3 0
JR PREC 2.5 3.2 4.2 5 5.6 7.2

30 KK PASCACRUNOFF FROM THE PASCACK BROOK SUB-BASIN TO HYENGA LAKE DAM
31 KM
32 KM *****
33 KM * DRAINAGE AREA = 2741 AC = 4.28 SQ. MI.
34 KM * TIME OF CONCENTRATION = 2.23 HRS
35 KM *****
36 KM
37 KO 1 1 21
38 BA 4.382
39 PB 1.0
40 IN 6
41 PC 0 0.001 0.002 0.003 0.004 0.005 0.006 0.007 0.008 0.009
42 PC 0.010 0.011 0.012 0.013 0.014 0.015 0.016 0.017 0.018 0.019
43 PC 0.020 0.021 0.022 0.023 0.024 0.026 0.027 0.028 0.029 0.030
44 PC 0.030 0.031 0.032 0.034 0.035 0.036 0.037 0.038 0.040 0.041
45 PC 0.042 0.043 0.045 0.046 0.047 0.049 0.050 0.051 0.053 0.054
46 PC 0.055 0.057 0.058 0.060 0.061 0.063 0.064 0.066 0.067 0.069
47 PC 0.070 0.072 0.074 0.075 0.077 0.079 0.080 0.082 0.084 0.085
48 PC 0.087 0.089 0.091 0.093 0.095 0.097 0.100 0.103 0.106 0.109
49 PC 0.112 0.115 0.118 0.121 0.124 0.127 0.130 0.134 0.137 0.140
50 PC 0.144 0.148 0.151 0.155 0.159 0.163 0.167 0.171 0.176 0.180
51 PC 0.185 0.189 0.194 0.199 0.205 0.210 0.216 0.222 0.228 0.235
52 PC 0.242 0.250 0.258 0.266 0.276 0.287 0.298 0.312 0.328 0.363
53 PC 0.416 0.500 0.584 0.638 0.673 0.689 0.702 0.714 0.725 0.734

```

HEC-1 INPUT PAGE 2

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
54 PC 0.743 0.751 0.758 0.766 0.772 0.779 0.785 0.790 0.796 0.801
55 PC 0.806 0.811 0.816 0.821 0.825 0.829 0.834 0.838 0.842 0.845
56 PC 0.849 0.853 0.857 0.860 0.864 0.867 0.870 0.874 0.877 0.880
57 PC 0.886 0.889 0.892 0.895 0.898 0.900 0.903 0.906 0.908 0.910
58 PC 0.911 0.913 0.915 0.917 0.919 0.920 0.922 0.924 0.925 0.927

```

59	PC	0.929	0.930	0.932	0.933	0.935	0.936	0.938	0.939	0.941	0.942
60	PC	0.944	0.945	0.946	0.948	0.949	0.951	0.952	0.953	0.955	0.956
61	PC	0.957	0.958	0.960	0.961	0.962	0.963	0.965	0.966	0.967	0.968
62	PC	0.969	0.971	0.972	0.973	0.974	0.975	0.976	0.977	0.978	0.979
63	PC	0.981	0.982	0.983	0.984	0.985	0.986	0.987	0.988	0.989	0.990
64	PC	0.991	0.992	0.993	0.994	0.995	0.996	0.997	0.998	0.999	1.000
65	LS	1.0	32.621	30							
66	UD	2.33									

67	KF	DAM									
68	RO		1		1					21	
69	RM	ROUTE FLOWS THROUGH HYENGA LAKE									
70	RS	1	ELEV	406	0						
71	SA	4.588	4.973	5.394	5.759						
72	SE	406	408	410	412						
73	SQ	0	0	679	1920						
74	SE	406	408	410	412						
75	KM										
76	RO		1		1					21	
77	SE										

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW  
 NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW  
 10 PASCAC  
 V  
 V  
 67 DAM

(\*\*) RUNOFF ALSO COMPUTED AT THIS LOCATION

```

*****
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* ENGINEERS * JUN 1998 *
* ENGINEERING CENTER *
* * VERSION 4.1 *
* STREET *
* 95616 *
* * RUN DATE 27OCT05 TIME 11:07:34 *
* *
*****
  
```

U.S. ARMY CORPS OF  
 HYDROLOGIC  
 609 SECOND  
 DAVIS, CALIFORNIA  
 (916) 756-1104

-----EXIST10.HICUT-----

HYDROLOGY FOR: HYENGA LAKE #03151  
 TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK

ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES  
 JUNE, 2005 -RVR

ANALYSIS PARAMETERS:  
 EXISTING FEMA STORAGE  
 STORM RECURRENCE INTERVALS = 100 YEAR  
 HYDROGRAPH METHOD: SCS  
 RAINFALL DISTRIBUTION: SCS TYPE III

24 HOUR RAINFALL DATA: 1 YEAR: 2.5 INCHES  
 2 YEAR: 3.2 INCHES  
 5 YEAR: 4.2 INCHES  
 10 YEAR: 5.0 INCHES  
 25 YEAR: 5.6 INCHES  
 100 YEAR: 7.2 INCHES

\*\* NOTE: TOTAL RAINFALLS CALIBRATED TO MATCH THE 100 YEAR FLOW AS PUBLIS  
 BY FEMA. THE ADOPTED 100 YEAR FEMA DISCHARGE IS 1600 CFS. SITE  
 DISCHARGES CALIBRATED TO MATCH THE 100 YEAR FLOOD AS CALCULATED

FROM THE RATIONAL METHOD.

28 IO OUTPUT CONTROL VARIABLES  
 IPRNT 3 PRINT CONTROL  
 IPLOT 0 PLOT CONTROL  
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA  
 NMIN 6 MINUTES IN COMPUTATION INTERVAL  
 IDATE 1 0 STARTING DATE  
 ITIME 0000 STARTING TIME  
 NO 300 NUMBER OF HYDROGRAPH ORDINATES  
 NDDATE 2 0 ENDING DATE  
 NDTIME 0554 ENDING TIME  
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .10 HOURS  
 TOTAL TIME BASE 29.90 HOURS

ENGLISH UNITS  
 DRAINAGE AREA SQUARE MILES  
 PRECIPITATION DEPTH INCHES  
 LENGTH, ELEVATION FEET  
 FLOW CUBIC FEET PER SECOND  
 STORAGE VOLUME ACRE-Feet  
 SURFACE AREA ACRES  
 TEMPERATURE DEGREES FAHRENHEIT

JP           MULTI-PLAN OPTION  
              NPLAN                   1   NUMBER OF PLANS  
JR           MULTI-RATIO OPTION  
              RATIOS OF PRECIPITATION  
              2.50      3.20      4.20      5.00      5.60      7.20

30 KX       PASCAC        RUNOFF FROM THE PASCACY BROOK SUB-BASIN TO HYENGA LAKE DAM

              DRAINAGE AREA = 2741 AC = 4.28 SQ. MI.  
              TIME OF CONCENTRATION = 2.23 HRS

37 KC        OUTPUT CONTROL VARIABLES  
              IPRNT            3   PPRINT CONTROL  
              IPLLOT           1   PLOT CONTROL  
              QSCAL            0   HYDROGRAPH PLOT SCALE  
              IPNCH            1   PUNCH COMPUTED HYDROGRAPH  
              ICOUT            21   SAVE HYDROGRAPH ON THIS UNIT  
              ISAV1            1   FIRST ORDINATE PUNCHED OR SAVED  
              ISAV2            300   LAST ORDINATE PUNCHED OR SAVED  
              TIMINT           .100   TIME INTERVAL IN HOURS

40 IN        TIME DATA FOR INPUT TIME SERIES  
              JXMIN            6   TIME INTERVAL IN MINUTES  
              JXDATE          1   0   STARTING DATE  
              JXTIME          0   0   STARTING TIME

SUBBASIN RUNOFF DATA

38 BA        SUBBASIN CHARACTERISTICS  
              TAREA            4.38   SUBBASIN AREA

PRECIPITATION DATA

39 PB        STORM            1.00   BASIN TOTAL PRECIPITATION

41 PI        INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.01	.01	.00	.01	.00	.00	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.08	.08	.05	.03	.02	.01	.01	.01	.01	.01	.03
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

65 LS        SCS LOSS RATE  
              STRFL            1.00   INITIAL ABSTRACTION  
              CRVNR            32.62   CURVE NUMBER  
              RTIMP            10.00   PERCENT IMPERVIOUS AREA

66 UD        SCS DIMENSIONLESS UNITGRAPH  
              TLAG            2.23   LAG

\*\*\*

UNIT HYDROGRAPH  
113 END-OF-PERIOD ORDINATES

.12	.24	.48	.77	.109	.146	.184	.233	.282	.345
410	483	560	634	699	763	808	853	882	906
921	925	928	923	919	897	872	845	817	787
754	721	680	639	592	543	499	458	420	392
363	339	314	293	272	254	239	224	209	195
182	170	157	145	134	126	118	110	102	95
89	83	77	71	66	62	57	53	49	46
43	40	37	35	33	30	28	26	25	23
21	20	18	17	16	15	14	13	12	11
10	10	9	9	8	8	7	7	6	6
5	5	4	4	4	3	3	2	2	2
2	1	0							

TOTAL RAINFALL = 1.00, TOTAL LOSS = .70, TOTAL EXCESS = .30

PEAK FLOW        TIME  
+ (CFS)        (HR)  
              6-HR            24-HR            72-HR            29.50-HR  
              (CFS)

+	152.	14.40		94.	35.	28.	28.
			(INCHES)	.201	.297	.300	.300
			(AC-FT)	47.	69.	70.	70.
			CUMULATIVE AREA =	4.38 SQ MI			
---	---	---	---	---	---	---	---
			HYDROGRAPH AT STATION	PASCAC			
			FOR PLAN 1, RATIO =	1.50			
	TOTAL RAINFALL =	3.50,	TOTAL LOSS =	1.66,	TOTAL EXCESS =	.82	
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)			24-HR	72-HR	29.90-HR	
+	404.	14.40	(CFS)	256.	56.	78.	78.
			(INCHES)	.543	.811	.821	.821
			(AC-FT)	127.	190.	192.	192.
			CUMULATIVE AREA =	4.38 SQ MI			
---	---	---	---	---	---	---	---
			HYDROGRAPH AT STATION	PASCAC			
			FOR PLAN 1, RATIO =	1.20			
	TOTAL RAINFALL =	3.20,	TOTAL LOSS =	2.09,	TOTAL EXCESS =	1.11	
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)			24-HR	72-HR	29.90-HR	
+	547.	14.50	(CFS)	347.	129.	105.	105.
			(INCHES)	.736	1.095	1.107	1.107
			(AC-FT)	172.	256.	259.	259.
			CUMULATIVE AREA =	4.38 SQ MI			
---	---	---	---	---	---	---	---
			HYDROGRAPH AT STATION	PASCAC			
			FOR PLAN 1, RATIO =	4.20			
	TOTAL RAINFALL =	4.20,	TOTAL LOSS =	2.64,	TOTAL EXCESS =	1.56	
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)			24-HR	72-HR	29.90-HR	
+	775.	14.50	(CFS)	492.	182.	147.	147.
			(INCHES)	1.044	1.542	1.559	1.559
			(AC-FT)	244.	360.	364.	364.
			CUMULATIVE AREA =	4.38 SQ MI			
---	---	---	---	---	---	---	---
			HYDROGRAPH AT STATION	PASCAC			
			FOR PLAN 1, RATIO =	5.00			
	TOTAL RAINFALL =	5.00,	TOTAL LOSS =	3.05,	TOTAL EXCESS =	1.95	
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)			24-HR	72-HR	29.90-HR	
+	976.	14.50	(CFS)	620.	228.	185.	185.
			(INCHES)	1.315	1.932	1.953	1.953
			(AC-FT)	307.	451.	456.	456.
			CUMULATIVE AREA =	4.38 SQ MI			
---	---	---	---	---	---	---	---
			HYDROGRAPH AT STATION	PASCAC			
			FOR PLAN 1, RATIO =	5.60			
	TOTAL RAINFALL =	5.60,	TOTAL LOSS =	3.33,	TOTAL EXCESS =	2.27	
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)			24-HR	72-HR	29.90-HR	
+	1137.	14.50	(CFS)	721.	264.	214.	214.
			(INCHES)	1.531	2.240	2.265	2.265
			(AC-FT)	358.	524.	529.	529.
			CUMULATIVE AREA =	4.38 SQ MI			
---	---	---	---	---	---	---	---
			HYDROGRAPH AT STATION	PASCAC			
			FOR PLAN 1, RATIO =	7.20			
	TOTAL RAINFALL =	7.20,	TOTAL LOSS =	4.04,	TOTAL EXCESS =	3.16	
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW			
(CFS)	(HR)			24-HR	72-HR	29.90-HR	
+			(CFS)				

+ 1600. 14.50 (INCHES) 1015. 368. 299. 299.  
 (AC-FT) 2.154 3.127 3.160 3.160  
 503. 731. 738. 738.  
 CUMULATIVE AREA = 4.38 SQ MI

.....  
 .....

57 HY .....  
 DAM .....

68 RC OUTPUT CONTROL VARIABLES  
 IPRNT 3 PRINT CONTROL  
 IPLOT 1 PLOT CONTROL  
 QSCAL 0. HYDROGRAPH PLOT SCALE  
 IPNCH 1 PUNCH COMPUTED HYDROGRAPH  
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT  
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED  
 ISAV2 300 LAST ORDINATE PUNCHED OR SAVED  
 TIMINT .100 TIME INTERVAL IN HOURS

ROUTE FLOWS THROUGH HYENGA LAKE

74 RC OUTPUT CONTROL VARIABLES  
 IPPRT 3 PRINT CONTROL  
 IPLOT 1 PLOT CONTROL  
 QSCAL 0. HYDROGRAPH PLOT SCALE  
 IPNCH 1 PUNCH COMPUTED HYDROGRAPH  
 IOUT 21 SAVE HYDROGRAPH ON THIS UNIT  
 ISAV1 1 FIRST ORDINATE PUNCHED OR SAVED  
 ISAV2 300 LAST ORDINATE PUNCHED OR SAVED  
 TIMINT .100 TIME INTERVAL IN HOURS

HYDROGRAPH ROUTING DATA

70 RS STORAGE ROUTING  
 NSTPS 1 NUMBER OF SUBREACHES  
 ITYP ELEV TYPE OF INITIAL CONDITION  
 RSVRIC 406.00 INITIAL CONDITION  
 X .00 WORKING R AND D COEFFICIENT  
 71 SA AREA 4.6 5.0 5.4 5.8  
 72 SE ELEVATION 406.00 408.00 410.00 412.00  
 73 SQ DISCHARGE 0. 0. 679. 1920.  
 74 SE ELEVATION 406.00 408.00 410.00 412.00

\*\*\*

COMPUTED STORAGE-ELEVATION DATA

STORAGE .00 9.56 19.92 31.07  
 ELEVATION 406.00 408.00 410.00 412.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE .00 9.56 19.92 31.07  
 OUTFLOW .00 .00 679.00 1920.00  
 ELEVATION 406.00 408.00 410.00 412.00

\*\*\* \*\*\* \*\*\* \*\*\*

HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 2.50

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.90-HR
401.	14.60	(CFS) 256. (INCHES) 127.	92. .780 182.	74. .780 182.	74. .780 182.
PEAK STORAGE		MAXIMUM AVERAGE STORAGE			
16.	14.60	6-HR 13.	24-HR 11.	72-HR 9.	29.90-HR 9.
PEAK STAGE		MAXIMUM AVERAGE STAGE			
409.18	14.60	6-HR 408.75	24-HR 408.24	72-HR 407.87	29.90-HR 407.87

CUMULATIVE AREA = 4.38 SQ MI

\*\*\* \*\*\* \*\*\* \*\*\*

HYDROGRAPH AT STATION DAM  
 FOR PLAN 1, RATIO = 3.20

PEAK FLOW + (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	29.90-HR
542.	14.60	(CFS) 346.	126.	101.	101.



		(INCHES)	.735	1.066	1.066	1.066	
		(AC-FT)	172.	249.	249.	249.	
PEAK STORAGE	TIME		6-HR	MAXIMUM AVERAGE STORAGE	24-HR	72-HR	29.90-HR
+ (AC-FT)	(HR)		15.	11.	10.	10.	
			18.	14.60			
PEAK STAGE	TIME		6-HR	MAXIMUM AVERAGE STAGE	24-HR	72-HR	29.90-HR
+ (FEET)	(HR)		409.02	408.18	407.98	407.98	
			409.60	14.60			
		CUMULATIVE AREA =	4.38 SQ MI				

HYDROGRAPH AT STATION DAM  
FOR PLAN 1, RATIO = 4.20

		(CFS)	6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	29.90-HR
PEAK FLOW	TIME						
+ (CFS)	(HR)		451.	175.	144.	144.	
			773.	14.60			
		(INCHES)	1.042	1.518	1.518	1.518	
		(AC-FT)	244.	355.	355.	355.	
PEAK STORAGE	TIME		6-HR	MAXIMUM AVERAGE STORAGE	24-HR	72-HR	29.90-HR
+ (AC-FT)	(HR)		17.	12.	10.	10.	
			21.	14.60			
PEAK STAGE	TIME		6-HR	MAXIMUM AVERAGE STAGE	24-HR	72-HR	29.90-HR
+ (FEET)	(HR)		409.43	408.52	408.14	408.14	
			410.15	14.60			
		CUMULATIVE AREA =	4.38 SQ MI				

HYDROGRAPH AT STATION DAM  
FOR PLAN 1, RATIO = 5.00

		(CFS)	6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	29.90-HR
PEAK FLOW	TIME						
+ (CFS)	(HR)		619.	225.	181.	181.	
			973.	14.60			
		(INCHES)	1.313	1.911	1.912	1.912	
		(AC-FT)	307.	447.	447.	447.	
PEAK STORAGE	TIME		6-HR	MAXIMUM AVERAGE STORAGE	24-HR	72-HR	29.90-HR
+ (AC-FT)	(HR)		19.	13.	11.	11.	
			23.	14.60			
PEAK STAGE	TIME		6-HR	MAXIMUM AVERAGE STAGE	24-HR	72-HR	29.90-HR
+ (FEET)	(HR)		409.72	408.64	408.25	408.25	
			410.47	14.60			
		CUMULATIVE AREA =	4.38 SQ MI				

HYDROGRAPH AT STATION DAM  
FOR PLAN 1, RATIO = 5.60

		(CFS)	6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	29.90-HR
PEAK FLOW	TIME						
+ (CFS)	(HR)		720.	362.	210.	210.	
			1133.	14.60			
		(INCHES)	1.528	2.222	2.224	2.224	
		(AC-FT)	357.	519.	520.	520.	
PEAK STORAGE	TIME		6-HR	MAXIMUM AVERAGE STORAGE	24-HR	72-HR	29.90-HR
+ (AC-FT)	(HR)		20.	13.	11.	11.	
			24.	14.60			
PEAK STAGE	TIME		6-HR	MAXIMUM AVERAGE STAGE	24-HR	72-HR	29.90-HR
+ (FEET)	(HR)		409.93	408.72	408.34	408.34	
			410.73	14.60			
		CUMULATIVE AREA =	4.38 SQ MI				

HYDROGRAPH AT STATION DAM  
FOR PLAN 1, RATIO = 7.20

		(CFS)	6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	29.90-HR
PEAK FLOW	TIME						
+ (CFS)	(HR)		1014.	367.	295.	295.	
			1595.	14.60			
		(INCHES)	2.151	3.113	3.118	3.118	
		(AC-FT)	503.	728.	729.	729.	
PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE				

+	(AC-FT)	(HR)	6-HR	24-HR	72-HR	29.90-HR
	28.	14.60	23.	15.	13.	13.
	PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
+	(FEET)	(HR)	6-HR	24-HR	72-HR	29.90-HR
	411.48	14.60	410.50	408.96	408.55	408.55

CUMULATIVE AREA = 4.18 SQ MI

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS  
 FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES  
 TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION					
				RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6
				2.50	3.20	4.20	5.60	5.60	7.20
HYDROGRAPH AT									
+	PASCAC	4.18	1 FLOW	404.	547.	775.	978.	1137.	1600.
			TIME	14.60	14.50	14.50	14.50	14.50	14.50
ROUTED TO									
+	DAH	4.18	1 FLOW	401.	542.	773.	973.	1133.	1595.
			TIME	14.60	14.60	14.60	14.60	14.60	14.60
			** PEAK STAGES IN FEET **						
			1 STAGE	409.18	409.60	410.15	410.47	410.73	411.48
			TIME	14.60	14.60	14.60	14.60	14.60	14.60

\*\*\* NORMAL END OF HEC-1 \*\*\*

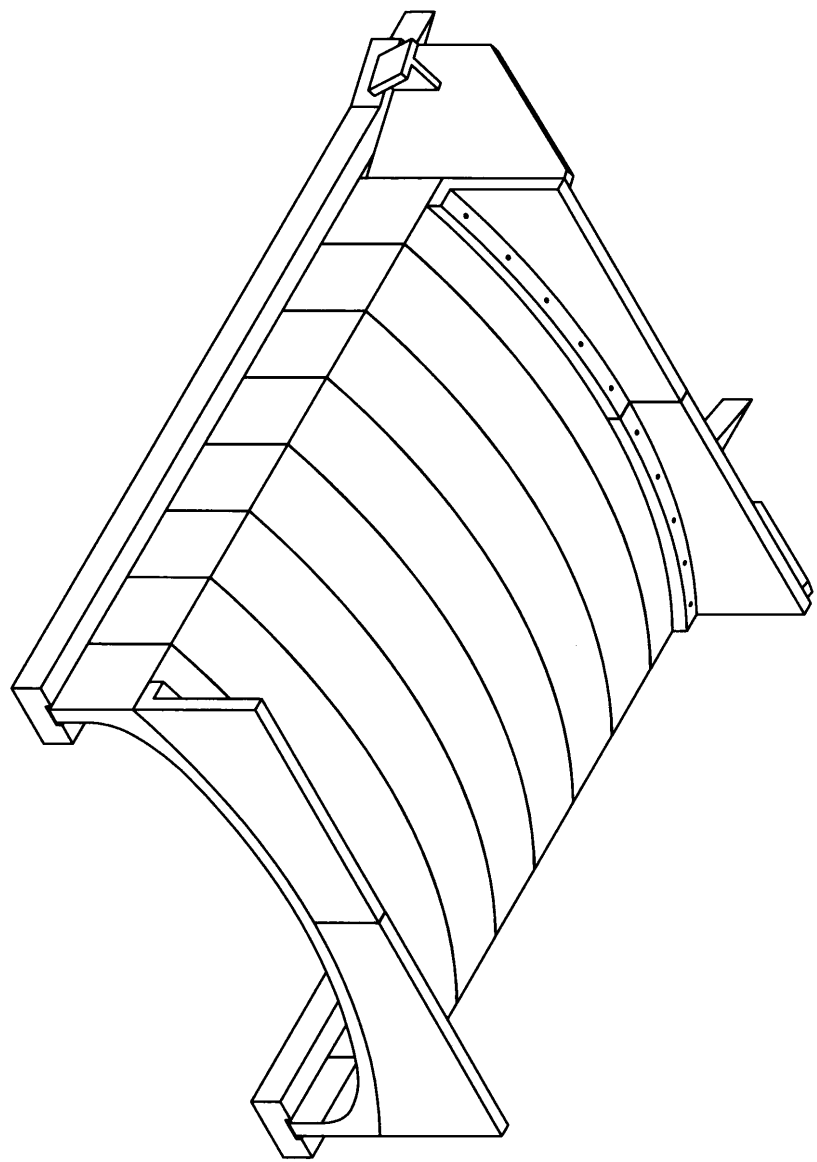
Appendix F

Hyenga Lake  
Culvert Design



**Precast Concrete Wingwall (Typical)**

	WW #1	WW #2	WW #3	WW #4
Length	10'-0" (3 048 MM)	10'-0" (3 048 MM)	=	=
Wingwall Angle	17.0°	11.0°	=	=
Height	15'-5" (4 699 MM)	15'-5" (4 699 MM)	=	=
End Height	6'-6" (1 981 MM)	6'-6" (1 981 MM)	=	=
Flat Length	1'-0" (305 MM)	1'-0" (305 MM)	=	=



**Precast Concrete Bridge Units**

No. of Cells	1
Length per Cell	48'-0" (14 630 MM)
Span	36'-0" (10 973 MM)
Rise	10'-0" (3 048 MM)
Width of Joint	1/2" (6 MM)

**Precast Concrete Headwall (Typical)**

	Upstream	Downstream
Height above unit at crown	5'-0" (1 524 MM)	5'-0" (1 524 MM)
Thickness	1'-0" (305 MM)	1'-0" (305 MM)
Attached	NO	NO

**CONSPAN SYSTEMS**  
 3100 Sherman Blvd.  
 P.O. Box 20296  
 Dayton, Ohio 45420-0296  
 (603) 528-3888

**CONSPAN SYSTEMS** © 1991

Dayton, OH (937) 284-2233  
 Charlotte, NC (704) 284-4505  
 Sacramento, CA (916) 787-8101

CONSPAN is a patented system and the furnishing of this drawing does not constitute an express or implied license.

**Hyenga Lake**

*Designed by: Von Ronn*

Date: 02/09/2006  
 Job No. 10036  
 Sheet No. CS 1/1



Appendix G  
Bioassessment Report





**ROBERT G. TORGERSEN, LA, CPESC**  
**LANDSCAPE ARCHITECTURE AND ENVIRONMENTAL SCIENCES**

THREE MAIN DRIVE, NANUET, NY 10954  
Tel 845 623 4835 Fax 845 627 6622 E mail - [rtorger@tco.com](mailto:rtorger@tco.com)

NYS LA LIC. # 451  
NJS LA CERT. # 148  
CPESC CERT # 899

April 14, 2005

**AQUATIC LIFE AND HABITAT, FAUNA, BIOTA, VEGETATION AND WETLANDS  
ENVIRONMENTAL IMPACT ANALYSIS**

**HYENGA LAKE TOWN HOMES**

**Town of Clarkstown**

**Tax ID 57.14-3-2**

**Resource - Pascack Brook**

**Prepared for the Rockland County Drainage Agency**

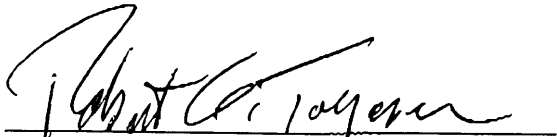
The Hyenga Lake development encompasses a 12.372 acre site through which the Pascack Brook passes. There was a Hyenga Lake Dam in the center portion of the site which has been removed in the recent past. A total of 5.35 acres of the site will be built upon, and the remainder left undisturbed in woodland and streambed habitat.

The existing stream has a rocky, gravelly bottom with no visible vegetative habitat in the stream bottom. The shoreline of the stream is highly disturbed, much having been under water when the Hyenga Lake was in existence. The stream downstream from the former dam location is channeled in a surge stone channel approximately 20 feet in width that does not contain any type of native or other habitat. The banks of the stream north and west of the proposed housing are very steep and heavily eroded since they were formerly underwater in the dammed portion of the stream. There are no native vegetative habitats along the easterly side of the stream, and the banks consist of adventurous growth of sumac, ailanthus, and other invasive species of no interest. The northern hardwood forest which is a Red Maple dominated woodland, extends along the Pipetown Hill road area and along the upper reaches of the westerly side of the stream. Much of this area has been disturbed by residential activities in the past, and no native habitat remains.

The aquatic life existing in this stream may consist of some few crawfish and salamanders, together with some of the typical freshwater stream fish such as dace and chubs. There are no significant areas on this stream that provide any habitat for any other aquatic life. This stream is therefore of low value to fish and wildlife. An inspection during the site investigation revealed no resident fish, no amphibians, no resident crayfish and very few species of macro invertebrates including aquatic insects. The only aquatic life that would be found in abundance in this stream would be very small (.5 inch) Diptera larvae (probably chironomid, black fly or shad fly larvae). Furthermore, this stream flows through a highly disturbed ecological community classified as medium density residential.

The site, being highly disturbed, should have all remaining disturbed earth areas, and eroded banks re-graded, topsoiled and seeded in a variety of native grasses and shrubs to restore

a native stream bank type of habitat. A stone rip rap may be required in some of the more vertical sections of stream bank for stability. This replacement planting and vegetative stabilization, in addition to reducing soil erosion and sedimentation into the stream environment will provide an environment for a variety of insect life, which, in turn, will attract birds and small mammals. When shrubbery shades portions of the stream bank additional aquatic habitat becomes available to begin the food chain.



Robert G. Torgersen, Landscape Architect

05220

AC  
BFriedman

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NYS LA LIC. # 451  
NJS LA CERT. # 148  
CPESC CERT # 899

## FAX TRANSMITTAL

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**Date:** February 6, 2006  
**To:** Bruce Friedman, Tim Miller Assoc  
**Fax No.** 845 265 4418  
**Pages:** 3  
**Re:** Hyenga Lake, Town of Clarkstown  
**Cc:**

- Letter and/or documents to follow by regular mail:  
 No further documents will be sent.
- 

**Message:**

Biological Survey



Appendix H

Phase 1A  
Cultural Resource Investigation



***PHASE 1A LITERATURE REVIEW &  
SENSITIVITY ANALYSIS***

**HYENGA LAKE**

**South Central Avenue & Pipetown Hill Road  
Town of Clarkstown, Rockland County, New York**

Prepared For:

**Tim Miller Associates, Inc.**  
10 North Street  
Cold Spring, New York 10516

Prepared By:

**CITY/SCAPE: Cultural Resource Consultants**  
166 Hillair Circle  
White Plains, New York 10605

March 2006

# HYENGA LAKE

South Central Avenue & Pipetown Hill Road.  
Town of Clarkstown, Rockland County, New York

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### APPENDICES:

- Appendix A: Maps & Figures
- Appendix B: Photographs
- Appendix C: Soil Description & Map



# HYENGA LAKE

## South Central Avenue and Pipetown Hill Road Town of Clarkstown, Rockland County, New York

### Introduction

The following report presents the results of a Phase 1A Literature Review and Sensitivity Analysis of the *Hyenga Lake* site, prepared for Tim Miller Associates, Inc., by CITY/SCAPE: Cultural Resource Consultants.

The Phase 1A work was performed in accordance with the requirements of the State Environmental Quality Review Act (SEQRA) 6NYCRR, part 617 of the New York State Environmental Conservation Law and to meet the standards of the New York Archaeological Council (1994), as well as relevant federal standards (36 CFR 61).

The proposed project area is located on a 12.37-acre (5.01 hectare) parcel located along South Central Avenue and Pipetown Hill Road, in Clarkstown, Rockland County, New York. (Map 1-2). The project area is an irregularly shaped parcel that can be accessed from Pipetown Hill Road, which parallels the project's southern boundary. The Conklin Park Condominium's parking lot, located on Klint Court, a small horseshoe-shaped side road off of Pipetown Hill Road, provides direct access to the project area's eastern boundary. (Photo 1-2) For the purposes of the Phase 1A report, the area of potential effect (APE) is considered to be the entire parcel.

Commercial and residential complexes dating to the 20th century characterize the project area's highly developed vicinity. South Central Avenue and Route 59, to the west and north respectively, are lined with strip-mall style businesses. Pipetown Hill Road, which parallels the project's southern boundary, is lined with apartment complexes. (Photo 3) While older structures were observed in the Clarkstown area, none were located within close proximity to the project area.

### Environmental Information

At the present time, the project area is primarily characterized by a shallow stream, the Pascack Brook, running through a steep sided gully, with small portions of fieldscape and woodland along the margins of the property. (Photos 4-5) The recent growth forest areas are mixed with underbrush. With a few exceptions, the diameter of the trees on the property indicates that the land has only recently been reforested. (Photo 6) A cluster of small structures occupies the northern portion of the project area. (Photo 2)

As noted above, the Pascack Brook, originating off the site, flows through the center of the project area in a generally west to east direction. The stream is narrow as it enters from the northwest, and widens considerably where it was previously dammed, before narrowing again in the eastern portion. The stream's banks alternate between areas of 100-year flood plain and extremely steep slopes of bedrock or earth. The Pascack Brook eventually flows in southerly direction, draining into the Hackensack River in Bergen County, New Jersey. The on-site stream occupies an area of approximately 0.573 acres (0.231 hectares), and feeds into 1.64 acres (0.663 hectares) of Army Corps of Engineers (ACOE) wetland. The wetlands follow the banks of the stream, and extend into a large, flat wetland areas in the northwestern and southeastern portions of the site. (Photo 7-8)

During the walkover, the remains of a stone and mortar structure were observed in the central portion of the site. (Photo 9-10) The remains are located on top of a high bedrock bluff along the northern stream bank, and may be associated with the cotton factory complex, which stood in this location from the mid to late 19<sup>th</sup> century. (Maps 3-5). Construction materials of a more recent date are also associated with these remains, such as metal bars and concrete. (Photo 10) These recent materials are likely associated with a dam and roadway that originally stood in this location. An Orange and Rockland Counties utilities easement runs in a north-south direction through the properties' eastern area. Utility towers are located in the southeastern corner and north central portion of the project area. (Photo 8)

The line separating the Village of Spring Valley and the Town of Clarkstown defines the northern boundary of the site, with the project area being located in Clarkstown. The southern boundary of the site is paralleled by Pipetown Hill Road, and is defined by an extremely steep slope that descends into the stream below. The remains of a cinderblock foundation and concrete construction materials were observed along the southern boundary, directly across from the above noted architectural feature. (Photo 11-12) The foundation and concrete materials are also likely associated with the former dam and roadway. A small fieldstone construction, possibly part of a foundation, was observed in the south central portion of the site. (Photo 13) This construction is located on a slope that appears to have eroded, and may be associated with one of the on-site historic structures located along the northern side of Pipetown Hill Road (Map 3-6). Additionally, a small fieldstone foundation was encountered in the southwestern corner of the site, close to the edge of the steep slope that drops into the Pascack Brook below. (Photo 14) This foundation could also be associated with historic structures located in the southwestern corner of the site. (Map 5-6) The soft bedrock and the steep topography of the area appear to foster very rapid erosion, and it is likely that further evidence of previous structures located along the stream were damaged or destroyed over time. As the walkover took place in winter, and the southern portion of the site was covered in snow, this area should be examined for additional foundations when the ground is clear.

Large portions of exposed conglomerate and sandstone bedrock were observed during the walkover, however, no veins or sizable inclusions of potential cryptocrystalline lithic resources were observed. (Photo 4)

The topography of the project area ranges in elevation from approximately 420 feet (128.016 m) above mean sea level (AMSL) around the perimeter of the property to 360 feet (109.728 m) AMSL along the Pascack Brook. As noted above, the general topography slopes sharply towards the brook. The northern portion of the site, which contains the structures noted above and overlooks the stream, also maintains an average height of 420 feet (128.016 m) AMSL.

In terms of geology, the site is located in the Brunswick Formation, which is primarily composed of unmetamorphosed arkose, mudstone, conglomerates, sandstone and siltstone laid down in the Triassic period. This formation is soft and easily eroded, and Rockland County streams tend to follow these geologic zones. As noted, the on-site stream has cut deeply through the soft bedrock, producing a steep sided gully. (Photo 15)

Soils on the project area are an important indicator of archaeological potential. The project area is located within the overall Riverhead-Hinckley-Carlisle soil zone. (Appendix C) In general, the soils on the project are described as very deep, nearly level to moderately steep, very poorly to excessively drained, with very acidic soils in bogs and depressions, and on outwash plains and terraces. (Bonnell et al, 1990) More specifically, the site's Wetherfield gravelly silt loam soils are responsible for the area being primarily used as woodland. Wetness, slope, and a high erosion rate are the main limitations to other uses. (Bonnell et al, 1990:44-45). As noted above, it appears that portions of the project area have been significantly altered due to erosion around the stream.

The project area lies within an urban zone, where the surrounding neighborhood consists of a mixture of commercial and residential buildings. Large areas of forest or other undeveloped land are rare in this part of the town. As noted above, portions of the project area are forested, and the small diameter of the trees suggests recent reforestation. As the site walkover took place in the winter, it was not possible to determine with any degree of specificity what type of plant material was present on the site.

### Potential for the Site to Contain Prehistoric or Historic Cultural Resources

As part of the initial research for the Phase 1A Literature Review, CITY/SCAPE: Cultural Resource Consultants examined the archaeological site maps housed at Peebles Island, Waterford, New York. These files indicate that no prehistoric sites have been reported within the boundaries of the project area; however, there are prehistoric sites in the vicinity. One site (NYSM 6428) is located less than a mile (1.609 km) to the south of the project area. It is located in an area of steep topography within a ½ mile of wetlands, however information for this site is anecdotal, and no more information is available. Four sites are located within a 2 mile (3.218 km) radius of the project area. NYSM 6426 is located to the northeast of the project area in an area of flat topography, and in close proximity to a water source. NYSM 6427 is located to the west of the project area, in an area of flat topography adjacent to the Erie Rail Road. NYSM 596 is the Quarry Glen Rockshelter, which is listed as a rockshelter and quarry site. The Quarry Glen Rockshelter is located in an area of very steep topography in close proximity to the Saddle River. Again, information for these sites is anecdotal, and no more information is available. In addition to the NYSM sites noted, there is one OPRHP prehistoric site (OPRHP A087.01.0087) within a 2 mile (3.218 km) radius that is described as a stray find in which 1 utilized chert flake was recovered. This site is located approximately 500 feet (150 m) from a nearby water source. The location is described as gently sloping, previously cultivated woodland.

In addition to the prehistoric sites noted, there is one historic National Register property within a 2-mile (3.2 km) radius of the project area. The Spring Valley Post Office is located approximately ½ mile (0.804 km) to the northwest of the project area. The post office was built in 1936-7, and is an intact representation of federal architecture from the public works projects of the Great Depression era. It is still in use as a federal post office.

The OPRHP and New York State Museum (NYSM) sites are listed in tabular form below:

OPRHP Site No.	Additional Site No.	Distance from APE in meters/feet	Time Period	Site Type
N/A	NYSM 6428	1,287.48m/4224'	Unknown	Unknown
N/A	NYSM 6426	2,414.01m/7920'	Unknown	Unknown
N/A	NYSM 6427	2,574.95m/8448'	Unknown	Unknown
N/A	NYSM 596	3,157.73m/10,360'	Unknown	Rockshelter/quarry
A087.01.0087		2,896.81/9504'	Unknown	Isolated find/utilized flake
N/A	OMB 1024-0018	965.61/3168'	Early 20 <sup>th</sup> century	Federal Post Office (NRL)

Although there is a recorded site located within a mile (1.6 m) of the project area, the topography of the prehistoric sites is different from that found within the project area. The topography of the Quarry Glen Rockshelter is similar to that found within the project area, in that it is located in steep terrain, but, no rock outcrops or overhangs that could have served as rockshelters or windbreaks were noted during the walkover. However, the environmental model employed by the New York State Museum (NYSM) and OPRHP suggests that the more level and undisturbed portions of the project must be considered to have a moderate potential to contain prehistoric sites. Among the factors contributing to this assessment are:

- the project area contains a stream that is a tributary of the Hackensack River, which could have provided an early route to the interior of prehistoric Rockland County.
- the project area contains a stream and wetlands that could have provided potable water, as well as floral and faunal resources, that would have been a magnet for prehistoric peoples.

## History of the Site

The material presented below is not intended to be an exhaustive examination of the history of the site, but is, rather, an exercise to locate and identify structures either on or adjacent to the project area that may be of historic significance. For this purpose, a group of historic maps available at the State Museum in Albany have provided the basis for the discussion.

Although earlier maps exist, they do not, in most cases, identify points other than major highways or individual structures. R. F. O'Connor's 1854 *Map of Rockland County, New York*, that includes the project area, shows portions of the villages of Spring Valley, Scotland Hill, Dutch Factory, and Mackie's Corners, present day Pipetown Hill Road, South Central Avenue, various other unnamed roads, the Erie Railroad, and the Pascack Brook. (Map 3) The village of Spring Valley was located at the intersection of a local farm road and the Erie Railroad. The village grew from a station stop, when in 1842, local farmers petitioned the railroad for a stop so they could more easily transport produce to New York City (National Register Inventory Form, 1986). By 1854, Spring Valley had experienced significant development, and included numerous mills and factories, stores, a hotel, a union sabbatical school, and several dwellings. In terms of the project area's vicinity, the Pascack Brook had become heavily utilized as a local energy source. The cotton factory, discussed above, is listed as a 'Cotton Store' on the map, and was located on the southern bank of the Pascack Creek in the central portion of the project area. Eight clustered structures, owned by J. Blaker & Vanriper, were located just south of the cotton store and along the present-day Pipetown Hill Road. The five structures on the northern side of Pipetown Hill Road were located within the project area. As noted above, this portion of the project area is characterized by an extremely steep slope that drops into the Pascack Brook. The three structures on the southern side of Pipetown Hill Road that are shown on the map were not located within the project area. Today this is the location of a modern apartment complex. (Photo 16) J. Blake and Vanriper also owned a factory, located a short distance to the north of the cotton store, on the southern side of the Erie Railroad. It appears that the cluster of structures, the cotton store, and the factory all comprised a corporate entity owned by J. Blake & Vanriper. A gristmill and two associated structures were located a short distance to the east. The gristmill complex was owned by J. V. Smith, and was located just outside the project's eastern boundary. A sawmill and a stocking and yarn factory, both owned by A & I. R. Blauvelt, were located a short distance to the northwest of the project area, at the intersection of present-day South Central Avenue and Route 59. R. Blauvelt owned another structure, located a short distance to the south of the stocking and yarn factory and sawmill, and just

outside the project's southwestern corner. To the south of this structure and just outside of the project area, was a structure owned by W. Willey.

Unfortunately, a dark line separating the Town of Ramapo and the Town of Clarkstown in French, Wood & Beer's 1859 *Map of Orange and Rockland County, New York* obscures a portion of the project area, and it is generally difficult to read. (Map 4) It is not possible to determine with confidence if the cotton store/factory complex remained in the hands of J Blaker & L. Vanriper. There was a new business in the vicinity, but the name is illegible beyond "...F. R. & Co.". The yarn and stocking factory was still standing, and is listed as a 'Woole Mill' [sic]. Another structure is shown in the southwestern portion of the project area that was owned by Mrs. Oakley.

By the time of F. W. Beers' 1875 *County Atlas of Rockland, New York* the project area's general location had experienced some minor changes. (Map 5-6) Present-day South Central Avenue is shown as Prospect Avenue. To the west of the project area, the dwelling owned by W. Willey in 1859 had passed to J. Wiley [sic], who was probably the heir to the estate. The dwelling occupied by Mrs. Oakley was still standing outside the southwestern boundary of the project area. The 'Woolen Mill' to the northwest was also still standing, and continued to be owned by J.C. Blauvelt. However, the nearby sawmill is no longer shown. Ownership of one of the structures to the south of the project area, on the southern side of Pipetown Hill Road, had passed to Ackerson. It is unclear if Ackerson's ownership extended to the Cotton Factory complex itself. The gristmill complex to the east of the project area had changed hands and was now owned by J. V. Smith. A structure to the south of the grist mill complex to the east of the project area was owned by J. L. E.

The final map consulted for this report was the USGS topographical map dated to 1934-6. (Map 7) The map shows significant develop in the area to the west and north of the project area, including the construction of Route 59, which would have impacted the northern portions of the project area. The cotton factory complex is no longer shown, and the Pascack Brook appears to have been dammed at a location slightly to the west of the former factory. By this time, only two structures are shown within the project area, one of them located in the approximate position of the dwelling formerly owned by Mrs. Oakley. The other structure is located to the north of this dwelling, on the northern side of the Pascack Brook.

### **Additional Research Undertaken**

As part of the research, surveys completed for sites in the general area were consulted. Among these surveys was a survey for the *Hidden Ridge Residential Development* project located directly adjacent to the project area, on the southern side of Pipetown Hill Road (Columbia Heritage, Ltd, 2002). The Phase 1A and Phase 1B reports concluded that no potentially historic or prehistoric resources were present within the project boundary. The New York State Museum completed a Phase 1A and Phase 1B survey for the *Pascack Road Connection*, located directly east of the project area, on the eastern side of Pascack Road (NYSM 8755.21.121, 1995). No archaeological sites were identified. A Phase 1 survey was conducted for the *Wireless Telecommunications Facility* site, located approximately a ½ a mile east of the project area, on the eastern side of the New York State Thruway and Route 59 overpass (Cragsmoor Consultants, 2001). This site did not yield cultural material of any kind. The New York State Museum completed a Phase 1A and Phase 1B survey for the United States Department of Transportation for approximately a 0.9 mile section of Route 59. The survey extended from Kennedy Drive to the west, to the New York State Thruway exit to the east of the project area. Three pre-1945 structures were evaluated for National Register eligibility, however, they were not deemed to have any important historical associations. A Phase 1A and

Phase 1B survey for the *Village and Town Sewer Improvements* project, located along Route 45, approximately a ½ mile from the project area, was completed in 2003 (Hartgen Archaeological Associates, Inc). Although a small amount of lithic debitage was recovered, no further archaeological investigation was recommended. The final survey consulted was for *Seton Village Senior Housing Sisters of Charity of St. Vincent De Paul of New York*, located approximately 1 mile south of the project area. Four historic artifacts were recovered, and no further archeological work was recommended (Cammissa, 2001). These reports are referenced in the bibliography.

### **Sensitivity Assessment and Site Prediction**

Professional surveys and excavations in the town of Clarkstown and the surrounding area indicate the presence of prehistoric sites in the vicinity of the project area. One professionally excavated site that contained lithic debitage is located approximately a mile (1.6 km) to the south. Another site, where a utilized flake was recovered, is located approximately 1½ miles to the south. The Quarry Glen Rockshelter site, reported as a rockshelter and quarry site, is located approximately 2 miles west of the project area.

The potential for prehistoric sites to be located on the *Hyenga Lake* property is increased by the presence of the on-site stream, which would have provided potable water, as well as floral and faunal resources for prehistoric peoples. Steep slopes lessen the potential for the site to contain prehistoric cultural resources, but, based on the NYSM and OPRHP environmental models, the more level areas are judged to have a moderate potential to yield evidence for prehistoric activity on the site.

Several historic structures were located within the boundaries of the project area, and the remains of foundations were identified during the site walk over. Additionally, historic structures were located just outside the project area. Thus, the potential for dump sites or sheet middens on the property is considered to be extremely high.

### **Conclusions and Recommendations**

#### **Prehistoric Sensitivity**

Based on the presence of a stream within the project area, and the existence of prehistoric sites in the general vicinity, the presence of prehistoric archaeological remains on the project area cannot be ruled out. It is, therefore, recommended that a Phase 1B Archaeological Field Reconnaissance Survey take place, focusing on the level portions of the property to document any prehistoric activity.

#### **Historic Sensitivity**

With respect to the potential for historic cultural resources, map research indicates that numerous historic structures were located within the boundaries of the project area. There were also structures in the vicinity of the project area. Because of the documented presence of these structures, and the high possibility of middens associated with them, a testing strategy should be designed to examine and/or identify these structures, and any midden features.

For the above noted reasons, a Phase 1B Archaeological Field Reconnaissance Survey is recommended for the *Hyenga Lake* site.

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## MAPS CONSULTED

Beers, F. W.

1875 *County Atlas of Rockland, New York*. Walker and Jewett/New York. Scale: unknown.

(Map 5)

*County Atlas of Rockland, New York*. Walker and Jewett/New York. Plate: 62. Scale: unknown.

(Map 6)

Beers, S. N., F.F. French & W. E. Wood

1859 *Map of Orange and Rockland County, New York*. Corey and Bachman. Scale: 1 ¼" = 1 mile. (Map 4)

O'Connor, R. F.

1854 *Map of Rockland County, New York*. R. F. O'Connor. New York. Scale: Unknown. (Map 3)

Hagstrom Map Company, Inc.

2002 *Rockland/Orange/Ulster Counties Atlas*. Hagstrom Map Company, Inc. Plate: 10. Scale: 1:24,000 (Map 2)

United States Geological Survey

1938 USGS Topo. 15 Minute Series. Ramapo, New York New Jersey Quad (SW). Surveyed 1934-6. Scale: 1:31,680. (Map 7)

1998 USGS Topo 7.5 Minute Series. Park Ridge Quad. Surveyed 1982. Scale 1:50,000. (Map 1)

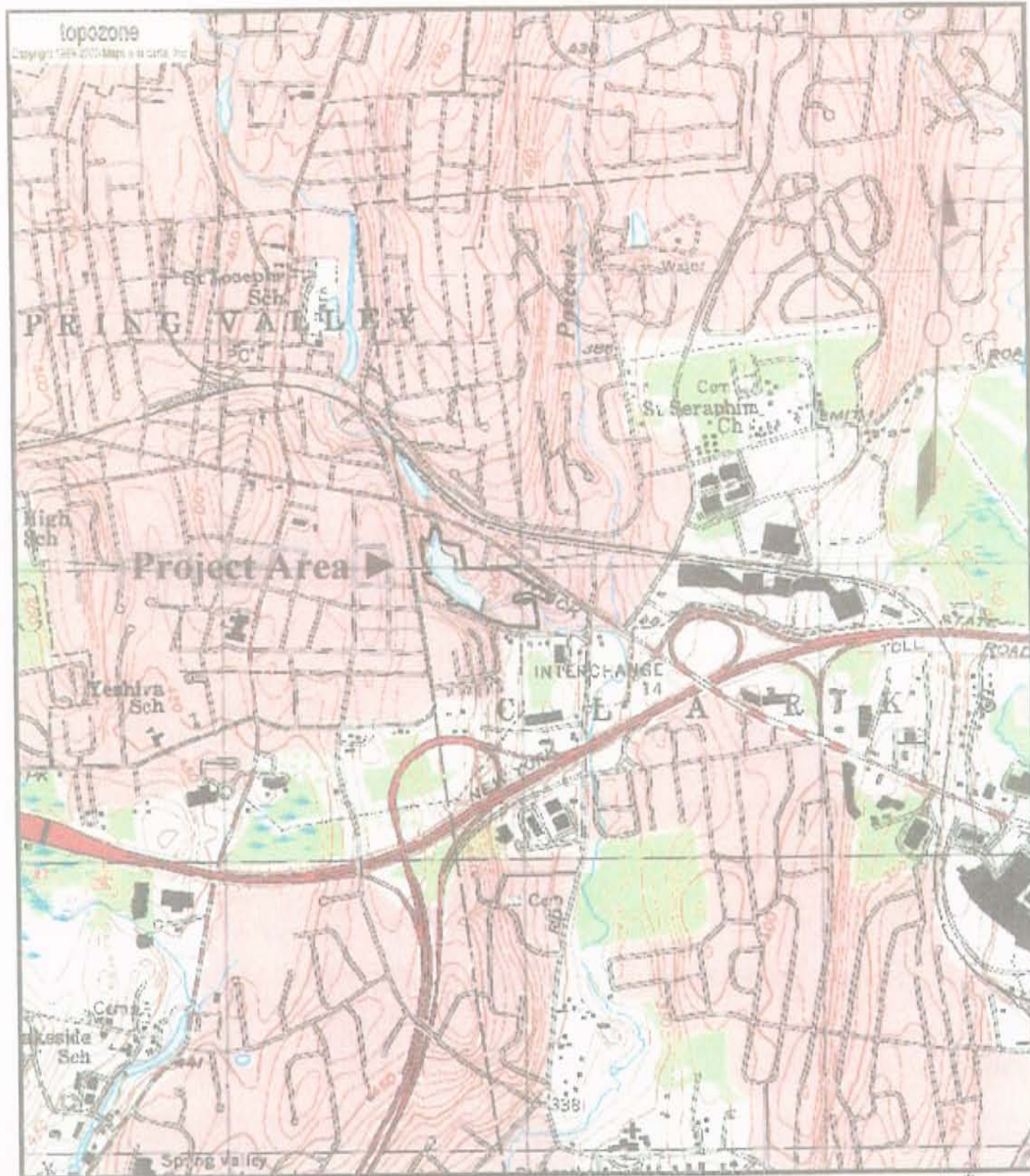


**APPENDIX A**  
**MAPS AND FIGURES**



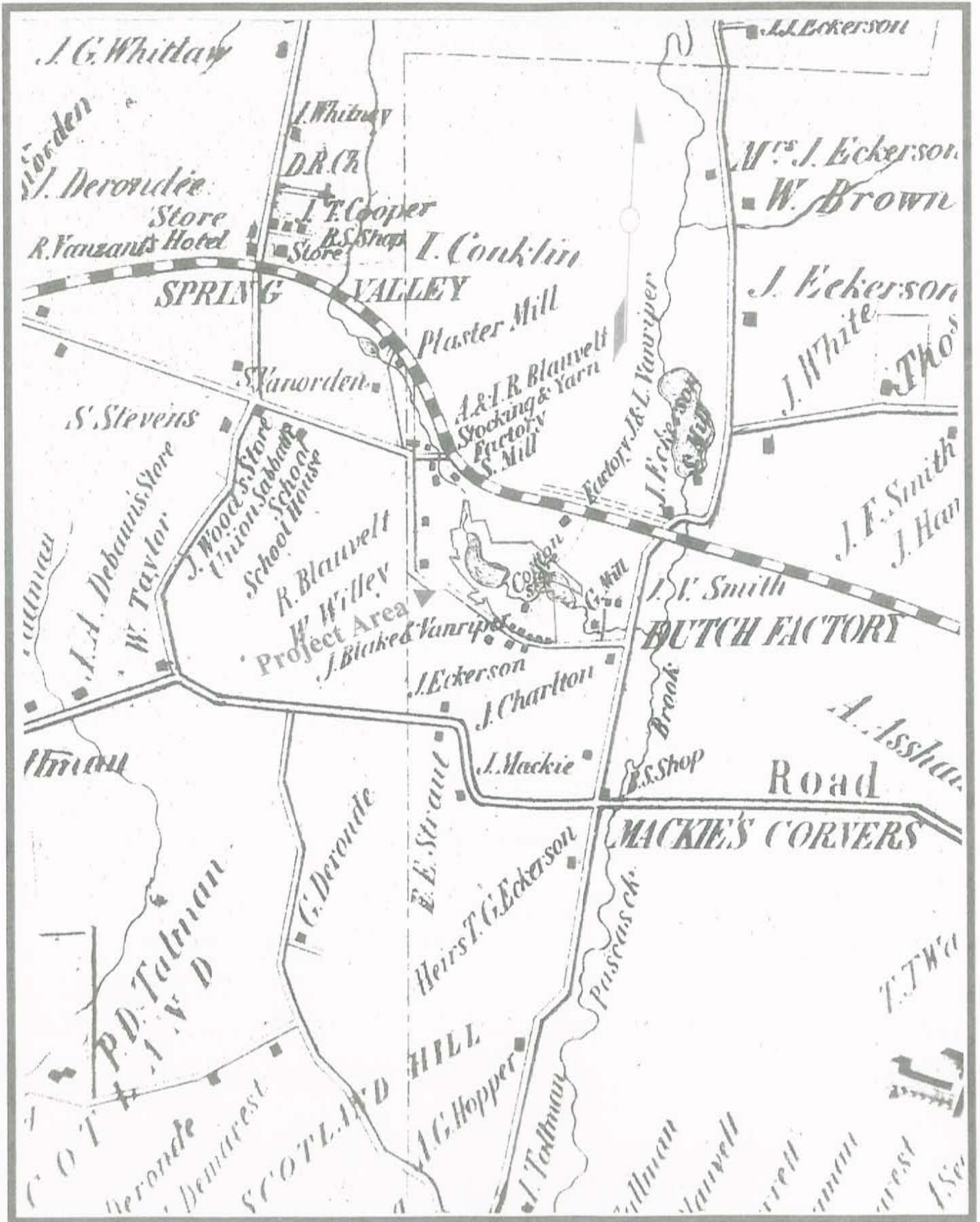
TopoZone - The Web's Topographic Map

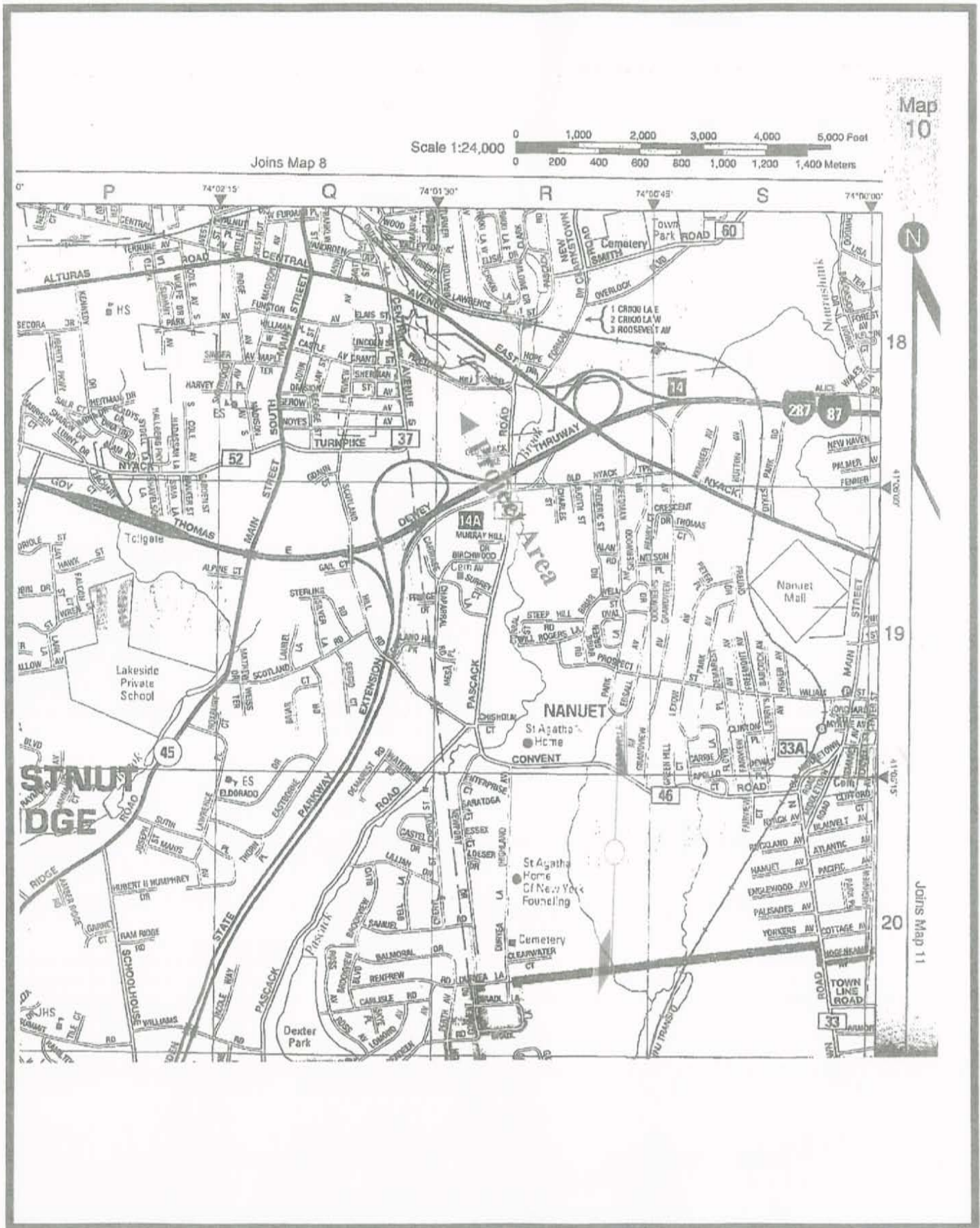
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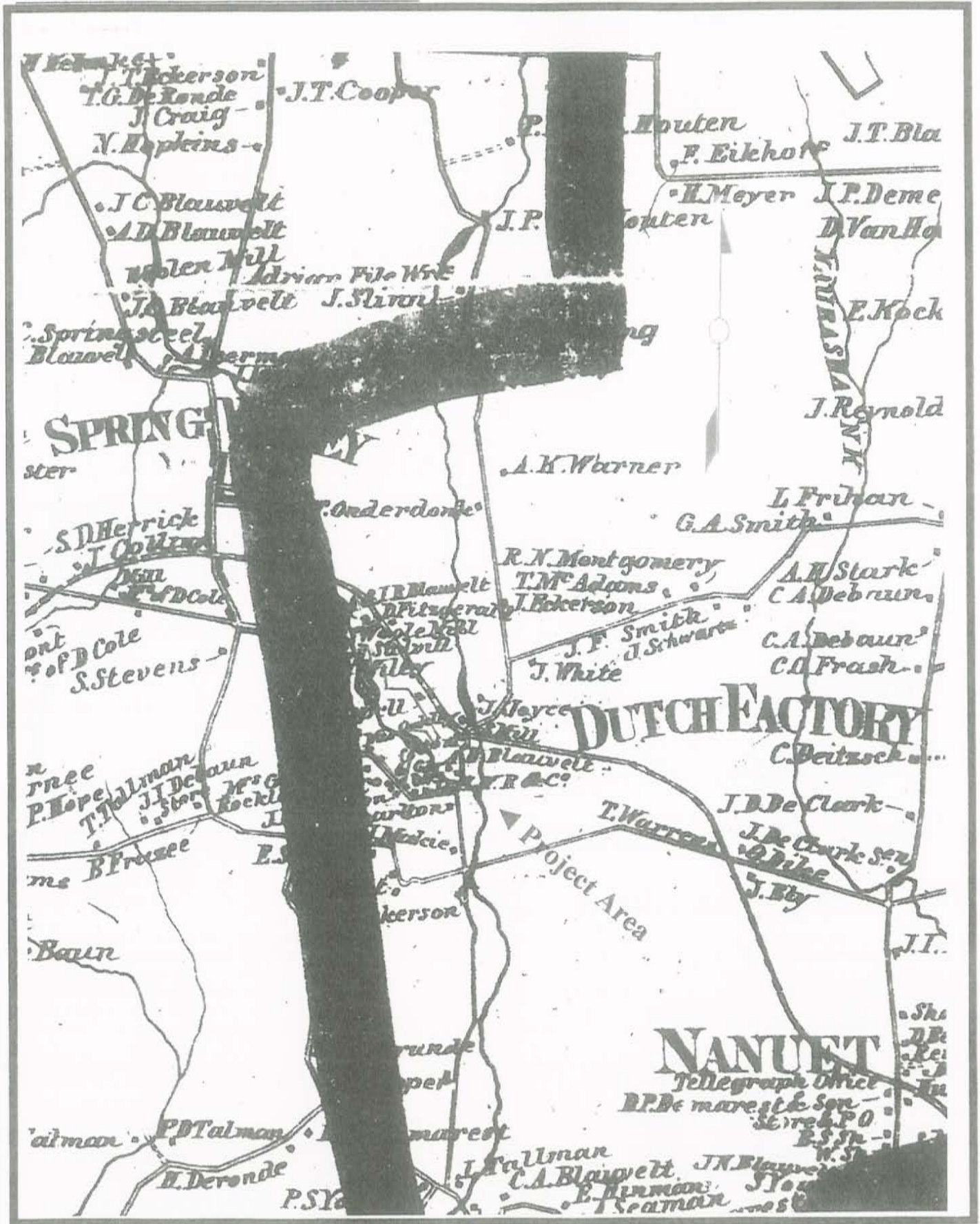


Map center is UTM 18 581010E 4550911N (WGS84/NAD83)  
**Park Ridge** quadrangle  
Projection is UTM Zone 18 NAD83 Datum

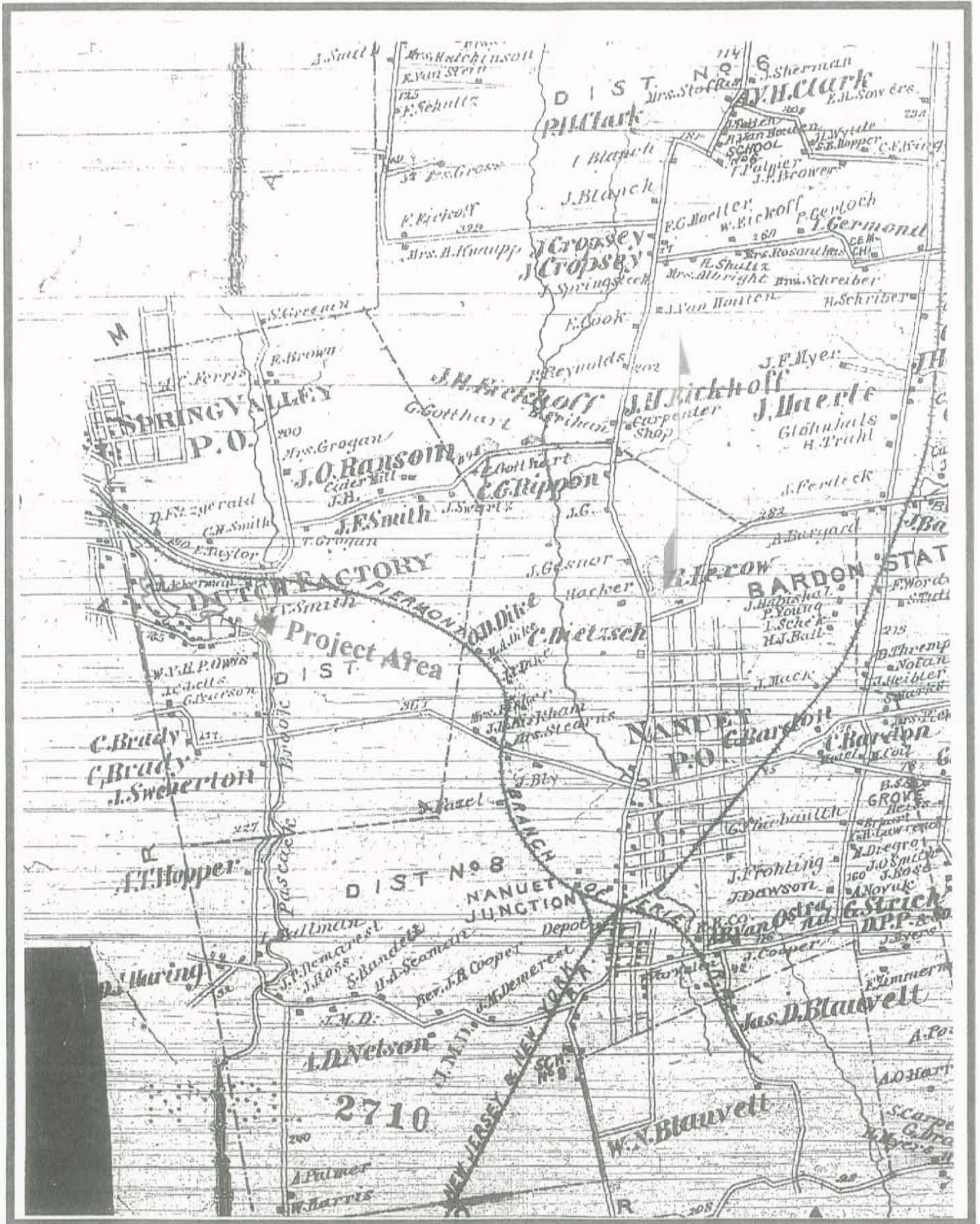
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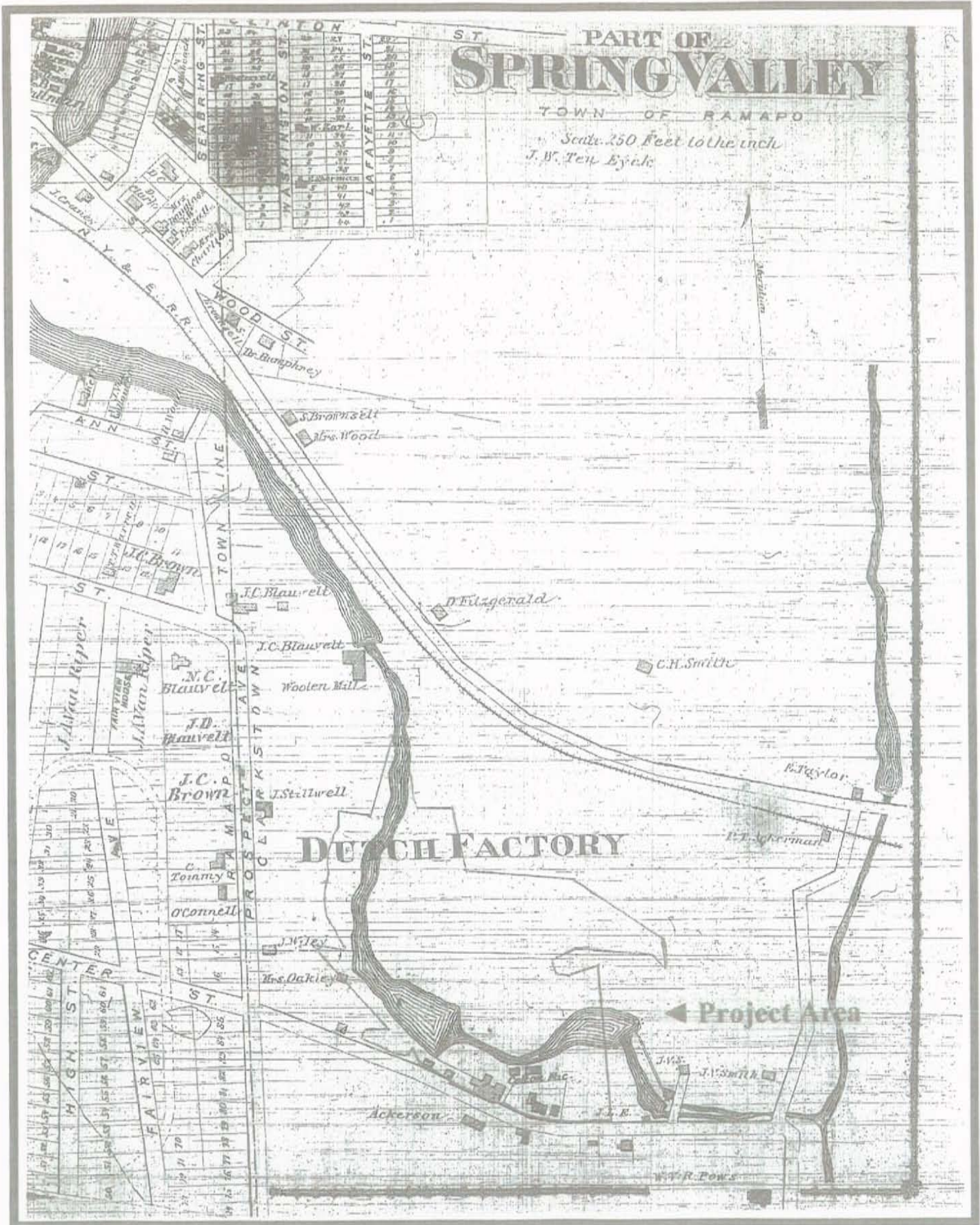


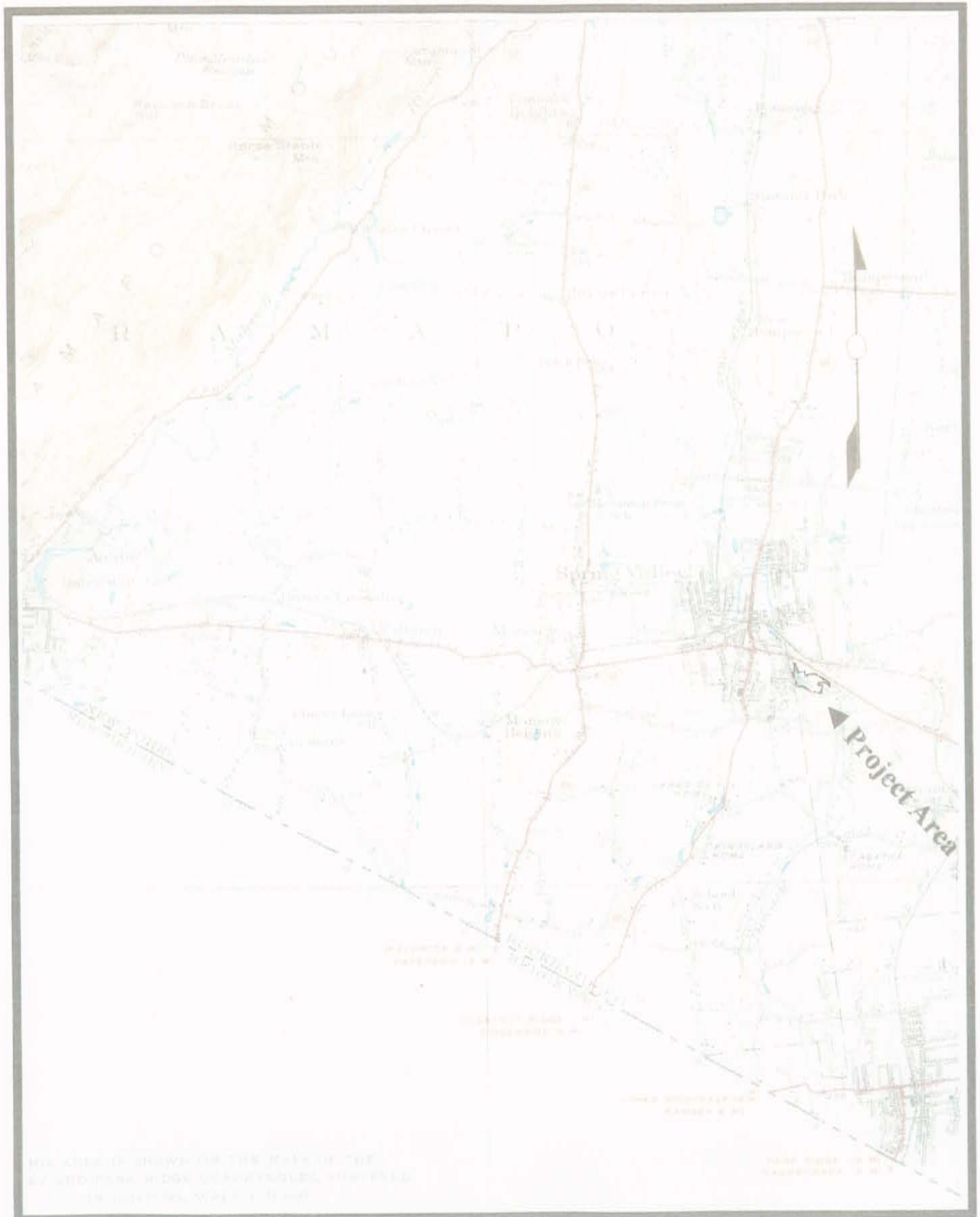














**APPENDIX B**  
**PHOTOGRAPHS**



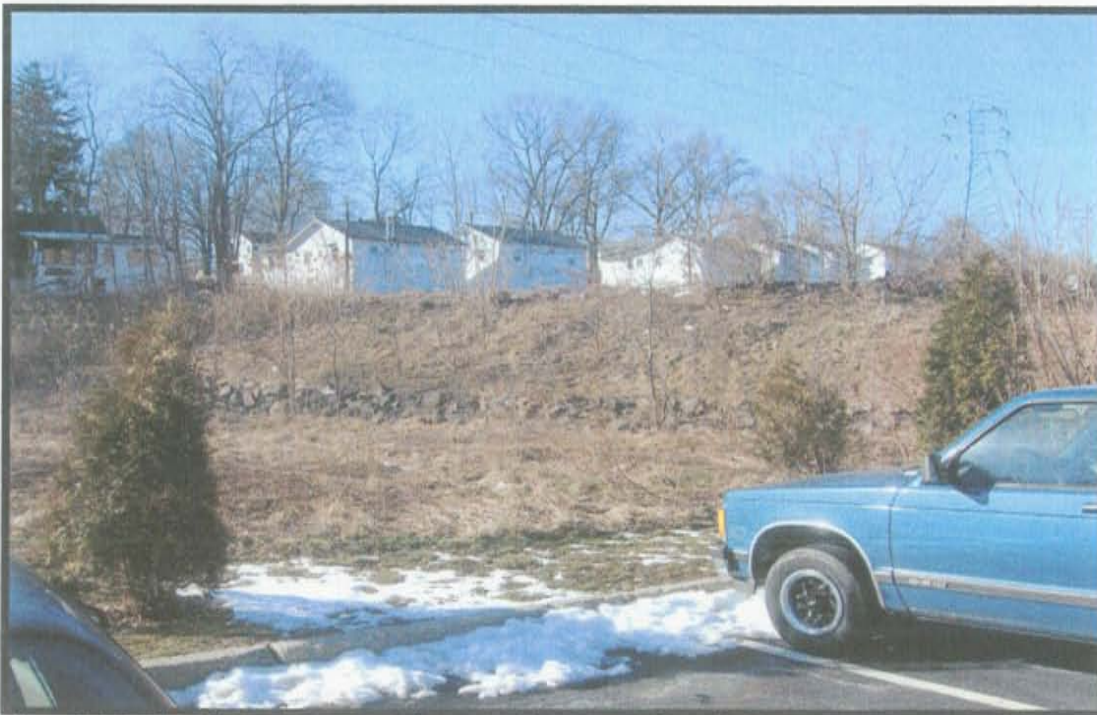
Appendix B: Photographs

Hyenga Lake, South Central Avenue & Pipe Town Hill Road, Town of Clarkstown, Rockland County, New York

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**Photo 1:** The Conklin Park Condominium's parking lot. Pipe Town Hill Road in background. View to south.

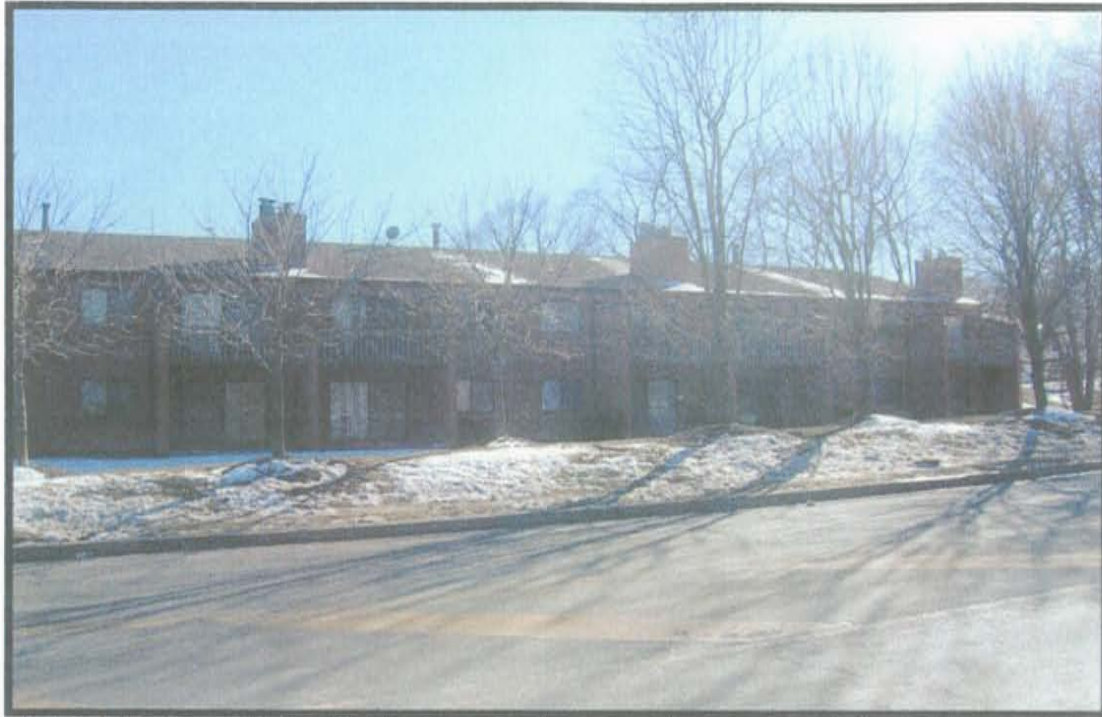


**Photo 2:** The Conklin Park Condominium's parking lot provides direct access to the eastern boundary of the project area. Dwellings in northern portion of project area in background. View to northwest.

Appendix B: Photographs

Hvenga Lake, South Central Avenue & Pipe Town Hill Road, Town of Clarkstown, Rockland County, New York

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**Photo 3:** Pipe Town Hill Road borders the project's southern boundary, and is lined with apartment complexes. View to south.



**Photo 4:** The Pascack Brook flows through the center of the project area in a generally west to east direction, often through areas of exposed bedrock. View to west.



Appendix B: Photographs

Hyenga Lake. South Central Avenue & Pipe Town Hill Road. Town of Clarkstown. Rockland County, New York

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**Photo 5:** The Pascack Brook flows through a steep sided gully, with small areas of fieldscape and forest along its margins. Pipe Town Hill Road in background. View to southwest.



**Photo 6:** View of wooded section of project area, with underbrush. Walkover took place in Winter, making it difficult to assess the extent and nature of the underbrush.

Appendix B: Photographs

Hyenga Lake, South Central Avenue & Pipe Town Hill Road, Town of Clarkstown, Rockland County, New York



**Photo 7:** View of wetland/100 year flood plain area in northwestern portion of project area. View to south looking toward Pascack Creek.



**Photo 8:** View of wetland area in southeastern portion of site, including utilities tower. View to south looking toward Pipe Town Hill Road.

Appendix B: Photographs

Hyenga Lake, South Central Avenue & Pipe Town Hill Road, Town of Clarkstown, Rockland County, New York

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**Photo 9:** Distanced view of bedrock bluff with stone and mortar remains. On-site dwellings in background. View to northwest.



**Photo 10:** Close up view of stone and mortar remains, with concrete and iron features. On-site dwellings in background. View to northeast.

Appendix B: Photographs

Hyenga Lake, South Central Avenue & Pipe Town Hill Road, Town of Clarkstown, Rockland County, New York

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**Photo 11:** View of cinderblock foundation on top of steep, heavily eroded stream bank. View to south, with Pipe Town Hill Road in background. Photo taken from stone and mortar remains.



**Photo 12:** Concrete construction materials, likely associated with former dam and roadway. View to south, looking up towards location of concrete foundation.

Appendix B: Photographs

Hyenga Lake, South Central Avenue & Pipe Town Hill Road, Town of Clarkstown, Rockland County, New York

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**Photo 13:** Small fieldstone construction, possibly part of a foundation, located in south central portion of site. View to south, with fence lining Pipe Town Hill in background.



**Photo 14:** Small fieldstone foundation located in southwestern corner of site. View to east.

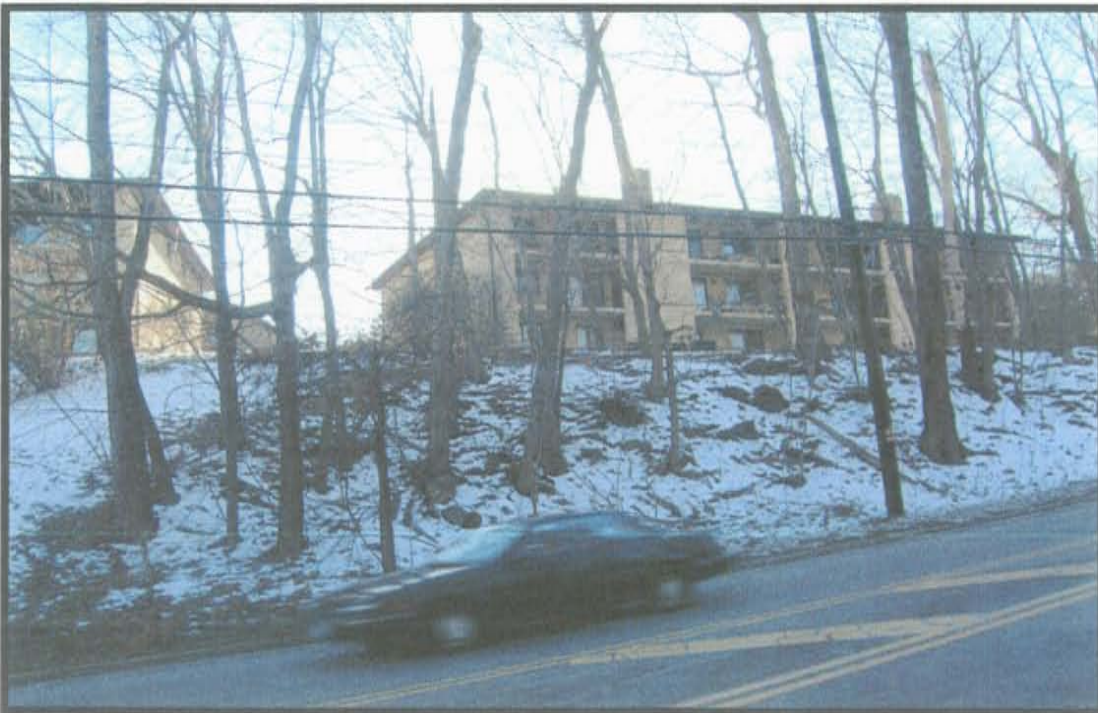
Appendix B: Photographs

Hyenga Lake, South Central Avenue & Pipe Town Hill Road, Town of Clarkstown, Rockland County, New York

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**Photo 15:** The Pascack Brook has cut deeply through the soft bedrock, producing a steep sided gully. View to the west.

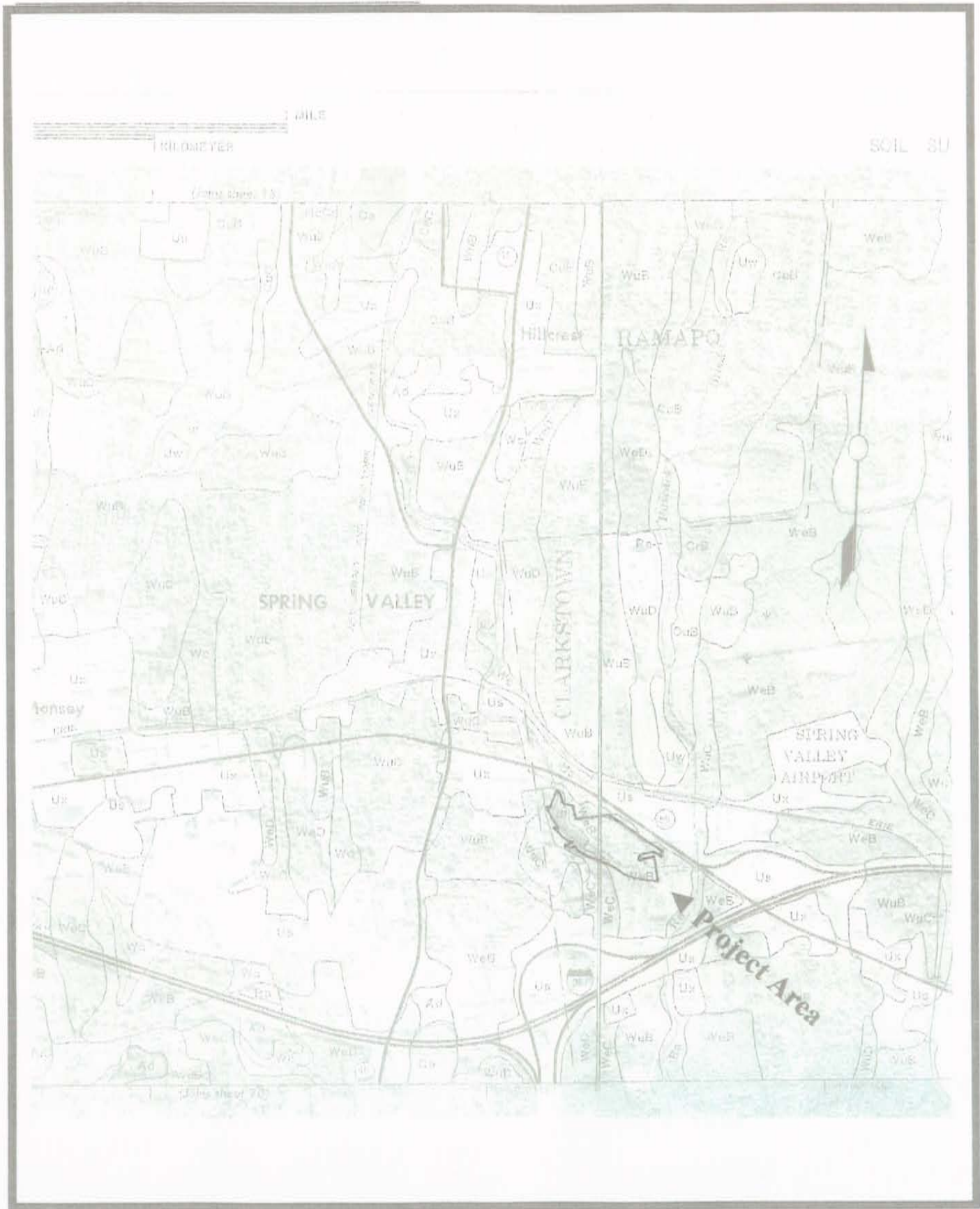


**Photo 16:** Modern apartment complex on the southern side of Pipe Town Hill Road, formerly the location of five historic structures. View to south.

**APPENDIX C**  
**SOILS INFORMATION**







Name	Soil Horizon Depth	Color	Texture/ Inclusions	Slope (Percent)	Drainage	Landform
Wethersfield gravelly silt loam (WeB)	0-13" (0-13.97cm)	Dark Brown	Gravelly silt loam	3-8%	Well drained	Very deep, gently sloping soils on ridgetops and foot slopes.
	13-22" (13.97- 71.12cm)	Reddish Brown	Gravelly loam			
	22-60" (71.12-165.10cm )	Mottled Reddish Brown	Firm and dense gravelly fine sandy loam			
Wethersfield gravelly silt loam (WeC)	0-13" (0-13.97cm)	Dark Brown	Gravelly silt loam	8-15%	Well drained	Very deep, strongly sloping soils on ridgetops, sides of ridges, and the upper parts of foot slopes.
	13-22" (13.97- 71.12cm)	Reddish Brown	Gravelly loam			
	22-60" (71.12-165.10cm )	Mottled Reddish Brown	Firm and dense gravelly fine sandy loam			
Udorthents, smoothed (Us)	0-20+" ( )	N/A	Fill; silt loam to sand	0-35%	Excessively to moderately well drained	Very deep soils that have been cut and filled, in and near urban areas.

**PHASE IB CULTURAL RESOURCES SURVEY  
SITE IDENTIFICATION PHASE  
PROPOSED HYENGA LAKE DEVELOPMENT  
TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK**

Prepared for  
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Prepared by  
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56 North Plank Road - Suite 287  
Newburgh, New York 12550

Report CA576B-2-10-06  
October 2006

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B - PHOTODOCUMENTATION

C - SUBSURFACE SAMPLING RECORD

## INTRODUCTORY SUMMARY

The study area encompasses approximately 12.4 acres (5 hectares) of flat to generally sloping to moderately and steeply sloping terrain in the Town of Clarkstown, Rockland County, in the eastern portion of the State of New York. The parcel lies north of Pipetown Hill Road and south of the commercial structures that line the southern side of NYS Route 59, locally known as the Nyack Turnpike. Pascack Brook, a tributary of the Hackensack River, passes across the southern portion of the property. A hydroelectric tower corridor owned by Orange and Rockland Utilities passes across the eastern portion of the study area.

Proposed development involves construction of residential structures in flatter, better-drained portions of the parcel and an access road crossing Pascack Brook to Pipetown Hill Road. A Phase IA site assessment study carried out in early 2006 by City/Scape: Cultural Resource Consultants identified a potential for the flatter, better drained portions of the study area to contain buried Native American era cultural remains, based on the proximity of reported sites of indigenous occupation and the known settlement patterns associated with the occupation of the region by indigenous populations.

Based on the recommendations of the Phase IA site assessment study, a Phase IB site identification survey was carried out in June and July 2006 by Columbia Heritage, Ltd of Newburgh, New York to determine whether the buried cultural resources are in fact subject to possible project impact. The survey investigated the portions of the affected area not characterized by prior removal of upper soils, steep slope, or poor drainage.

No evidence of Native American presence was encountered in the 76 screened shovel tests executed across the area of potential effect. Scattered twentieth century items, dating from the post-World War II era, were encountered in testing and noted on the ground surface. No relative concentrations of cultural material were encountered and no buried structural remains were noted.

Based on the findings of this site identification survey, proposed development impact may be seen to have no effect on buried cultural resources. The possible significance of the nineteenth century residential structure identified as potentially eligible for inclusion on the National Register of Historic Places can only be determined by the Office of Parks, Recreation and Historic Preservation staff.

## PHASE IB SITE IDENTIFICATION SURVEY

### RESEARCH DESIGN

The Phase IA site assessment study performed for this study area identified portions of the proposed roughly 12.4-acre (5-hectare) development site not characterized by steep slope, poorly drained soils, or prior serious upper soil disturbance to have a potential for containing buried Native American and/or European American era cultural remains (City/Scape 2006). This assessment was based on the knowledge that flatter, better-drained lands near streams and wetlands, such as are found on the property, are known to have been attractive to indigenous inhabitants of the region, the proximity of documented Native American occupation within the "general vicinity" and the fact that structures are shown for this area on historical maps of the township (City/Scape 2006: 6). The five Native American sites located nearest to the development parcel area have not been classified with regard to time period or culture. The potential for indigenous cultural activity is somewhat tempered by the fact that six professional archaeological surveys carried out over the past decade within one mile (1.6 kilometers) of the study area produced little or no evidence of Native American presence.

Flatter, better-drained locations near a water source have been found to have been preferred by indigenous populations in the Northeast for occupations ranging from small camps to villages. In times of turmoil, defensive considerations were added to these criteria. Steeply sloping and poorly drained areas or wetlands would generally be seen as of low potential for the occurrence of Native American cultural resources.

Exceptions to this assessment would include steeply sloping locations where lithic resources such as chert would have been accessible to indigenous populations and/or where rock overhangs and caves that could have served as shelters are present. Although poorly-drained areas would seldom be expected to contain habitation sites, the more elevated, better-drained peripheries of such places are likely to have been selected for camps from which the plant and animal resources of the wetter areas would be exploited. Such camps would have served as temporary habitation sites and locations where food was prepared, tools completed and repaired, and animal resources processed (i.e., skinned, butchered, smoked, dried) after being procured nearby.

Smaller sites, which predominate prior to the later Woodland Period and continue to occur during this time, are known to have been occupied by indigenous populations in conjunction with what was usually a seasonal exploitation of plant and animal resources. Generally, these camps would be inhabited for short periods of time, although such episodes of occupation are known to have continued on a regular basis over many centuries.

The inventory of reported archaeological sites for this area indicates that Native American occupation of the Hackensack River drainage persisted from the Palaeo-Indian through the Late Woodland period (c. 10,000BC-AD1600) and extended into the early period of European American occupation during the eighteenth century. It is therefore possible that any period of human occupation in of this region could be represented by cultural remains that might be located within the study area, although indigenous sites documented in the immediate vicinity lack temporal or cultural affiliation.

As mentioned above, occupation through at least the Middle Woodland Period was considered likely to have occurred on a seasonal basis and to have usually been associated with the exploitation of nearby plant and animal resources. The material remains of sites reflecting such behavior are most likely to be sparse, shallow and spatially restricted, although deeper cultural features and remains of structures may be present. Larger sites, usually pertaining to Woodland period occupations, may include deep refuse deposits, remains of more substantial structures and defensive constructions, such as stockades.

Because reconnaissance had revealed no outcrops of lithic material likely to have been utilized in the manufacture of stone tools, the potential for the presence of bedrock quarry sites was considered low. Outcrops present on the property consisted of sandstone. The absence of caves and rock overhangs eliminates the potential for shelters associated with such features to be present within the affected area and the absence of springs and other natural features imbued with religious significance by native cultures makes it unlikely for this class of sites to occur here. The presence of glacial outwash deposits in the form of gravels near the ground surface of the better-drained portions of the study area raises the possibility that indigenous populations in the area exploited accessible cobbles and boulders of chert, quartz, quartzite and other lithic resources suitable for the manufacture of stone tools and the potential for small stone processing stations and workshops to be present in these subareas.

Although not discussed in any detail in the Phase IA report, the affected area contains a total of 14 standing structures. Most of these are small, frame dwellings used for recreational purposes as part of a bungalow colony in the World War II era and now serving as low-rent housing. Samples of the types of buildings present are shown in Appendix B of this report. The older structures, located west of the Orange and Rockland Utilities easement that crosses the property, meet the minimum age requirements for inclusion on the State and National Register of Historic Places but are seen as unlikely to satisfy other criteria for significance. One nineteenth century building, identified near the northern edge of the affected area and in the northwest corner of the complex of existing structures, is a better candidate for eligibility. No potentially eligible structures were noted with a view of the proposed development.

The Phase IA site assessment notes that published sources identify a European American era cotton factory along the south bank of Pascack Brook within the limits of the study area, a house in the southwestern portion of the property, also south of the watercourse, and one structure located "to the north of this dwelling on the northern side of Pascack Brook" (City/Scape 2006: 5). This building was apparently constructed between 1875 and 1934, which fits the late-nineteenth century date of the potentially-eligible structure discussed above as standing in the northern portion of the parcel today.

Because this part of Rockland County has seen European American era occupation since the first half of the eighteenth century, the potential for the presence of remains of very early structures and activity areas has to be considered, particularly along early roadways, in whose proximity early buildings were usually constructed. Like smaller Native American sites, the archaeological remains of early buildings that were abandoned prior to the publication of area maps showing individual structures, eighteenth century military activity, and cultural features

associated with such sites would be likely to be spatially restricted and characterized by sparse cultural material quite shallow in vertical extent and occurring near the ground surface in areas not characterized by stream or erosion deposition. Methods selected for archaeological field investigation of locations with such potential would therefore need to be sensitive enough to detect the presence of these smaller Native and European American era sites characterized by relatively sparse cultural material, as well as larger sites.

In the case of the Hyenga Lake development parcel, this potential for impact to early sites would be restricted to the area between Pipetown Hill Road and Pascack Brook. The segment of the Nyack Turnpike (NYS Route 59) that passes to the north of the project area dates from the twentieth century and no abandoned early roads appear to have passed through the study area.



## METHODOLOGY

The affected area ranges topographically from relatively flat through gently and moderately sloping to more steeply sloping terrain. Most of the property is undulating in character. Three subareas were defined for sampling purposes: the central, north-central and northwestern area, where most of the existing buildings stand and where most of the development impact is proposed; area east of the Orange and Rockland Utilities easement, where only sewer-related facilities and an access road are planned; and the southern area between Pascack Brook and Pipetown Hill Road, where only an entrance road is proposed.

The parts of the property adjacent to both sides of Pascack Brook are characterized by dense vegetation, the areas around existing structures are grassy and for the most part maintained, and the northwestern subarea is populated by young forest and scrub vegetation, with some open grassy patches.

The plan developed for Phase IB subsurface sampling called for flatter, better drained locations within the area of potential effect to be systematically sampled by means of hand dug shovel test holes placed at intervals of approximately 50 feet (15 meters) in a grid pattern. Test holes would measure approximately 24 inches (60 centimeters) in diameter and would be executed using small hand tools. As required, their contents would be screened through 1/4-inch (6.25-millimeter) hardware cloth to facilitate the recovery of smaller cultural items. Clearing of vegetation as needed prior to sampling would be carried out using hand tools. The areas occupied by standing buildings and paved locations would be considered previously disturbed and excluded from sampling, as would subareas characterized by slopes greater than 12 percent, poor drainage featuring standing water on the ground surface, and localized rubble piles, as well as the obviously graded area in the Orange and Rockland Utilities easement occupied by transmission towers.

The location of any cultural material encountered that relates to the Native American occupation of the area would be marked with a numbered pin flag designating the test hole from which it was recovered and later recorded on the project map. Any test holes producing relative concentrations of pre-World War II European American era material would be designated for further investigation. Eight supplementary shovel tests placed at 5-foot (1.5-meter) intervals would be dug at cardinal and intercardinal points around any solitary test holes from which Native American cultural material had been recovered. More intensive sampling of such locations would allow determination of whether these finds can best be considered to represent the remains of focused or more casual cultural activity. If cultural items were recovered from adjacent test holes, focused cultural activity would be hypothesized and the subarea (s) involved would be more intensively investigated as part of a site evaluation study.

Such methods are considered adequate for detecting traces of smaller Native American camps, special purpose sites and early Euro-American era sites as well as any larger Native or European American era occupations that might be present. Evidence of more casual human activity and remains of very small buildings, such as privies, are less likely to be detected by these methods. Since the vicinity of small buildings is usually characterized by some scatter of cultural material, it was hoped the presence of cultural items that would be noted using the means outlined above would lead to the identification of these sites during the more intensive investigation that follows initial identification.

Assessment of soils present within the flatter, better-drained portions of the property on which development will take place, which contain gravels and other glacial deposits on or just beneath the ground surface, indicated a low potential for the presence of deeply buried culture-bearing soils.

## FIELD INVESTIGATION

Phase IB field investigation of the proposed development site was carried out in June and July of 2006, under good to excellent field conditions, with temperatures ranging between 65 and 85 degrees Fahrenheit (18.3 and 29.4 degrees Centigrade), and no precipitation. Ground visibility in areas populated by grasses, scrub vegetation and young trees was poor due to the density of ground cover. Soils displaced by burrowing rodents were examined for clues regarding the presence of subsurface cultural material. Soils were found to be well drained in most of the areas shovel tested and to contain a substantial component of coarse gravels and cobbles. No problems were encountered that are likely to have adversely affected the quality of the shovel test sampling. The Phase IB field investigation was performed by the Principal Investigator, assisted by Archibald Miller, Sean Lott and John Lott.

Screened shovel tests indicated culturally sterile soil consists of orange, orange tan, tan orange, tan and grey tan silt and sandy silt, under light, medium or dark brown silt, sandy silt or silt with varying proportions of sand. No evidence of a developed plow zone was noted in the subareas sampled, and sandstone bedrock was noted close to the ground surface and as outcrop in the southwestern portion of the parcel. Soils were found to contain coarse, medium and fine gravels and cobbles, often in dense concentrations in the more elevated and more steeply sloping parts of the property. Truncated upper soils were noted in the vicinity of standing structures and existing roads in the north-central portion of the project area, indicating previous stripping. Crushed gravel was also noted on the ground surface and in the upper stratum of several test holes.

The proposed construction area in the portion of the parcel east of the Orange and Rockland Utilities easement was found to be located within previously disturbed areas currently occupied by two dwellings and associated paved and gravel roadways and was subjected to limited subsurface sampling. The proposed location of an access road between Pascack Brook and Pipetown Hill Road was found to be poorly drained and only limited sampling was found to be possible there. No other impact is proposed along Pipetown Hill Road, a subarea identified as having an elevated potential for containing buried European American era cultural remains.

Subsurface sampling as described encountered no Native American cultural material. A very sparse scatter of European American era items was encountered in subsurface sampling, with all recovered material that could be assigned a temporal component dating from the twentieth century. Domestic items made up the bulk of the recovered assemblage, including industrial ceramic, clear bottle and flat glass, brown and green bottle glass, and a cigarette filter, along with iron nails, a bolt and machine parts and a steel needle. No items or structural remains associated with the early period of settlement or were identified. This cultural material was not retained for study.

The Phase IA walkover had been performed under winter field conditions. A second field reconnaissance, carried out in the absence of snow cover revealed the remains of a swimming pool to the west of the complex of existing buildings and a nearby roughly rectangular platform of concrete blocks that appears to have been associated with the recreational function of that part of the property. It appears to have supported something like a shuffleboard court or

lounging area. The remains of a chain link fence that had surrounded this subarea were noted, but no markings were present on the ground surface that might have been associated with activities such as basketball or handball. A poured solid square, possibly a support for a structure of which no trace could be observed, was noted in the southwestern portion of the parcel. Much of the area to the west of the potentially eligible structure in the northwest corner of the complex of existing buildings was found to have been largely disturbed by the construction of activity areas associated with the recreational use of the property during the twentieth century. No structural remains that might indicate the presence of pre-twentieth century buildings were encountered.

## **CONCLUSIONS AND RECOMMENDATIONS**

Systematic archaeological sampling of the flatter, better-drained portions of the study area encountered no cultural material pertaining to the Native American occupation of the region. A sparse scatter of twentieth century items was recovered in shovel testing, consisting largely of domestic refuse and iron objects associated with construction and machines. This material, along with previously undocumented structural remains in the northwestern portion of the project area, appears to have been associated with the recreational use of the property during the middle decades of the twentieth century.

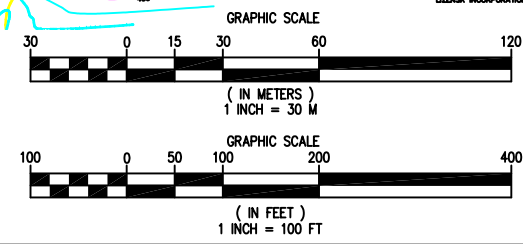
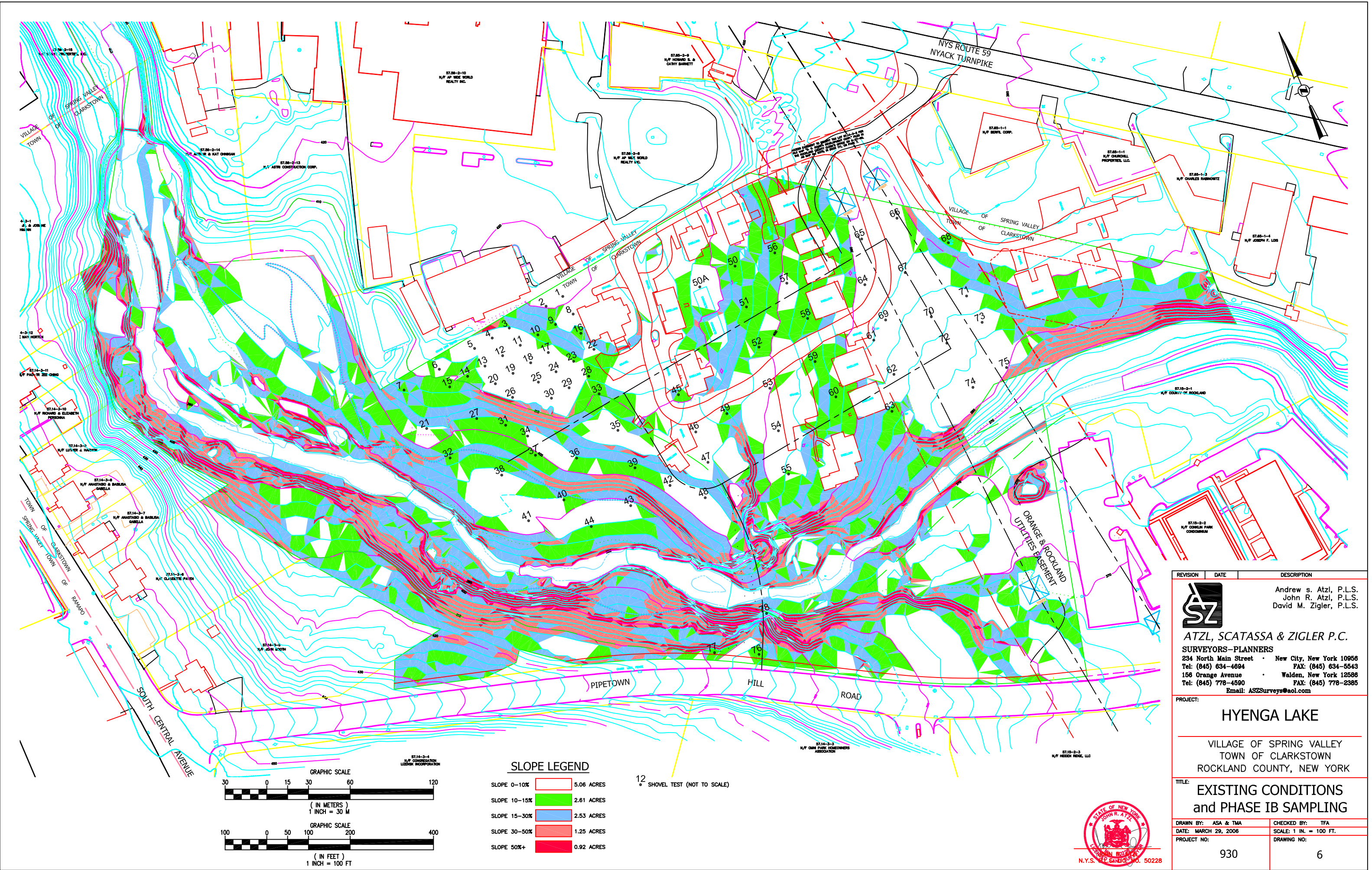
Based on the findings of the archaeological sampling as described, proposed development may be seen to have no effect on cultural resources and consequently no further cultural resource investigation is recommended.



## FIGURES








**SLOPE LEGEND**

SLOPE 0-10%	5.06 ACRES
SLOPE 10-15%	2.61 ACRES
SLOPE 15-30%	2.53 ACRES
SLOPE 30-50%	1.25 ACRES
SLOPE 50%+	0.92 ACRES

12 SHOVEL TEST (NOT TO SCALE)

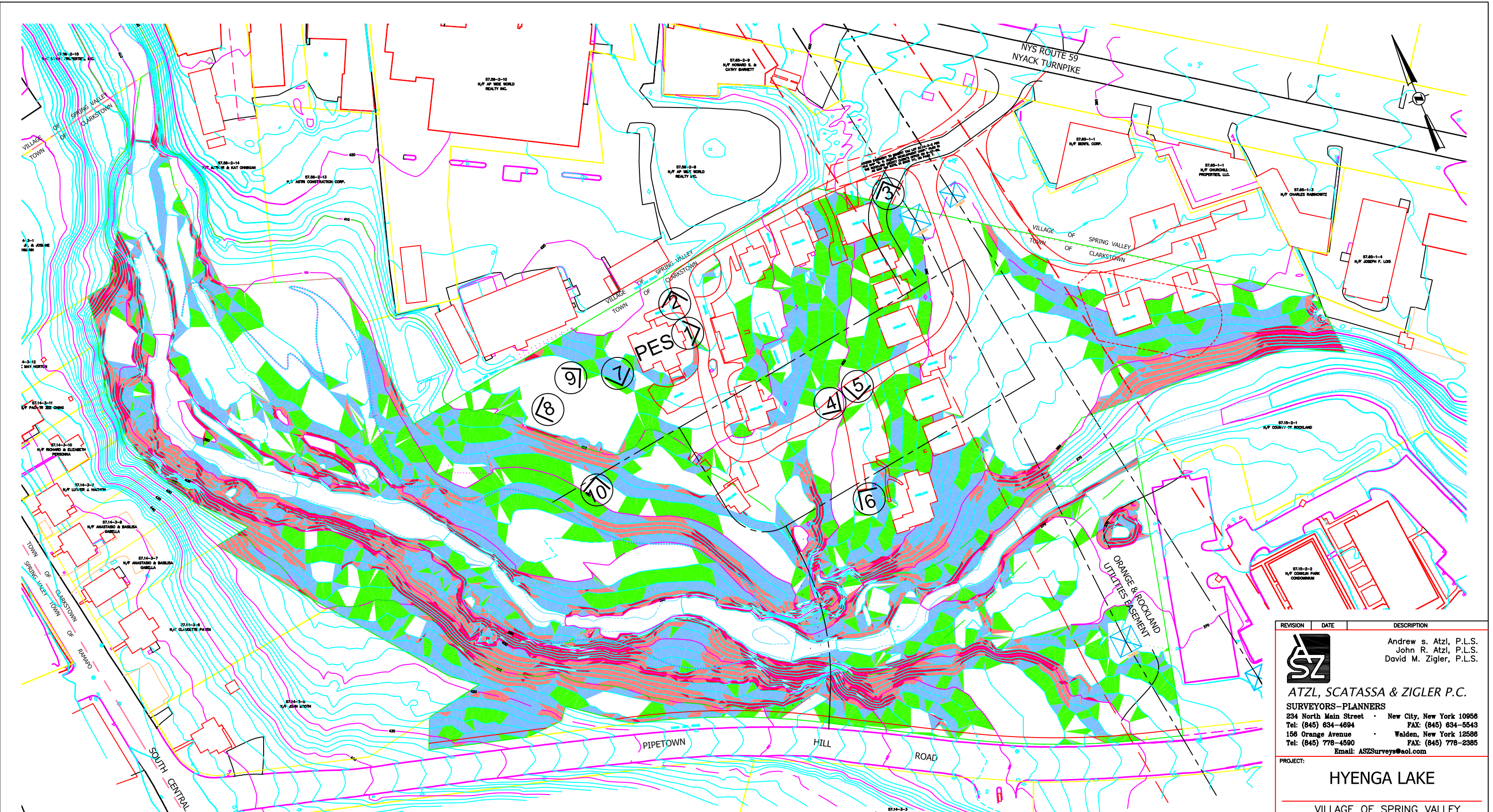
REVISION	DATE	DESCRIPTION
		
Andrew s. Atzl, P.L.S. John R. Atzl, P.L.S. David M. Zigler, P.L.S.		
<b>ATZL, SCATASSA &amp; ZIGLER P.C.</b> SURVEYORS-PLANNERS 234 North Main Street • New City, New York 10958 Tel: (845) 634-4694 • FAX: (845) 634-5543 166 Orange Avenue • Walden, New York 12586 Tel: (845) 778-4590 • FAX: (845) 778-2385 Email: ASZSurveys@aol.com		
<b>PROJECT:</b> <h2 style="text-align: center;">HYENGA LAKE</h2>		
VILLAGE OF SPRING VALLEY TOWN OF CLARKSTOWN ROCKLAND COUNTY, NEW YORK		
<b>TITLE:</b> <h2 style="text-align: center;">EXISTING CONDITIONS and PHASE IB SAMPLING</h2>		
DRAWN BY: ASA & TMA DATE: MARCH 29, 2006 PROJECT NO:	CHECKED BY: TFA SCALE: 1 IN. = 100 FT. DRAWING NO:	930 6





## **PHOTODOCUMENTATION**





**SLOPE LEGEND**

SLOPE 0-10%	5.06 ACRES
SLOPE 10-15%	2.61 ACRES
SLOPE 15-30%	2.53 ACRES
SLOPE 30-50%	1.25 ACRES
SLOPE 50%+	0.92 ACRES

PHOTO NUMBER AND ANGLE

REVISION	DATE	DESCRIPTION
<div style="display: inline-block; vertical-align: middle; margin-left: 10px;">           Andrew s. Atzl, P.L.S.            John R. Atzl, P.L.S.            David M. Zigler, P.L.S.         </div>		
<b>ATZL, SCATASSA &amp; ZIGLER P.C.</b> SURVEYORS-PLANNERS 234 North Main Street • New City, New York 10958 Tel: (845) 634-4694 • FAX: (845) 634-5543 158 Orange Avenue • Walden, New York 12586 Tel: (845) 778-4590 • FAX: (845) 778-2385 Email: ASZSurveys@aol.com		
PROJECT:		
<b>HYENGA LAKE</b>		
VILLAGE OF SPRING VALLEY TOWN OF CLARKSTOWN ROCKLAND COUNTY, NEW YORK		
TITLE:		
<b>EXISTING CONDITIONS with PHOTO LOCATIONS, ANGLES and POTENTIALLY ELIGIBLE STRUCTURE</b>		
DRAWN BY: ASA & TMA	CHECKED BY: TFA	
DATE: MARCH 29, 2006	SCALE: 1 IN. = 100 FT.	
PROJECT NO:	DRAWING NO:	
930	6	







PHOTO 1 - Potentially Eligible Structure (PES) (view to W)



PHOTO 2 - Potentially Eligible Structure (view to SW)



PHOTO 3 - Line of existing bungalows in east-central area (view to SSW)



PHOTO 4 - Existing bungalows in northwestern area (view to N)





PHOTO 5 - Existing bungalows in northeastern area (view to NE)



PHOTO 6 - Fire-damaged structure in southeast corner of complex (view to S)



PHOTO 7 - Disturbed subarea behind (W of) P E S (view to NNE)



PHOTO 8 - Remains of pool in west-central portion of parcel (view to E)



PHOTO 9 - Concrete block recreational structure in west-central area (view to W)



PHOTO 10 - Concrete support structure in western part of parcel (view to SW)



**SUBSURFACE SAMPLING RECORD**

CA576B - HYENGA LAKE

PHASE IB SUBSURFACE SAMPLING RECORD

<u>UNIT</u>	<u>STRATUM</u>	<u>DEPTH(cm)</u>	<u>SOIL PROFILE</u>	<u>CULTURAL</u>
TP-1	1	0-10	light brown sandy silt, cmf gravel, cobbles under gravel fill	industrial ceramic (NR)
	2	10-40+	orange sandy silt, cmf gravel, cobbles	none
TP-2	1	0-16	light brown sandy silt, cmf gravel, cobbles, under dark brown root/leaf mat	glass (NR)
	2	16-31+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-4	1	0-12	(same, denser gravel)	none
	2	12-29+	(same as above)	none
TP-5	1	0-10	medium brown sandy silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-27+	orange silt, some sand, cmf gravel, cobbles	none
TP-6	1	0-13	(same as above)	none
	2	13-27+	(same, trace tan)	none
TP-7	1	0-9	(same as above)	none
	2	9-20+	(same as above)	none
TP-8	1	0-34+	orange tan sandy silt, cmf gravel, cobbles	none
TP-9	1	0-8	light brown sandy silt, cmf gravel, under dark brown root/leaf mat	none
	2	8-28+	tan orange sandy silt, cmf gravel, cobbles	none
TP-10	1	0-10	(same as above)	none
	2	10-27+	(same as above)	none
TP-11	1	0-11	(same as above)	aluminum top (NR)
	2	11-27+	(same as above)	none
TP-12	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none

TP-13	1	0-11	medium brown sandy silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-28+	orange tan sandy silt, cmf gravel, cobbles	none
TP-14	1	0-9	(same, dense gravel and cobbles)	none
	2	9-25+	(same, dense gravel and cobbles)	none
TP-15	1	0-8	(same as above)	none
	2	8-26+	(same as above)	none
TP-16	1	0-11	light brown sandy silt, cmf gravel, cobbles	none
	2	11-26+	orange silt, trace tan, cmf gravel	none
TP-17	1	0-4 (concrete at 4cm)	dark brown root/leaf mat	none
TP-18	1	0-6 (concrete at 6cm)	dark brown root/leaf mat	none
TP-19	1	0-11	medium brown sandy silt, cmf gravel, under dark brown root/leaf mat	none
	2	11-27+	orange tan sandy silt, cmf gravel	none
TP-20	1	0-13	(same, with cobbles)	none
	2	13-24+	(same as above)	none
TP-21	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-22	1	0-42+	tan sandy silt, trace orange, cmf gravel	none
TP-23	1	0-11	medium brown sandy silt, cmf gravel , under dark brown root/leaf mat	steel bolt (NR)
	2	11-24+	orange tan sandy silt, cmf gravel, cobbles	none
TP-24	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-25	1	0-13	(same as above)	concrete (NR)
	2	13-26+	(same as above)	none
TP-26	1	0-11	(same, with cobbles)	galvanized fencing (NR)
	2	11-27+	(same as above)	none
TP-27	1	0-9	(same as above)	none
	2	9-21+	(same, denser gravel)	none

TP-28	1	0-10	medium brown sandy silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-23+	tan orange sandy silt, cmf gravel, cobbles	none
TP-29		(concrete - not dug)		
TP-30		(concrete - not dug)		
TP-31	1	0-11	medium brown sandy silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-22+	orange tan sandy silt, cmf gravel, cobbles	none
TP-32	1	0-9	(same, denser gravel)	none
	2	9-21+	(same as above)	none
TP-33	1	0-10	(same as above)	none
	2	10-20+	(same as above)	none
TP-34	1	0-9	(same as above)	iron nail (NR)
	2	9-17	(encountered solid rock at 17cm)	none
TP-35	1	0-12	(same as above)	none
	2	12-30+	orange tan sandy silt, cmf gravel, cobbles	none
TP-36	1	0-10	(same, dense gravel and cobbles)	none
	2	10-21+	(same, dense gravel)	none
TP-37	1	0-9	(same as above)	none
	2	9-20+	(same as above)	none
TP-38	1	0-12	moist medium brown silt, some sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-21+	moist orange silt, trace tan, trace sand, cmf gravel	none
TP-39	1	0-10	medium brown sandy silt, cmf gravel, cobbles under dark brown root/leaf mat	none
	2	10-22+	tan orange sandy silt, cmf gravel, cobbles	none
TP-40	1	0-13	(same, moister)	none
	2	13-24+	moist tan silt, trace orange, trace sand, cmf gravel	none
TP-41	1	0-16	(same as above)	none
	2	16-27+	(same as above)	none



TP-42	1	0-12	medium brown sandy silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-25+	orange sandy silt, cmf gravel, cobbles	none
TP-43	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-44	1	0-15	(same, less sand more silt)	none
	2	15-28+	(same, no cobbles)	none
TP-45	1	0-10	medium brown sandy silt, cmf gravel	none
	2	10-25+	(same as above)	none
TP-46	1	0-44+	orange tan sandy silt, cmf gravel	none
TP-47	1	0-12	medium brown sandy silt, cmf gravel, under dark brown root/leaf mat	none
	2	12-29+	(same as above)	none
TP-48	1	0-15	(same, less sand)	none
	2	15-25+	(same as above)	none
TP-49	1	0-8	light to medium brown sandy silt, cmf gravel	none
	2	8-22+	(same as above)	none
TP-50	1	0-8	(same, dense gravel, cobbles)	none
	2	14-20+	tan orange sandy silt, cmf gravel, cobbles	none
TP-50A	1	0-7	(same as above)	plastic, glass (NR)
	2	7-22+	(same as above)	none
TP-51	1	0-9	(same as above)	none
	2	9-20+	(same as above)	none
TP-52	1	0-9	(same as above)	none
	2	9-22+	(same as above)	none
TP-53	1	0-12	(same, with cobbles, under sod)	aluminum foil, cigarette filter (NR)
	2	12-23+	(same as above)	none
TP-54	1	0-10	(same, with crushed gravel fill)	none
	2	10-26+	(same as above)	none
TP-55	1	0-10	(same, denser gravel, no gravel fill)	none
	2	10-21+	(same as above)	none

TP-56	1	0-11	light to medium brown sandy silt, cmf gravel, cobbles, under sod	bottle cap (NR)
	2	11-26+	tan orange sandy silt, cmf gravel	none
TP-57	1	0-13	(same as above)	glass (NR)
	2	13-24+	(same as above)	none
TP-58	1	0-8	(same as above)	needle (NR)
	2	8-21+	(same as above)	none
TP-59	1	0-10	(same, no cobbles)	none
	2	10-22+	(same as above)	none
TP-60	1	0-8	(same as above)	cast iron gear (NR)
	2	8-21+	(same as above)	none
TP-61	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TP-62	1	0-10	(same as above)	none
	2	10-26+	orange silt, cmf gravel, cobbles	none
TP-63	1	0-8	(same as above)	none
	2	8-25+	(same as above)	none
TP-64	1	0-10	(same as above)	none
	2	10-24+	(same as above)	none
TP-65	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-66	1	0-8	(same, denser gravel and cobbles)	none
	2	8-20+	(same as above)	none
TP-67	1	0-11	(same, less dense gravel and cobbles)	none
	2	11-24+	(same as above)	none
TP-68	1	0-9	(same as above)	none
	2	9-24+	(same as above)	none
TP-69	1	0-11	(same, with crushed gravel fill)	cotter pin (NR)
	2	11-27+	(same as above)	none
TP-70	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-71	1	0-12	(same, no crushed gravel fill)	none
	2	12-23+	(same as above)	none

TP-72	1	0-11	light to medium brown sandy silt, cmf gravel, under sod	green bottle glass (NR)
	2	11-21+	(same as above)	none
TP-73	1	0-13	(same, less sand)	none
	2	13-24+	(same as above)	none
TP-74	1	0-14	medium brown sandy silt, cmf gravel, under sod	none
	2	14-25+	(same as above)	none
TP-75	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-76	1	0-11	medium brown silt, cmf gravel, under dark brown root/leaf mat	none
	2	11-22+	tan silt, trace orange	none
TP-77	1	0-10	(same as above)	none
	2	10-22+	(same as above)	none
TP-78	1	0-15	moist dark brown silt under dark brown root/leaf mat	none
	2	15-32+	very moist grey tan silt, trace clay	none

#### Abbreviations

NR = not retained  
cmf = coarse, medium, fine



Appendix I  
Traffic Reports



**JOHN COLLINS  
ENGINEERS, P.C.** TRAFFIC • TRANSPORTATION ENGINEERS

11 BRADHURST AVENUE • HAWTHORNE, N. Y. • 10532 • (914) 347-7500 • FAX (914) 347-7266

TRAFFIC IMPACT STUDY

\*\*\*\*\*

**HYENGA LAKE DEVELOPMENT**

PIPETOWN HILL ROAD

VILLAGE OF SPRING VALLEY/

TOWN OF CLARKSTOWN, NEW YORK

JOB NO. 765

MARCH 30, 2007

REVISED APRIL 25, 2007

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SECTION I  
INTRODUCTION

This study addresses the Town's request to study additional area intersections and also incorporates the information from our previous evaluations of this site which were covered in our September 5, 2003, June 2, 2004 and May 17, 2006 letters.

A. PROJECT DESCRIPTION AND LOCATION (Figure No.1)

The Hyenga Lake project calls for the construction of some 80 multi-family dwelling units with primary access via a driveway connection to Pipetown Hill Road. A secondary/emergency access to NYS Route 59 via the Wide World Auto property is also being provided. The site location is shown on Figure No. 1. A design year of 2008 is considered in this evaluation.

B. SCOPE OF STUDY

This study has been prepared to evaluate the potential traffic impacts of the proposed development on the roadway system in the area. As part of the study, detailed turning movement traffic counts were collected at various intersections in the area which were requested to be studied by the Town of Clarkstown. The Existing Traffic Volumes were then projected to a future design year utilizing a background growth factor. This growth factor was also used to account for traffic from other potential developments in the area to obtain the 2008 No-Build Traffic Volumes.

Estimates of the traffic which is expected to be generated by the proposed development were computed based on information published by the Institute of Transportation Engineers (ITE). The Site Generated Traffic Volumes were then assigned to the roadway network based on an arrival and departure distribution which was developed based on a review of existing traffic patterns in the area. The Site Generated Traffic Volumes were combined with the design year No-Build Traffic Volumes to obtain the Build Traffic Volumes for each of the intersections.

A detailed capacity analysis was conducted at each of the intersections utilizing the procedures outlined in the 2000 Highway Capacity Manual. The Existing, No-Build and Build Traffic Volumes were all analyzed for each of the peak hours to identify Levels of Service and operating conditions. Where necessary, based on the results of the analysis, recommendations for improvements were made.

## SECTION II

### EXISTING ROADWAY AND TRAFFIC CONDITIONS

#### A. DESCRIPTION OF EXISTING ROADWAY NETWORK

The proposed development is served by several area roadways and a description of each of these follows:

1. NYS Route 59 – is a roadway under jurisdiction of the NYSDOT. In the site vicinity, the roadway traverses in an east-west direction. The roadway originates to the east at U.S. Route 9W. From this point, the roadway generally traverses in a westerly direction through the Town of Clarkstown toward Suffern where it connects to NYS Route 17. This roadway generally parallels the NYS Thruway providing local and commercial access to the area. The speed limit is 45 miles per hour.
2. Pipetown Hill Road - is a two way town maintained roadway with a single travel lane in each direction. Pipetown Hill Road connects South Central Avenue to Pascack Road providing residential access to the multifamily developments in the area. The posted speed limit is 30 miles per hour.
3. Pascack Road – is County Road 35 south of Route 59 and with a single travel lane in each direction. Pascack Road runs north-south and provides

residential access from Spring Valley to Nanuet. The posted speed limit is 30 miles per hour.

4. South Central Avenue - is County Road 37 south of NYS Route 59 with a single travel lane in each direction. Access from NY Route 59 to Pipetown Hill Road is via a signalized intersection with South Central Avenue. the posted speed limit is 30 miles per hour.

B. 2006 EXISTING TRAFFIC VOLUMES (Figures No. 2 and 3)

Several area intersections were requested to be studied. These included the following:

- Pipetown Hill Road and Pascack Road
- Pipetown Hill Road and South Central Avenue
- Pascack Road and Forman Drive

Previous traffic counts in the area were collected during August 2003, May 2004 and May 2006. These were updated with new counts on March 13, 14 and April 11 and 12 of 2007. The turning movement traffic volumes for the Weekday AM (7:45-8:45 AM) and PM (4:45-5:45 PM) Peak Hours were identified for each intersection and are shown on Figures No. 2 and 3.

### SECTION III

#### EVALUATION OF FUTURE TRAFFIC CONDITIONS

A. 2008 NO-BUILD TRAFFIC VOLUMES (Figures No. 4 and 5)

The Existing Traffic Volumes were increased by a background growth factor of 2% per year to the 2008 Design Year. This factor was used to account for normal growth and other potential development traffic. The resulting 2008 No-Build Traffic Volumes were shown on Figures No. 4 and 5 for the Weekday AM and PM Peak Hours, respectively.

B. SITE GENERATED TRAFFIC VOLUMES (Table No. 1)

The site generated traffic volumes were computed for the proposed 80 unit development based on information published by the Institute of Transportation Engineers as contained in their report entitled Trip Generation, 7<sup>th</sup> Edition, 2003. Table No.1 summarizes the hourly trip generation rates and corresponding site generated traffic volumes for the development.

C. ARRIVAL AND DEPARTURE DISTRIBUTIONS (Figures No. 6 and 7)

The anticipated arrival and departure distributions for the site generated traffic volumes were developed based upon a review of existing traffic patterns in the area and the resulting distributions are shown on Figures No. 6 and 7. It should be noted that for the purpose of this analysis all site traffic is expected to use the Pipetown Hill Road access.

D. 2008 BUILD TRAFFIC VOLUMES (Figures No. 8, 9, 10 and 11)

The Site Generated Traffic Volumes shown in Table No. 1 were added to the roadway network based on the arrival and departure distributions. The resulting Site Generated Traffic Volumes are shown on Figures No. 8 and 9. These Site Generated Traffic Volumes were combined with the 2008 No-Build Traffic Volumes to obtain the 2008 Build Traffic Volumes which are shown on Figures No. 10 and 11 for the AM and PM peak hours, respectively.

E. DESCRIPTION OF ANALYSIS PROCEDURES

In order to determine existing and future traffic operating conditions at the study area intersections, it was necessary to perform capacity analyses. The following is a brief description of the analysis method utilized in this report:

o Signalized Intersection Capacity Analysis

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the 2000 Highway Capacity Manual, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation

near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

o Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the 2000 Highway Capacity Manual. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "D" of this report.

F. TRAFFIC ANALYSIS RESULTS AND RECOMMENDATIONS (Table No. 2)

Utilizing the procedures described above as outlined in the 2000 Highway Capacity Manual, each of the intersections was reanalyzed. Table No. 2 summarizes the Levels of Service for the intersections for each of the peak hours. As can be seen from a review of this table, under the Build conditions, the Levels of Service will be comparable to the No-Build condition with relatively minor increases in average vehicle delays. In addition, at

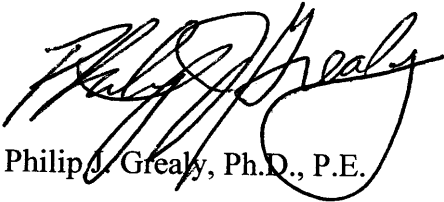
the intersection of Pipetown Hill Road and South Central Avenue, the traffic signal timings should be modified to accommodate the future traffic volumes regardless of the proposed project.

G. SUMMARY AND CONCLUSIONS

Based on the analysis results, the proposed access plan will allow traffic to access the roadway network without any significant negative impact on the surrounding intersections. Note that the final design of the driveway connection to Pipetown Hill Road should be detailed to ensure that the maximum sight distances are provided.

Respectfully Submitted,

JOHN COLLINS ENGINEERS, P.C.

A handwritten signature in black ink, appearing to read 'Philip J. Grealy', written over a circular stamp or seal.

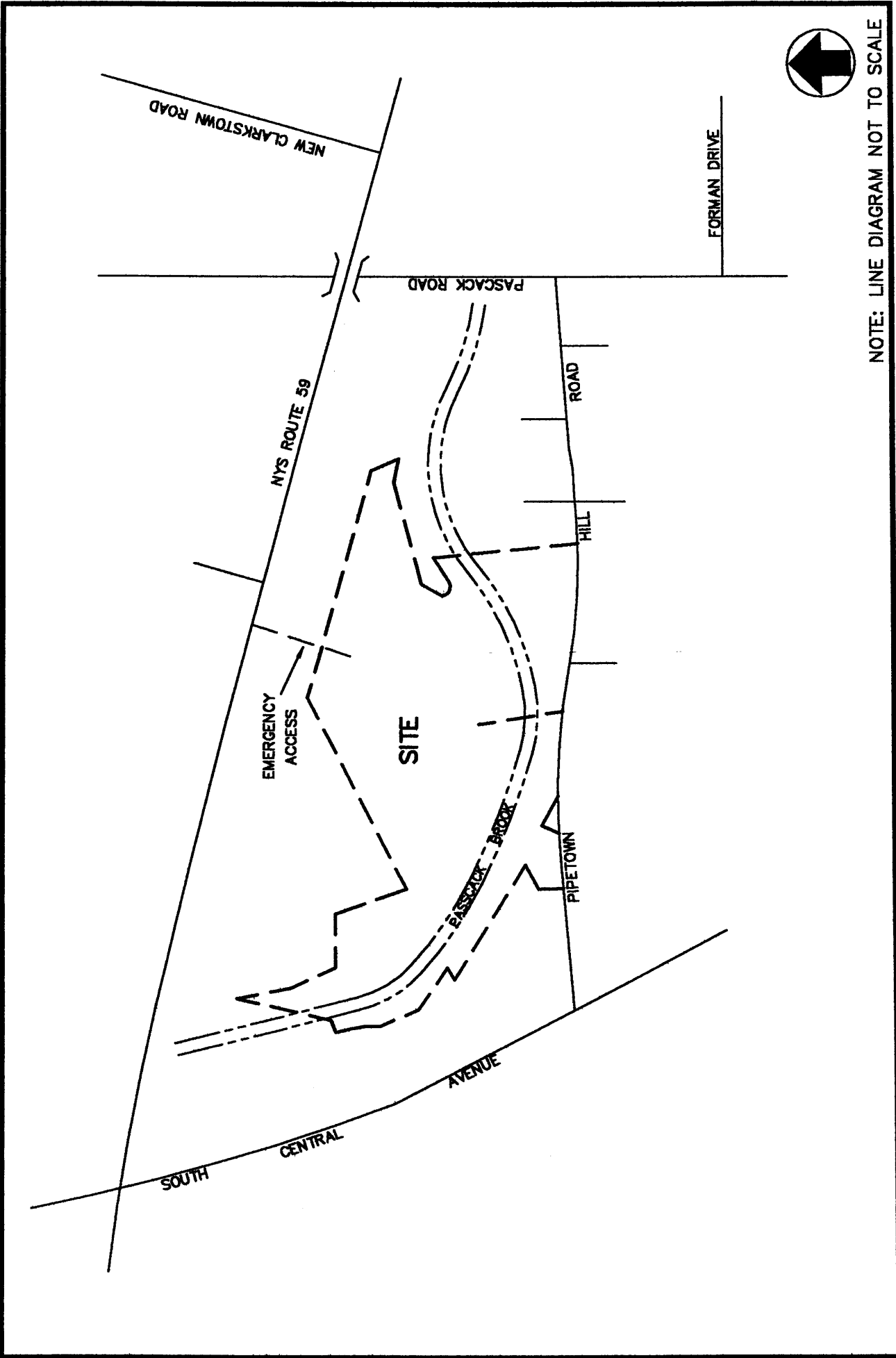
Philip J. Grealy, Ph.D., P.E.



**APPENDIX "A"**

**FIGURES**





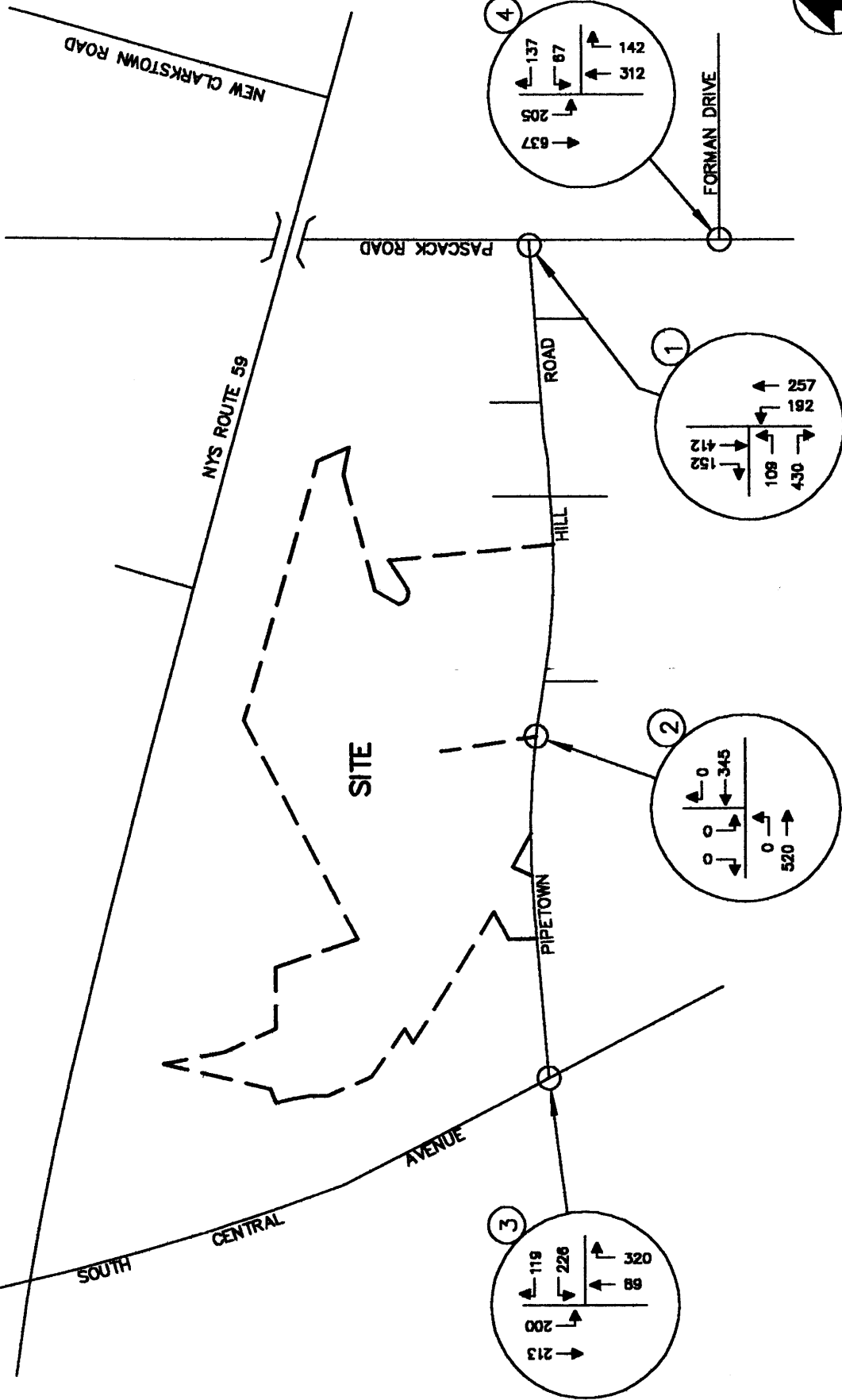
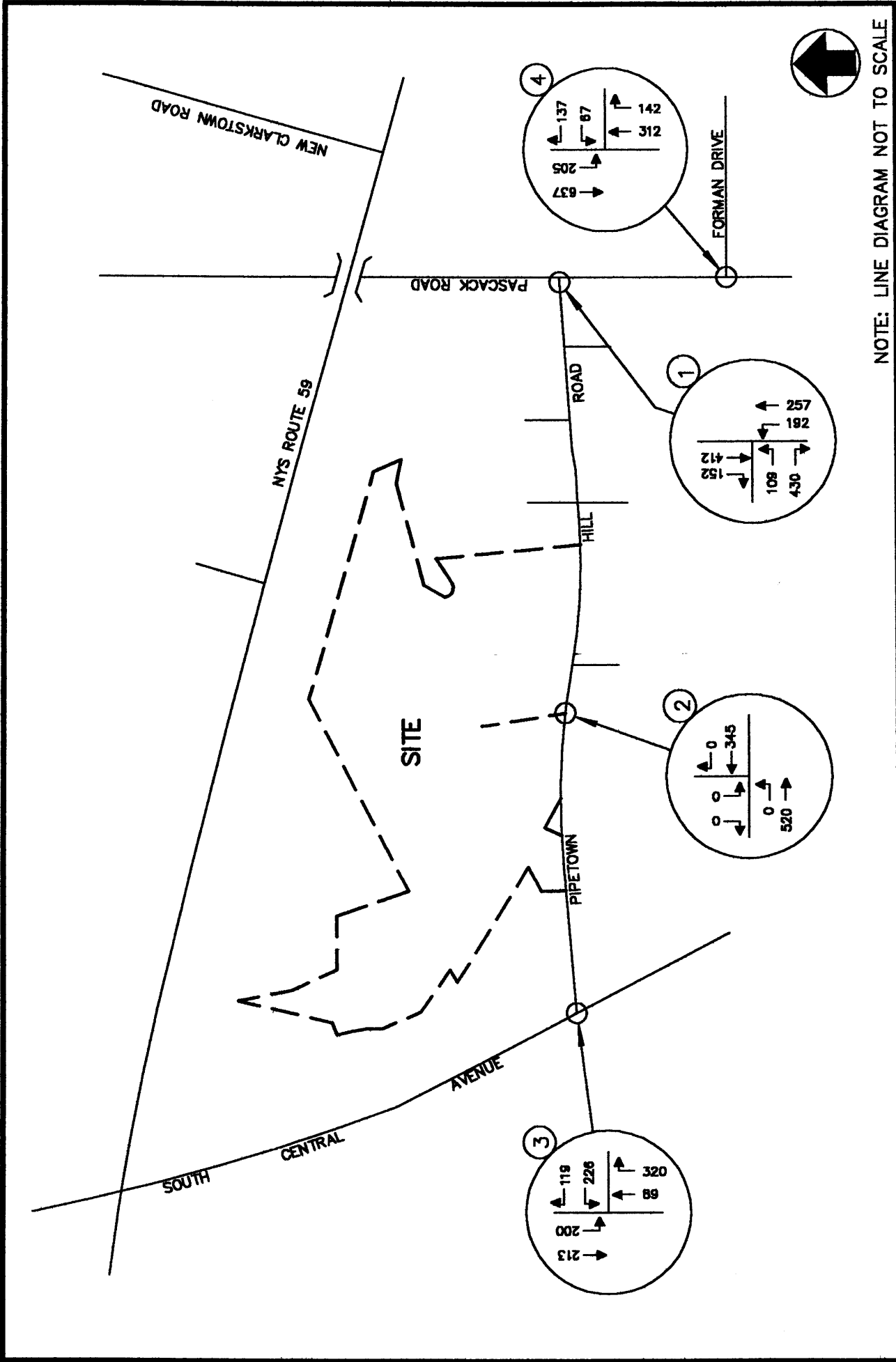
SITE LOCATION MAP

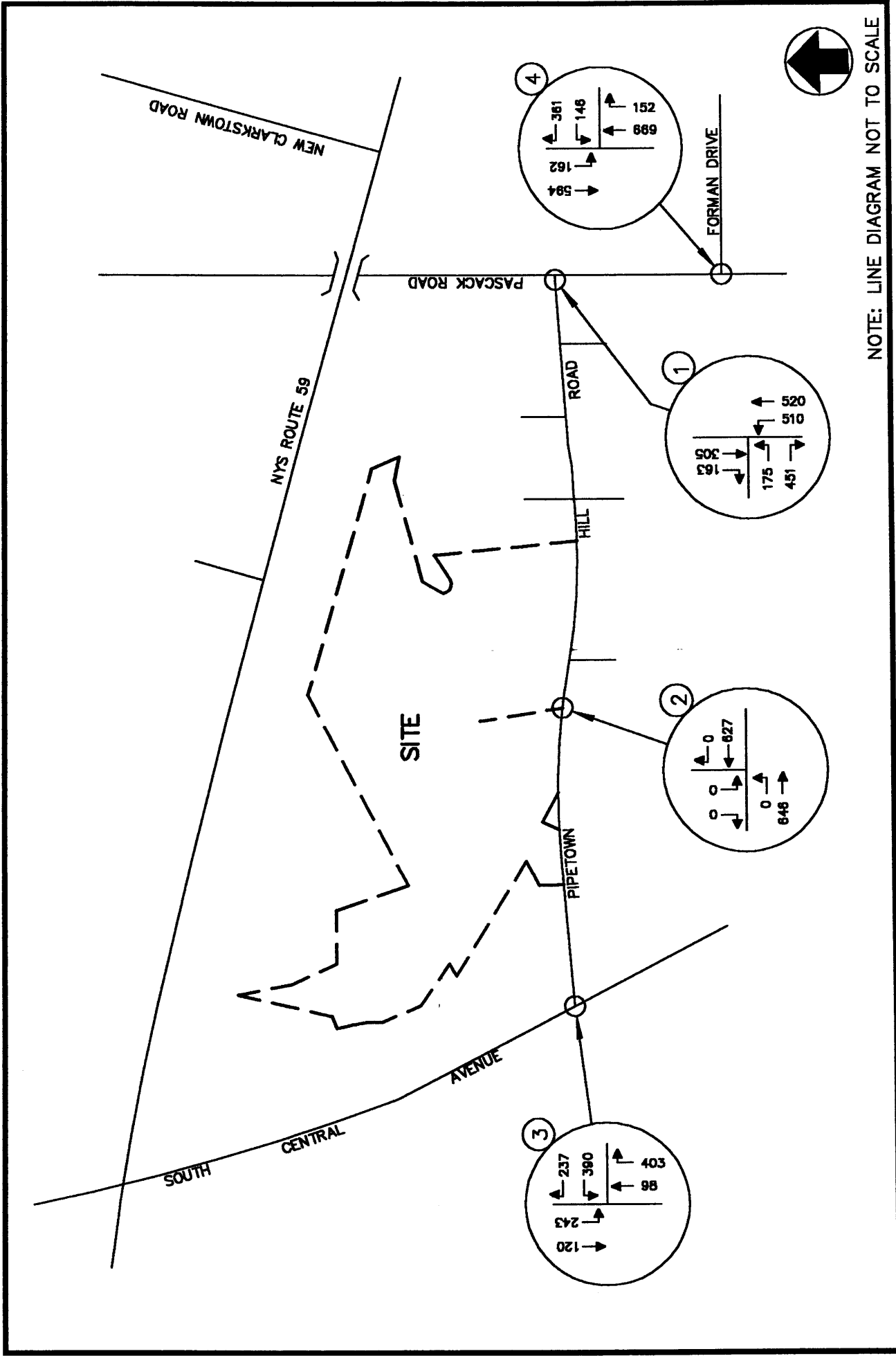
HYENGA LAKE  
 SPRING VALLEY/CLARKSTOWN, NEW YORK

JOHN COLLINS ENGINEERS, P.C.  
 HAWTHORNE, NEW YORK

PROJECT NO. 765 DATE: APRIL 2007

FIG. NO. 1

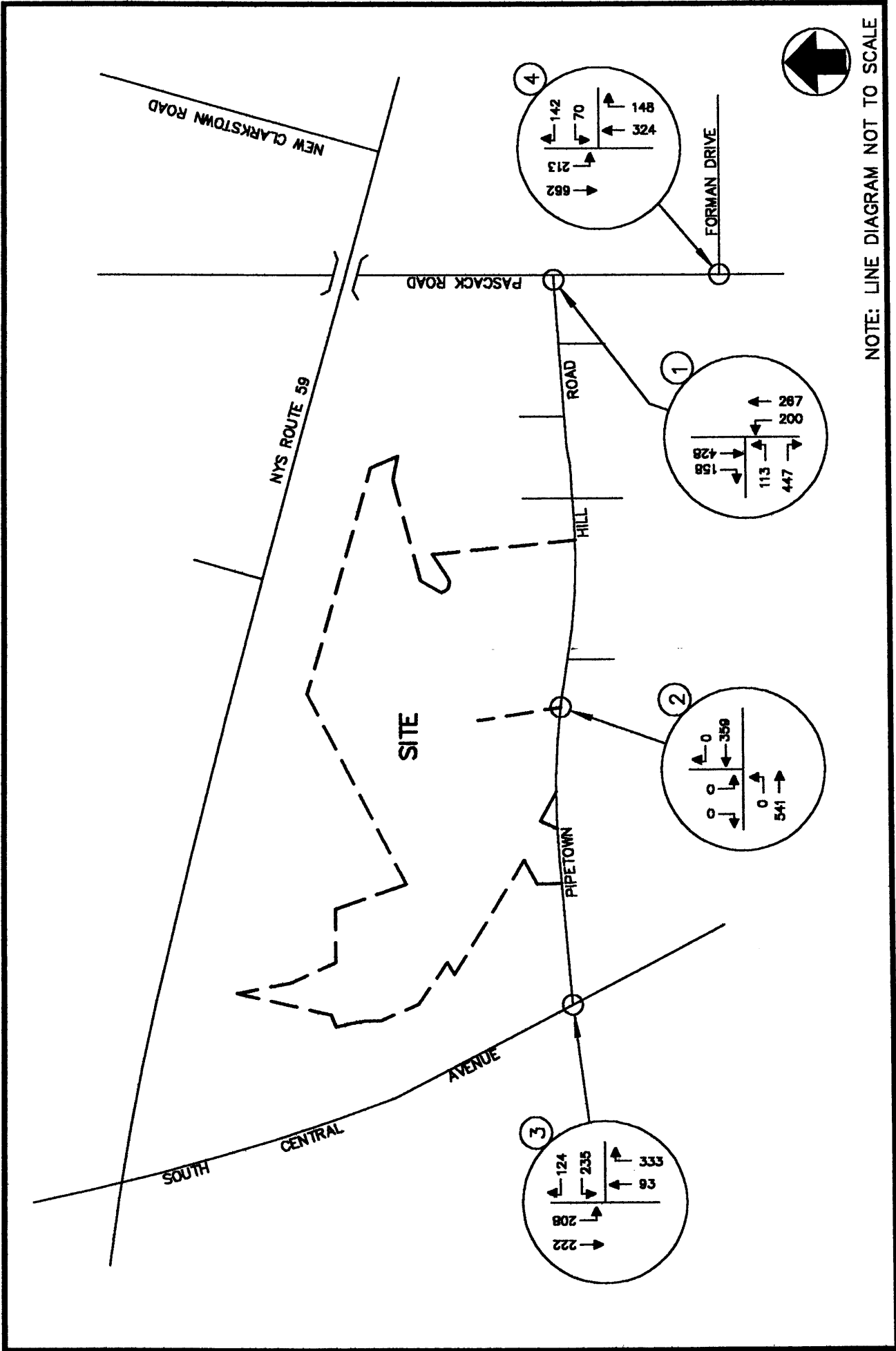




NOTE: LINE DIAGRAM NOT TO SCALE

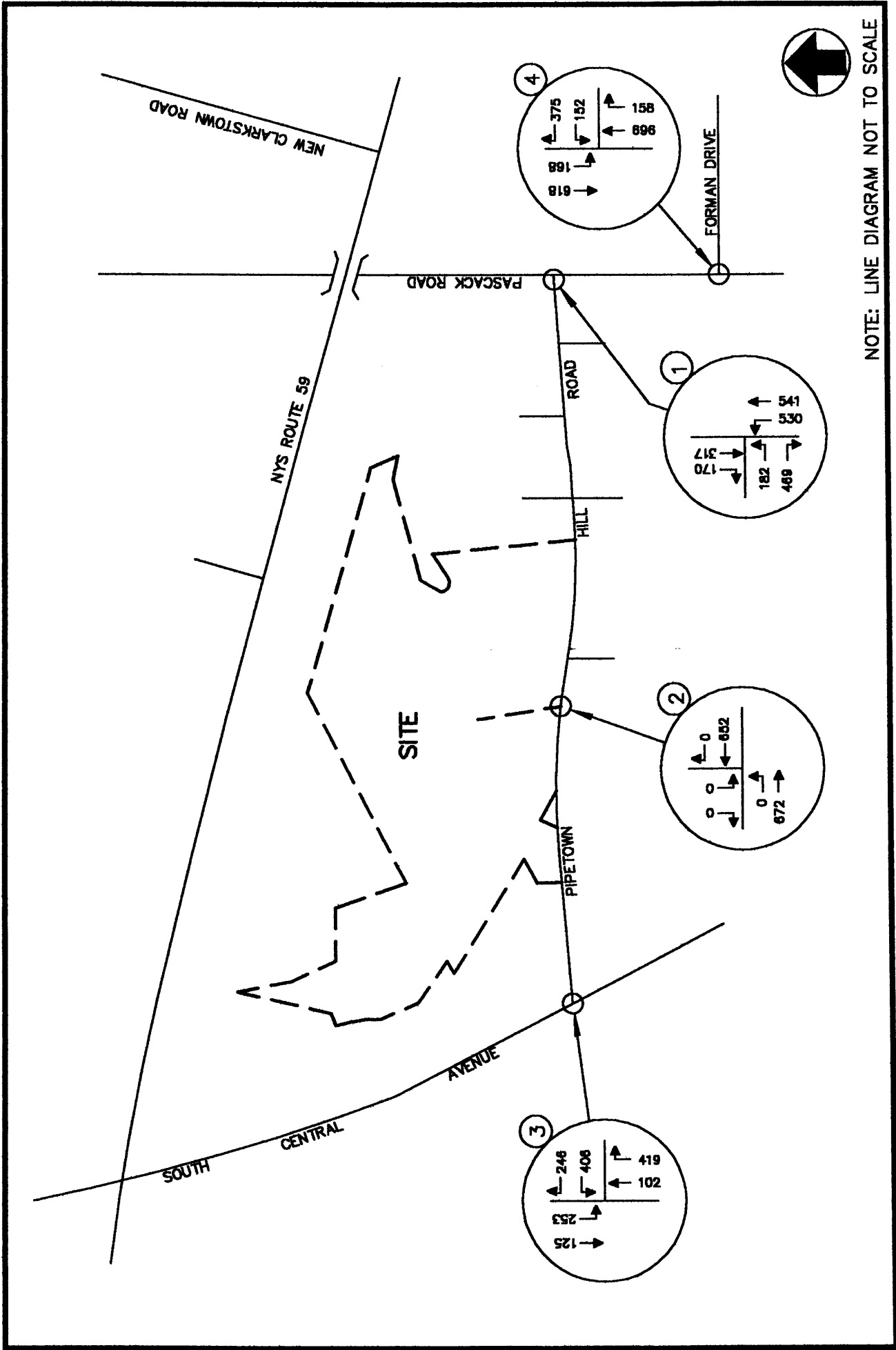
2006 EXISTING TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

HYENGA LAKE  
SPRING VALLEY/CLARKSTOWN, NEW YORK



HYENGA LAKE  
 SPRING VALLEY/CLARKSTOWN, NEW YORK

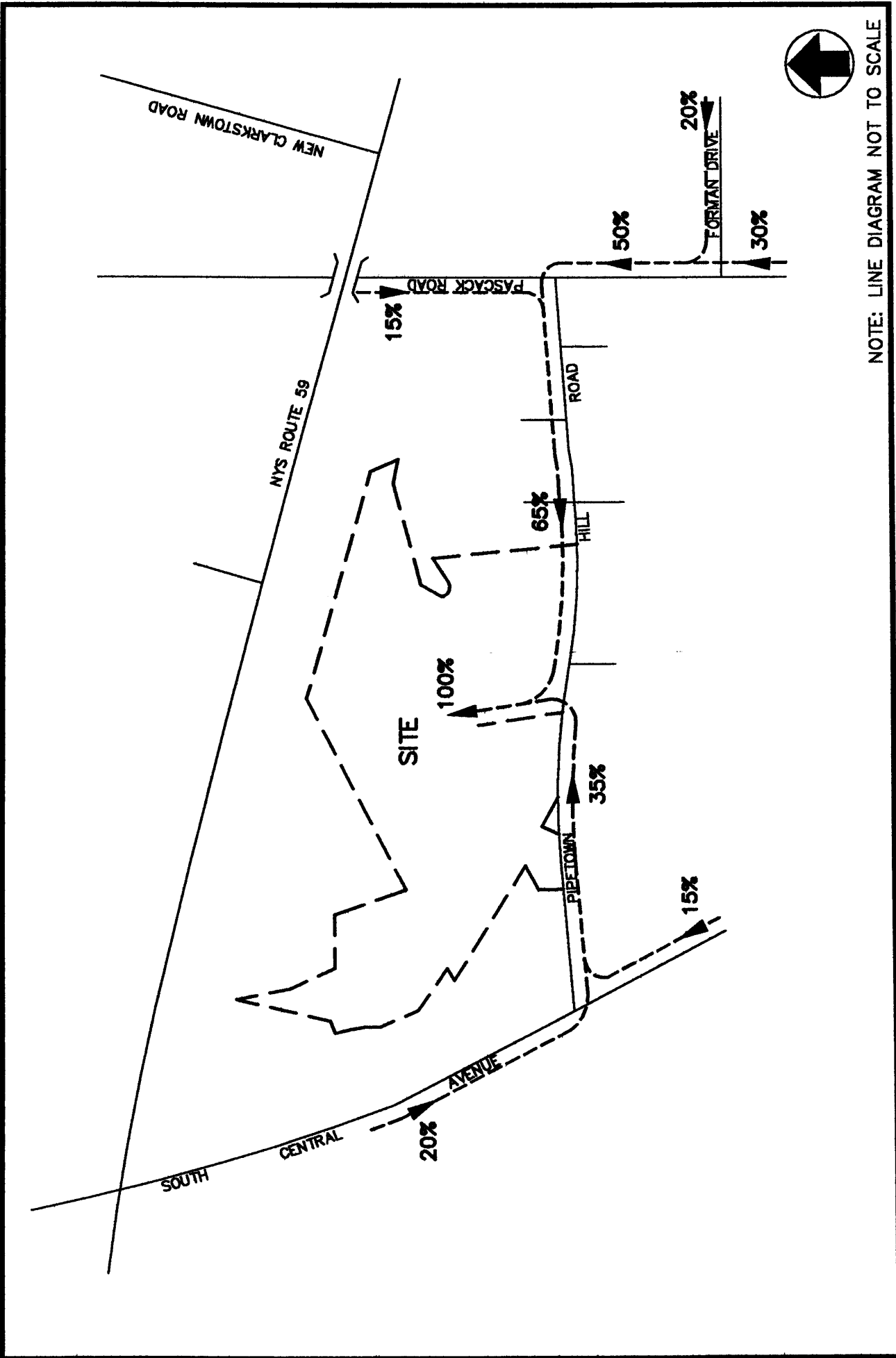
2008 NO-BUILD TRAFFIC VOLUMES  
 WEEKDAY PEAK AM HOUR



NOTE: LINE DIAGRAM NOT TO SCALE

2008 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

HYENGA LAKE  
SPRING VALLEY/CLARKSTOWN, NEW YORK

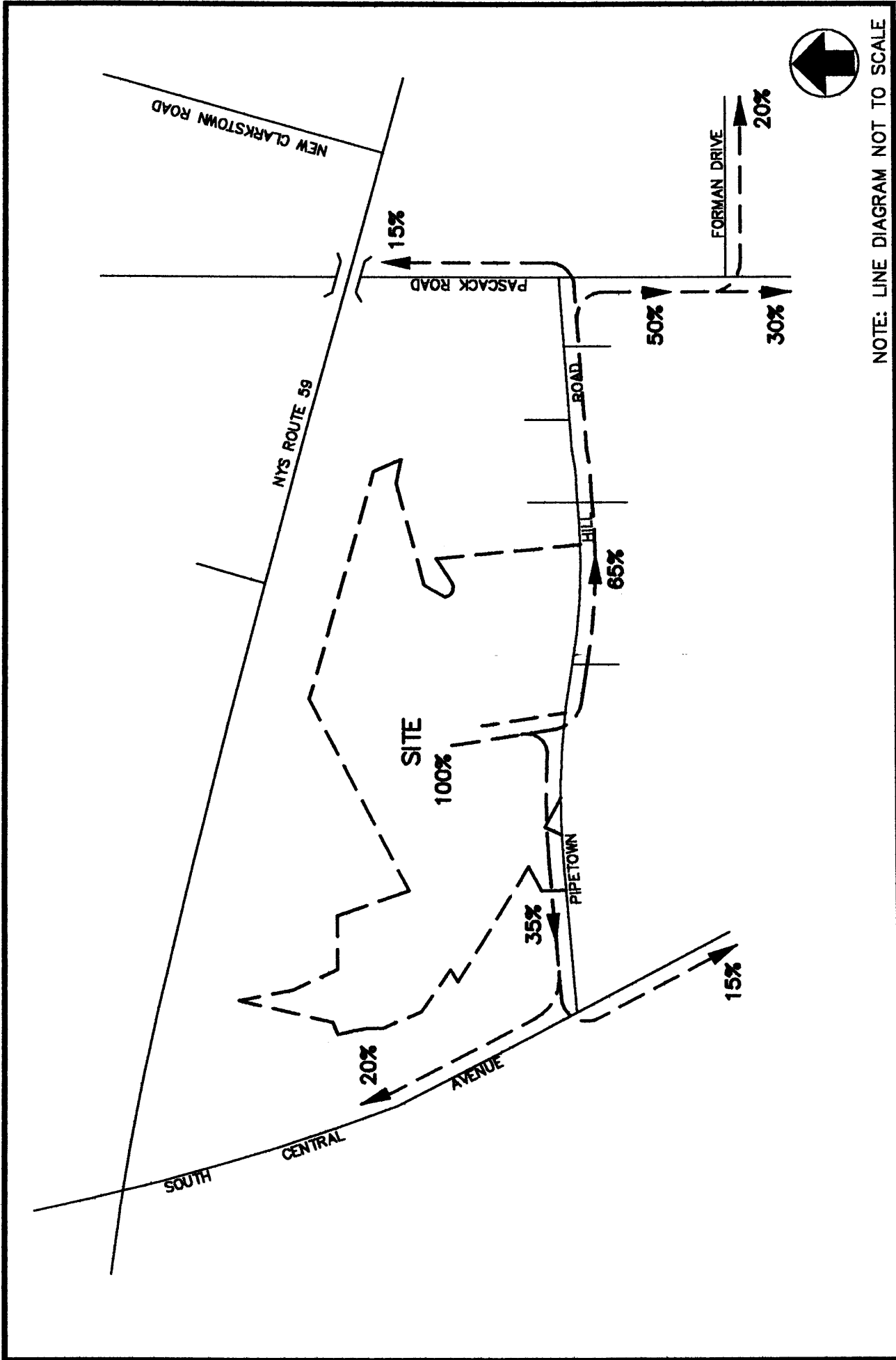


NOTE: LINE DIAGRAM NOT TO SCALE

ARRIVAL DISTRIBUTION

HYENGA LAKE  
 SPRING VALLEY/CLARKSTOWN, NEW YORK





NOTE: LINE DIAGRAM NOT TO SCALE

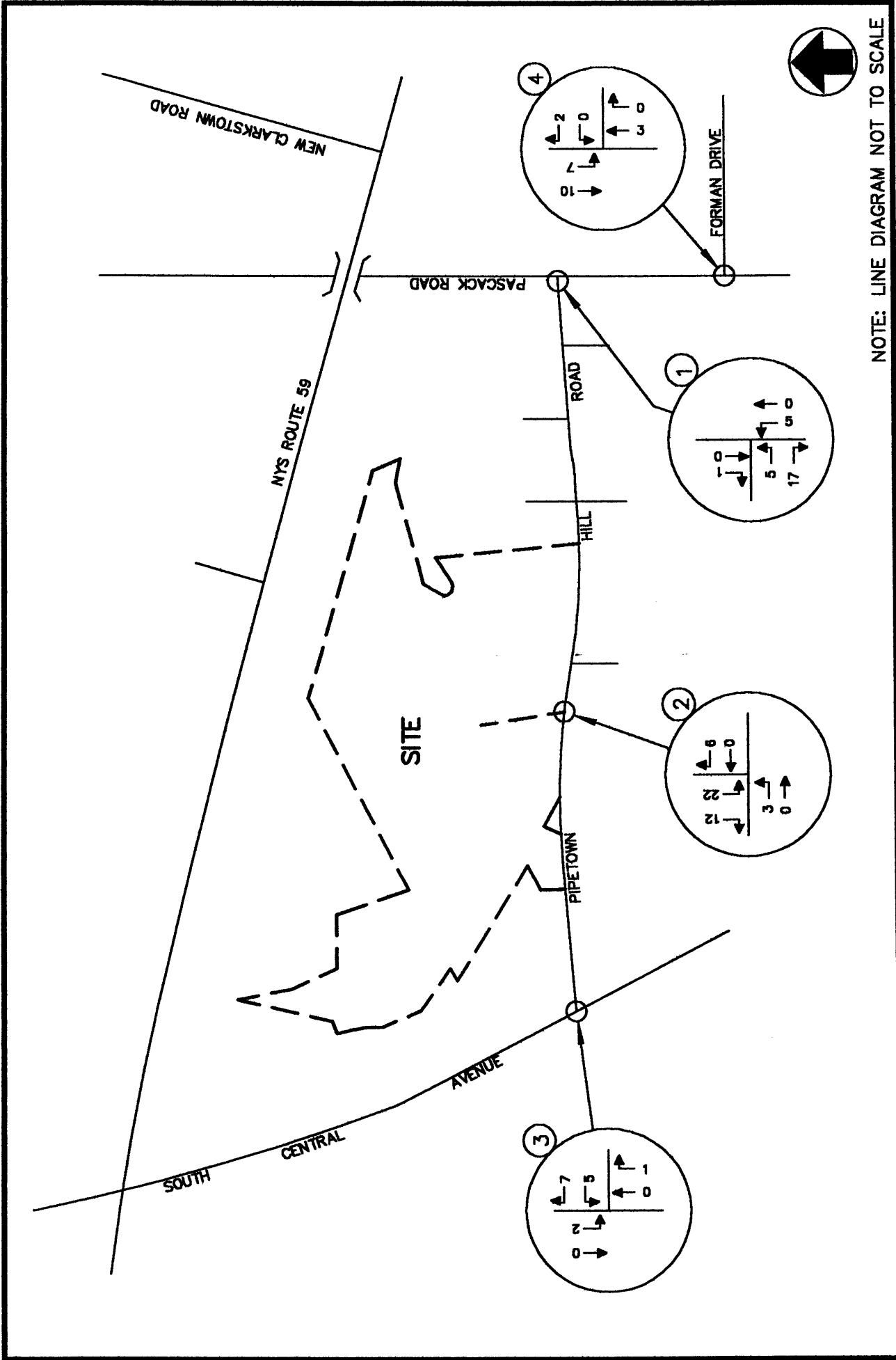
DEPARTURE DISTRIBUTION

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PROJECT NO. 765 DATE: APRIL 2007

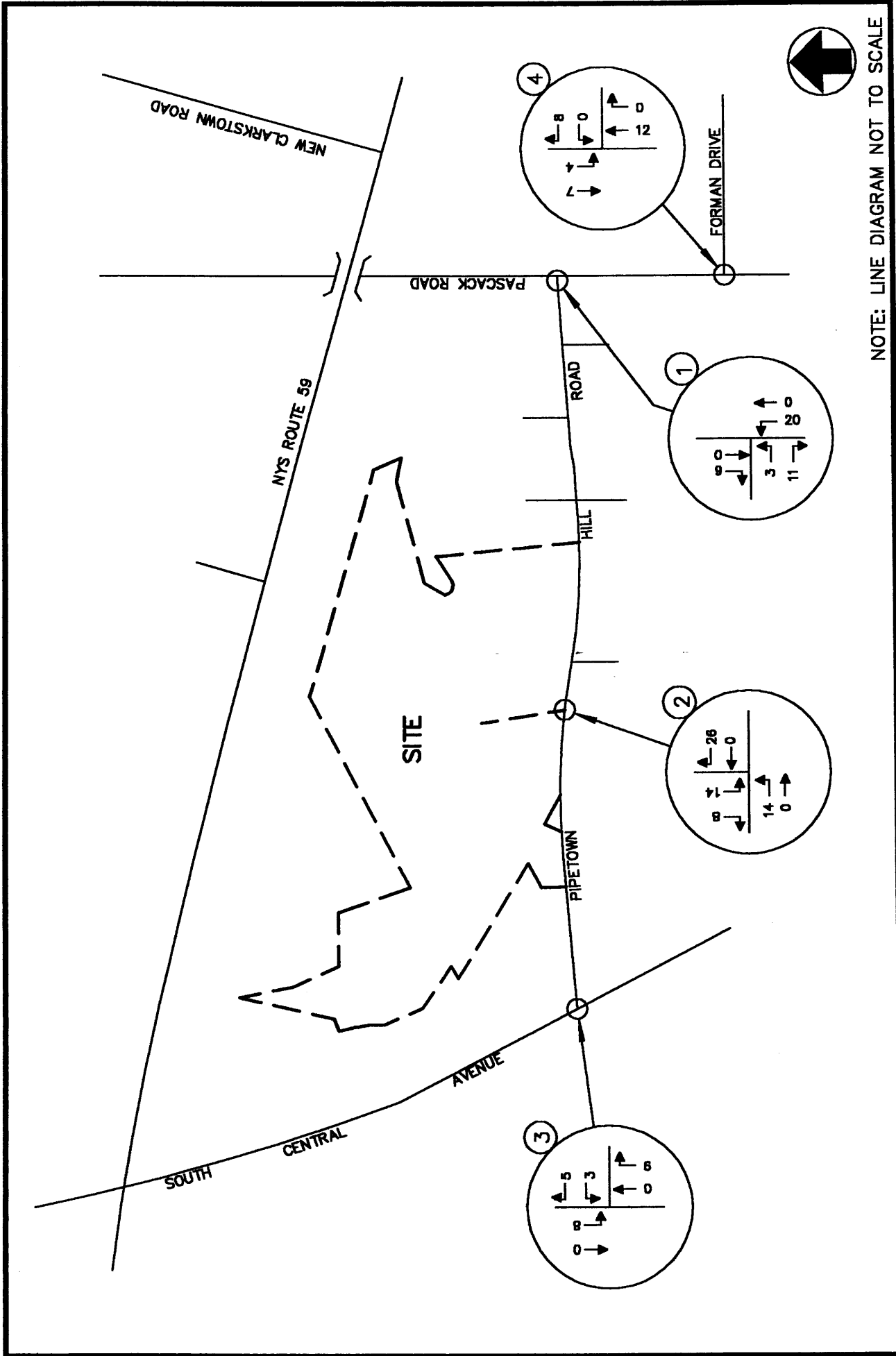
FIG. NO. 7



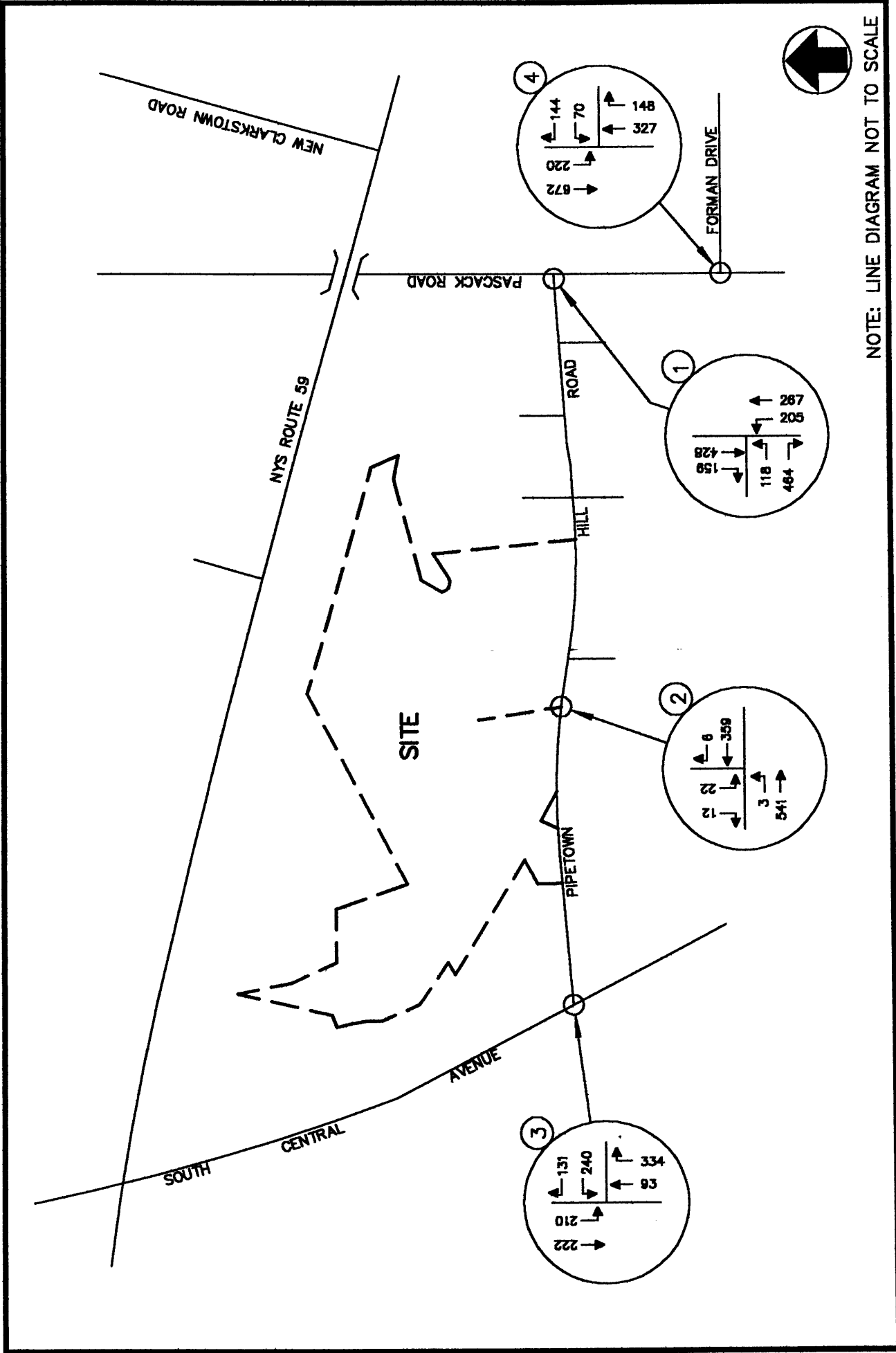
NOTE: LINE DIAGRAM NOT TO SCALE

SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR

HYENGA LAKE  
SPRING VALLEY/CLARKSTOWN, NEW YORK

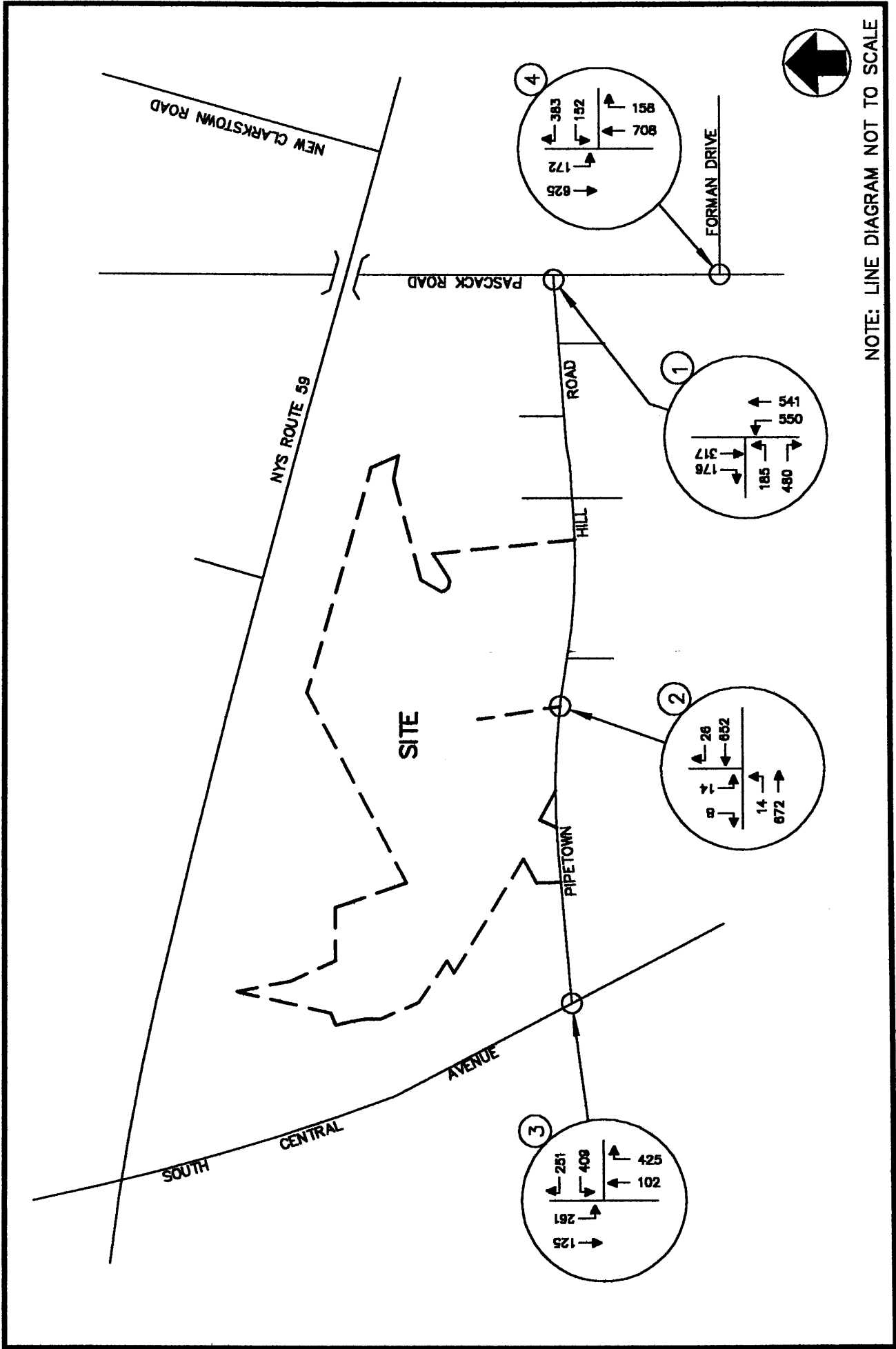


HYENGA LAKE  
SPRING VALLEY/CLARKSTOWN, NEW YORK



HYENGA LAKE  
 SPRING VALLEY/CLARKSTOWN, NEW YORK

2008 BUILD TRAFFIC VOLUMES  
 WEEKDAY PEAK AM HOUR



NOTE: LINE DIAGRAM NOT TO SCALE

HYENGA LAKE  
 SPRING VALLEY/CLARKSTOWN, NEW YORK

2008 BUILD TRAFFIC VOLUMES  
 WEEKDAY PEAK PM HOUR



**APPENDIX "B"**

**TABLES**





**TABLE NO. 1**

**HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED  
SITE GENERATED TRAFFIC VOLUMES**

HYENGA LAKE	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
80 APARTMENT DWELLING UNITS				
PEAK AM HOUR	0.11	9	0.43	34
PEAK PM HOUR	0.50	40	0.27	22

**NOTES:**

- 1) \* THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 6TH EDITION, 1997. ITE LAND USE CODE - 220 - APARTMENT.

TABLE NO. 2

LEVEL OF SERVICE SUMMARY TABLE

	2006 EXISTING						2008 NO-BUILD						2008 BUILD					
	AM		PM		AM		PM		AM		PM		AM		PM			
	DELAY	VC	DELAY	VC	DELAY	VC	DELAY	VC	DELAY	VC	DELAY	VC	DELAY	VC	DELAY	VC		
1 PIPETOWN HILL ROAD & PASCACK ROAD	<b>SIGNALIZED</b>																	
	L	B[16.7]	0.61	C[24.1]	0.81	B[18.5]	0.65	C[28.6]	0.85	B[19.2]	0.67	C[33.0]	0.89	B[19.2]	0.67	C[33.0]	0.89	
	T	B[19.2]	0.39	D[45.7]	0.91	B[19.4]	0.40	D[52.4]	0.95	B[19.4]	0.40	D[52.4]	0.95	B[19.4]	0.40	D[52.4]	0.95	
	TR	C[31.9]	0.83	C[34.0]	0.81	C[34.8]	0.86	D[36.6]	0.84	C[34.9]	0.87	D[37.8]	0.85	C[34.9]	0.87	D[37.8]	0.85	
	L	C[22.8]	0.22	D[45.7]	0.73	C[22.9]	0.23	D[48.1]	0.76	C[23.0]	0.24	D[49.5]	0.77	C[23.0]	0.24	D[49.5]	0.77	
	R	B[19.3]	0.64	B[15.4]	0.60	C[20.1]	0.67	B[16.0]	0.63	C[20.9]	0.69	B[16.4]	0.64	C[20.9]	0.69	B[16.4]	0.64	
	OVERALL	C[23.8]	-	C[31.5]	-	C[25.3]	-	D[35.1]	-	C[25.6]	-	D[36.5]	-	C[25.6]	-	D[36.5]	-	
	<b>UNSIGNALIZED</b>																	
	LR	-	-	-	-	-	-	-	-	-	-	-	-	C[17.2]	0.11	D[29.8]	0.14	
	LT	-	-	-	-	-	-	-	-	-	-	-	-	A[8.2]	0.00	A[9.3]	0.02	
3 PIPETOWN HILL ROAD & SOUTH CENTRAL AVENUE	<b>SIGNALIZED</b>																	
	TR	D[40.7]	0.88	F[87.5]	1.09	D[45.5]	0.92	F[102.6]	1.13	D[45.8]	0.92	F[107.0]	1.14	D[45.8]	0.92	F[107.0]	1.14	
	L	D[45.2]	0.84	F[110.5]	1.11	E[56.8]	0.91	F[125.7]	1.16	E[59.1]	0.92	F[139.1]	1.19	E[59.1]	0.92	F[139.1]	1.19	
	T	B[11.5]	0.28	B[10.4]	0.15	B[11.6]	0.29	B[10.4]	0.16	B[11.6]	0.29	B[10.4]	0.16	B[11.6]	0.29	B[10.4]	0.16	
	L	B[16.7]	0.39	C[22.7]	0.68	B[17.0]	0.41	C[23.7]	0.70	B[17.1]	0.42	C[23.9]	0.71	B[17.1]	0.42	C[23.9]	0.71	
	R	B[14.9]	0.23	B[18.0]	0.46	B[15.0]	0.24	B[16.3]	0.48	B[15.2]	0.25	B[16.5]	0.49	B[15.2]	0.25	B[16.5]	0.49	
	OVERALL	C[28.9]	-	E[57.1]	-	C[32.6]	-	E[64.9]	-	C[33.0]	-	E[68.9]	-	C[33.0]	-	E[68.9]	-	
	<b>UNSIGNAL TIMING IMPROVEMENTS</b>																	
	NB	-	-	-	-	C[21.5]	0.68	C[29.4]	0.84	C[21.6]	0.68	C[30.2]	0.85	C[21.6]	0.68	C[30.2]	0.85	
	SB	-	-	-	-	B[13.2]	0.53	D[41.0]	0.85	B[13.3]	0.54	D[46.4]	0.88	B[13.3]	0.54	D[46.4]	0.88	
L	-	-	-	-	A[7.0]	0.23	A[7.2]	0.13	A[7.0]	0.23	A[7.2]	0.13	A[7.0]	0.23	A[7.2]	0.13		
T	-	-	-	-	C[28.8]	0.60	D[51.4]	0.93	C[29.3]	0.61	D[52.5]	0.94	C[29.3]	0.61	D[52.5]	0.94		
L	-	-	-	-	B[13.3]	0.21	B[15.9]	0.42	B[13.5]	0.22	B[16.1]	0.43	B[13.5]	0.22	B[16.1]	0.43		
R	-	-	-	-	B[18.0]	-	C[33.1]	-	B[18.2]	-	C[34.6]	-	B[18.2]	-	C[34.6]	-		
OVERALL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4 FORMAN DRIVE & PASCACK ROAD	<b>SIGNALIZED</b>																	
	TR	B[13.8]	0.53	D[37.5]	0.85	B[14.1]	0.56	D[46.4]	0.99	B[14.2]	0.56	D[50.0]	1.00	B[14.2]	0.56	D[50.0]	1.00	
	L	B[11.2]	0.36	B[17.6]	0.40	B[11.7]	0.39	B[18.9]	0.43	B[11.9]	0.40	B[19.4]	0.44	B[11.9]	0.40	B[19.4]	0.44	
	T	A[7.9]	0.57	A[7.3]	0.53	A[8.1]	0.59	A[7.5]	0.55	A[8.2]	0.60	A[7.6]	0.56	A[8.2]	0.60	A[7.6]	0.56	
	L	C[30.4]	0.21	C[32.8]	0.47	C[30.5]	0.22	C[33.0]	0.49	C[30.5]	0.22	C[33.0]	0.49	C[30.5]	0.22	C[33.0]	0.49	
	R	C[21.7]	0.28	C[31.9]	0.75	C[21.8]	0.30	C[33.7]	0.78	C[21.9]	0.30	C[34.9]	0.80	C[21.9]	0.30	C[34.9]	0.80	
	OVERALL	B[12.3]	-	C[26.0]	-	B[12.7]	-	C[30.0]	-	B[12.7]	-	C[31.8]	-	B[12.7]	-	C[31.8]	-	

NOTES:  
THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR THE KEY APPROACH MOVEMENTS.

APPENDIX "C"

CAPACITY ANALYSIS



HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMEX1  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & PASCACK RD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2006 EXISTING TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	109		430				192	257			412	152
Lane Width	12.0		12.0				12.0	12.0			14.0	
RTOR Vol			0									0

Duration	0.25	Area Type: All other areas									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left		A			NB Left	A	A				
Thru					Thru		A				
Right		A			Right						
Peds					Peds						
WB Left					SB Left						
Thru					Thru		A				
Right					Right		A				
Peds					Peds						
NB Right					EB Right	A					
SB Right					WB Right						
Green		28.5				10.0	36.5				
Yellow		3.0				3.0	3.0				
All Red		2.0				2.0	2.0				
Cycle Length: 90.0 secs											

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	544	1719	0.22	0.32	22.8	C	20.0+	C
R	743	1538	0.64	0.48	19.3	B		
Westbound								
Northbound								
L	348	1719	0.61	0.57	16.7	B		
T	734	1810	0.39	0.41	19.2	B	18.1	B
Southbound								
TR	754	1860	0.83	0.41	31.9	C	31.9	C

Intersection Delay = 23.8 (sec/veh)      Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMEX1  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & PASCACK RD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2006 EXISTING TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	175		451				510	520			305	163
Lane Width	12.0		12.0				12.0	12.0			14.0	
RTOR Vol			0									0

Duration	0.25	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru					Thru		A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green		14.0				29.5	31.5	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	
Cycle Length: 90.0								secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	267	1719	0.73	0.16	45.7	D	23.9	C
R	829	1538	0.60	0.54	15.4	B		
Westbound								
Northbound								
L	700	1719	0.81	0.73	24.1	C		
T	633	1810	0.91	0.35	45.7	D	35.0-	C
Southbound								
TR	644	1839	0.81	0.35	34.0	C	34.0	C

Intersection Delay = 31.5 (sec/veh)      Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: MARCH 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMEX3  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Area Type: All other areas  
 Jurisd:  
 Year : 2006 EXISTING TRAFFIC VOLUMES  
 N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				226		119		89	320	200	213	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas  
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				5.0	21.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 66.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	641	1693	0.39	0.38	16.7	B	16.1	B
R	574	1515	0.23	0.38	14.9	B		

Northbound

TR	515	1618	0.88	0.32	40.7	D	40.7	D
----	-----	------	------	------	------	---	------	---

Southbound

L	263	1736	0.84	0.47	45.2	D		
T	859	1828	0.28	0.47	11.5	B	27.8	C

Intersection Delay = 28.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMEX3  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Area Type: All other areas  
 Jurisd:  
 Year : 2006 EXISTING TRAFFIC VOLUMES  
 N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				390		237	98	403		243	120	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration	0.25	Area Type:	All other areas							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left					NB Left					
Thru					Thru	P				
Right					Right	P				
Peds					Peds					
WB Left		P			SB Left	P	P			
Thru					Thru	P	P			
Right		P			Right					
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right					
Green		25.0			5.0	21.0				
Yellow		3.0			3.0	3.0				
All Red		2.0			2.0	2.0				
Cycle Length: 66.0 secs										

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
Westbound								
L	641	1693	0.68	0.38	22.7	C	21.0	C
R	574	1515	0.46	0.38	18.0	B		
Northbound								
TR	513	1613	1.09	0.32	87.5	F	87.5	F
Southbound								
L	243	1736	1.11	0.47	110.5	F		
T	859	1828	0.15	0.47	10.4	B	77.5	E

Intersection Delay = 57.1 (sec/veh)      Intersection LOS = E



HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMEX4  
 E/W St: FORMAN DRIVE

Inter.: FORMAN DRIVE & PASCACK ROAD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2006 EXISTING TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				67		137		312	142	205	637	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right		A	
Green	18.0				49.0	8.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	347	1736	0.21	0.20	30.4	C	24.6	C
R	535	1553	0.28	0.34	21.7	C		

Northbound

TR	944	1733	0.53	0.54	13.8	B	13.8	B
----	-----	------	------	------	------	---	------	---

Southbound

L	625	1719	0.36	0.69	11.2	B		
T	1247	1810	0.57	0.69	7.8	A	8.6	A

Intersection Delay = 12.3 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: MARCH 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMEX4  
 E/W St: FORMAN DRIVE

Inter.: FORMAN DRIVE & PASCACK ROAD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2006 EXISTING TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				146		361		669	152	162	594	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas  
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru A			
Right					Right A			
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right		A	
Green	18.0				49.0	8.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	347	1736	0.47	0.20	32.8	C	32.1	C
R	535	1553	0.75	0.34	31.9	C		

Northbound

TR	960	1764	0.95	0.54	37.5	D	37.5	D
----	-----	------	------	------	------	---	------	---

Southbound

L	451	1719	0.40	0.69	17.6	B		
T	1247	1810	0.53	0.69	7.3	A	9.5	A

Intersection Delay = 26.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMNB1  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & PASCACK RD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	113		447				200	267			428	
Lane Width	12.0		12.0				12.0	12.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru		A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green		28.5				10.0	36.5	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
<b>Eastbound</b>								
L	544	1719	0.23	0.32	22.9	C	20.7	C
R	743	1538	0.67	0.48	20.1	C		
<b>Westbound</b>								
<b>Northbound</b>								
L	339	1719	0.65	0.57	18.5	B		
T	734	1810	0.40	0.41	19.4	B	19.0	B
<b>Southbound</b>								
TR	754	1860	0.86	0.41	34.8	C	34.8	C

Intersection Delay = 25.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMNB1  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & PASCACK RD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	182		469				530	541			317	170
Lane Width	12.0		12.0				12.0	12.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru		A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green		14.0				29.5	31.5	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	267	1719	0.76	0.16	48.1	D	25.0	C
R	829	1538	0.63	0.54	16.0	B		
Westbound								
Northbound								
L	691	1719	0.85	0.73	28.6	C		
T	633	1810	0.95	0.35	52.4	D	40.6	D
Southbound								
TR	644	1839	0.84	0.35	36.6	D	36.6	D

Intersection Delay = 35.1 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: MARCH 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMNB3  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				235		124	93	333		208	222	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration	0.25	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				5.0	21.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		
				Cycle Length: 66.0				secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	641	1693	0.41	0.38	17.0	B	16.3	B
R	574	1515	0.24	0.38	15.0	B		

Northbound

TR	515	1618	0.92	0.32	45.5	D	45.5	D
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Southbound

L	254	1736	0.91	0.47	56.8	E		
T	859	1828	0.29	0.47	11.6	B	33.4	C

Intersection Delay = 32.6 (sec/veh)      Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMNB3  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				406		246		102	419	253	125	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		25.0				5.0	21.0	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	

Cycle Length: 66.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	641	1693	0.70	0.38	23.7	C	21.7	C
R	574	1515	0.48	0.38	18.3	B		

Northbound

TR	513	1613	1.13	0.32	102.6	F	102.6	F
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Southbound

L	243	1736	1.16	0.47	125.7	F		
T	859	1828	0.16	0.47	10.4	B	87.5	F

Intersection Delay = 64.9 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.2

Analyst: R.H. Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Agency: JCE Area Type: All other areas  
 Date: MARCH 2007 Jurisd:  
 Period: PEAK AM HOUR Year : 2008 BUILD TRAFFIC VOLUMES  
 Project ID: 765AMB3 (WITH TIMING CHANGE)  
 E/W St: PIPETOWN HILL ROAD N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				240		131	93	334		210	222	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas  
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	P		
Green	18.0				7.0	30.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	435	1693	0.61	0.26	29.3	C	23.7	C
R	649	1515	0.22	0.43	13.5	B		

Northbound

TR	693	1618	0.68	0.43	21.6	C	21.6	C
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Southbound

L	433	1736	0.54	0.60	13.3	B		
T	1097	1828	0.23	0.60	7.0	A	10.0+	B

Intersection Delay = 18.2 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.2

Analyst: R.H. Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Agency: JCE Area Type: All other areas  
 Date: APRIL 2007 Jurisd:  
 Period: PEAK PM HOUR Year : 2008 BUILD TRAFFIC VOLUMES  
 Project ID: 765PMB3 (WITH TIMING CHANGE)  
 E/W St: PIPETOWN HILL ROAD N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				409		251		102	425	261	125	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration	0.25	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	P		
Green	20.0				5.0	30.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		
				Cycle Length: 70.0 secs				

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	484	1693	0.94	0.29	52.5	D	38.6	D
R	649	1515	0.43	0.43	16.1	B		

Northbound

TR	691	1612	0.85	0.43	30.2	C	30.2	C
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Southbound

L	328	1736	0.88	0.57	46.4	D		
T	1045	1828	0.13	0.57	7.2	A	33.7	C

Intersection Delay = 34.6 (sec/veh) Intersection LOS = C



HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMNB4  
 E/W St: FORMAN DRIVE

Inter.: FORMAN DRIVE & PASCACK ROAD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				70		142		324	148	213	662	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration	0.25	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right		A	
Green		18.0				49.0	8.0	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	
				Cycle Length: 90.0				secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	347	1736	0.22	0.20	30.5	C	24.7	C
R	535	1553	0.30	0.34	21.8	C		

Northbound

TR	944	1733	0.56	0.54	14.1	B	14.1	B
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Southbound

L	614	1719	0.39	0.69	11.7	B		
T	1247	1810	0.59	0.69	8.1	A	9.0	A

Intersection Delay = 12.7 (sec/veh)      Intersection LOS = B

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: MARCH 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMNB4  
 E/W St: FORMAN DRIVE

Inter.: FORMAN DRIVE & PASCACK ROAD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				152		375	696	158		168	618	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru A			
Right					Right A			
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right		A	
Green	18.0				49.0	8.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	347	1736	0.49	0.20	33.0	C	33.5	C
R	535	1553	0.78	0.34	33.7	C		

Northbound

TR	960	1764	0.99	0.54	46.4	D	46.4	D
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Southbound

L	439	1719	0.43	0.69	18.9	B		
T	1247	1810	0.55	0.69	7.5	A	10.0-	A

Intersection Delay = 30.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMB1  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & PASCACK RD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	118		464				205	267			428	159
Lane Width	12.0		12.0				12.0	12.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru		A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green		28.5				10.0	36.5	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
<b>Eastbound</b>								
L	544	1719	0.24	0.32	23.0	C	21.3	C
R	743	1538	0.69	0.48	20.9	C		
<b>Westbound</b>								
<b>Northbound</b>								
L	339	1719	0.67	0.57	19.2	B		
T	734	1810	0.40	0.41	19.4	B	19.3	B
<b>Southbound</b>								
TR	754	1860	0.87	0.41	34.9	C	34.9	C

Intersection Delay = 25.6 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMB1  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & PASCACK RD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	0	0	1	1	0	0	1	0
LGConfig	L		R				L	T			TR	
Volume	185		480				550	541			317	176
Lane Width	12.0		12.0				12.0	12.0			14.0	
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru		A	
Right		A			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru		A	
Right					Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green		14.0				29.5	31.5	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
<b>Eastbound</b>								
L	267	1719	0.77	0.16	49.5	D	25.6	C
R	829	1538	0.64	0.54	16.4	B		
<b>Westbound</b>								
<b>Northbound</b>								
L	688	1719	0.89	0.73	33.0	C		
T	633	1810	0.95	0.35	52.4	D	42.6	D
<b>Southbound</b>								
TR	643	1837	0.85	0.35	37.8	D	37.8	D

Intersection Delay = 36.5 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: MARCH 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMB3  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 BUILD TRAFFIC VOLUMES  
 N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				240		131	93	334		210	222	
Lane Width				12.0		12.0	12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: All other areas  
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					EB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				5.0	21.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 66.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c g/C		Lane Group Delay LOS	Approach Delay LOS	
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Eastbound

Westbound

L	641	1693	0.42	0.38	17.1	B	16.4	B
R	574	1515	0.25	0.38	15.2	B		

Northbound

TR	515	1618	0.92	0.32	45.8	D	45.8	D
----	-----	------	------	------	------	---	------	---

Southbound

L	253	1736	0.92	0.47	59.1	E		
T	859	1828	0.29	0.47	11.6	B	34.6	C

Intersection Delay = 33.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMB3  
 E/W St: PIPETOWN HILL ROAD

Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 BUILD TRAFFIC VOLUMES  
 N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				409		251		102	425	261	125	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration	0.25	Area Type	All other areas							
Signal Operations										
Phase Combination	1	2	3	4	5	6	7	8		
EB Left					NB Left					
Thru					Thru	P				
Right					Right	P				
Peds					Peds					
WB Left		P			SB Left	P	P			
Thru					Thru	P	P			
Right		P			Right					
Peds					Peds					
NB Right					EB Right					
SB Right					WB Right					
Green	25.0				5.0	21.0				
Yellow	3.0				3.0	3.0				
All Red	2.0				2.0	2.0				
Cycle Length: 66.0 secs										

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
<b>Eastbound</b>								
<b>Westbound</b>								
L	641	1693	0.71	0.38	23.9	C	21.9	C
R	574	1515	0.49	0.38	18.5	B		
<b>Northbound</b>								
TR	513	1612	1.14	0.32	107.0	F	107.0	F
<b>Southbound</b>								
L	243	1736	1.19	0.47	139.1	F		
T	859	1828	0.16	0.47	10.4	B	97.4	F

Intersection Delay = 68.9 (sec/veh)      Intersection LOS = E

HCS+: Signalized Intersections Release 5.2

Analyst: R.H. Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Agency: JCE Area Type: All other areas  
 Date: MARCH 2007 Jurisd:  
 Period: PEAK AM HOUR Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 Project ID: 765AMNB3 (WITH TIMING CHANGE)  
 E/W St: PIPETOWN HILL ROAD N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				235		124		93	333	208	222	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas  
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	P		
Green	18.0				7.0	30.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	435	1693	0.60	0.26	28.8	C	23.5	C
R	649	1515	0.21	0.43	13.3	B		

Northbound

TR	693	1618	0.68	0.43	21.5	C	21.5	C
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Southbound

L	434	1736	0.53	0.60	13.2	B		
T	1097	1828	0.23	0.60	7.0	A	10.0-	A

Intersection Delay = 18.0 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.2

Analyst: R.H. Inter.: PIPETOWN HILL RD & S. CENTRAL  
 Agency: JCE Area Type: All other areas  
 Date: APRIL 2007 Jurisd:  
 Period: PEAK PM HOUR Year : 2008 NO-BUILD TRAFFIC VOLUMES  
 Project ID: 765PMNB3 (WITH TIMING CHANGE)  
 E/W St: PIPETOWN HILL ROAD N/S St: SOUTH CENTRAL AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				406		246		102	419	253	125	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas  
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru					Thru	P	P	
Right		P			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	P		
Green		20.0				5.0	30.0	
Yellow		3.0				3.0	3.0	
All Red		2.0				2.0	2.0	
								Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay LOS

Eastbound

Westbound

L	484	1693	0.93	0.29	51.4	D	38.0	D
R	649	1515	0.42	0.43	15.9	B		

Northbound

TR	691	1613	0.84	0.43	29.4	C	29.4	C
----	-----	------	------	------	------	---	------	---

Southbound

L	331	1736	0.85	0.57	41.0	D		
T	1045	1828	0.13	0.57	7.2	A	29.8	C

Intersection Delay = 33.1 (sec/veh) Intersection LOS = C



HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: APRIL 2007  
 Period: PEAK AM HOUR  
 Project ID: 765AMB4  
 E/W St: FORMAN DRIVE

Inter.: FORMAN DRIVE & PASCACK ROAD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				70		144		327	148	220	672	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru A			
Right					Right A			
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right		A	
Green	18.0				49.0	8.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	347	1736	0.22	0.20	30.5	C	24.7	C
R	535	1553	0.30	0.34	21.9	C		

Northbound

TR	944	1734	0.56	0.54	14.2	B	14.2	B
----	-----	------	------	------	------	---	------	---

Southbound

L	612	1719	0.40	0.69	11.9	B		
T	1247	1810	0.60	0.69	8.2	A	9.1	A

Intersection Delay = 12.7 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.2

Analyst: R.H.  
 Agency: JCE  
 Date: MARCH 2007  
 Period: PEAK PM HOUR  
 Project ID: 765PMB4  
 E/W St: FORMAN DRIVE

Inter.: FORMAN DRIVE & PASCACK ROAD  
 Area Type: All other areas  
 Jurisd:  
 Year : 2008 BUILD TRAFFIC VOLUMES  
 N/S St: PASCACK ROAD

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				152		383		708	158	172	625	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru A			
Right					Right A			
Peds					Peds			
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right		A	
Green	18.0				49.0	8.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		
Cycle Length: 90.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	347	1736	0.49	0.20	33.0	C	34.3	C
R	535	1553	0.80	0.34	34.9	C		

Northbound

TR	961	1765	1.00	0.54	50.0	D	50.0	D
----	-----	------	------	------	------	---	------	---

Southbound

L	435	1719	0.44	0.69	19.4	B		
T	1247	1810	0.56	0.69	7.6	A	10.2	B

Intersection Delay = 31.8 (sec/veh) Intersection LOS = C





APPENDIX "D"

STANDARDS



LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. The criteria are given in Exhibit 16-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 16-2

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	CONTROL DELAY PER VEHICLE (S/VEH)
A	≤10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

LEVEL OF SERVICE A describes operations with low control delay, up to 10 seconds per vehicle (s/veh). This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

LEVEL OF SERVICE B describes operations with control delay greater than 10 and up to 20 seconds per vehicle (s/veh). This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with Level of Service "A", causing higher levels of delay.

LEVEL OF SERVICE C describes operations with control delay greater than 20 and up to 35 seconds per vehicle (s/veh). These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LEVEL OF SERVICE D describes operations with control delay greater than 35 and up to 55 seconds per vehicle (s/veh). At Level of Service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.



LEVEL OF SERVICE E describes operations with control delay greater than 55 and up to 80 seconds per vehicle (s/veh). This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

LEVEL OF SERVICE F describes operations with control delay in excess of 80 seconds per vehicle (s/veh). This level is considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

The Level of Service (LOS) for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. Control delay is defined as the total elapsed time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. This total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to speed of vehicles in queue. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation. The Level of Service Criteria are given in Exhibit 17-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 17-2

LEVEL OF SERVICE FOR CRITERIA  
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	AVERAGE CONTROL DELAY (S/VEH)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

Appendix J  
Fiscal Analysis Worksheet



**FISCAL ANALYSIS WORKSHEET -- Hyenga Lake - Town of Clarkstown**  
**EXISTING & FUTURE CONDITIONS - Market Value Approach 2006 TAX RATES - Homestead Rates Applied**

Taxing Jurisdiction	Current Res.'1 Assess.	Rate*	Current Taxes*	Projected Taxes	Difference
Rockland County	\$481,000	\$3.9916	\$1,920	\$26,480	\$24,560
Town of Clarkstown	\$481,000	\$16.0081	\$8,642	\$106,198	\$97,556
Open Space	\$481,000	\$0.1455	\$77	\$966	\$888
Nanuet Ambulance	\$481,000	\$0.1625	\$78	\$1,078	\$1,000
East Spring Valley Fire	\$481,000	\$2.9602	\$1,424	\$19,638	\$18,214
Consolidated Lighting District	\$481,000	\$0.2251	\$130	\$1,493	\$1,363
Rockland Sewer No. 1*	\$481,000	\$1.6730	\$5,970	\$11,099	\$5,129
Refuse/Garbage District	\$481,000	\$ 135 per unit	\$221	\$10,800	\$10,579
County Solid Waste	\$38.0	\$15.7 per unit	\$597	\$3,840	\$3,243
<b>Total Town of Clarkstown</b>			<b>\$17,139</b>	<b>\$155,111</b>	<b>\$137,972</b>
<b>Total Town and County</b>			<b>\$19,059</b>		
East Ramapo Central Schools	\$481,000	\$46.9280	\$22,572	\$311,320	\$288,748
East Ramapo Schools Library	\$481,000	\$2.2904	\$1,102	\$15,195	\$14,093
<b>Total East Ramapo Schools</b>			<b>\$23,674</b>	<b>\$326,515</b>	<b>\$302,841</b>
<b>TOTAL TAXES</b>			<b>\$42,733</b>	<b>\$508,106</b>	<b>\$465,373</b>
<b>Average Taxes per unit</b>				<b>\$6,351</b>	

Projected Market Assessed Value = \$6,634,000  
 Total Market Value \$21,400,000  
 Residential Assessment Ratio (RAR) 31.0%  
 Total Assessed Value \$6,634,000  
 Total Residential Units 80  
 Number of 1 BR Multi Family Units = 40  
 Market Value \$250,000

Sub-total 1 BR Market Value \$10,000,000  
 Number of 2 BR Multi Family units = 40  
 Market Value \$285,000

Sub-total 2 BR Market Value \$11,400,000  
 Total Market Value \$21,400,000

Total Market Value \$21,400,000  
 1BR unit Projected Assessed Value \$77,500  
 2BR unit Projected Assessed Value \$88,350



Appendix K

East Ramapo School District  
Budget Information







# East Ramapo Budget For 2005-2006

Vote: Tuesday May 17, 2005 7 am – 9 pm

## Balancing Quality Education with Fiscal Responsibility

On Tuesday, May 17, community residents will have another opportunity to celebrate American democracy by voting on the East Ramapo budget for 2005-06.

This proposed budget reflects the careful and thoughtful consideration of the Board of Education in balancing two most important goals of the District: providing fine education for all students, and being financially responsible to the taxpayers. The Board believes this budget accomplishes both of these important goals.

The proposed 2005-06 budget is 5.65 percent higher than the 2004-05 budget (see next page) – this in the face of very significant cost increases in such uncontrollable areas as health insurance, pension contributions, heating of buildings, and transportation services for a growing number of students. The Board expects that this 5.65% budget increase will be among the lowest in the entire downstate area of New York State.

This budget also preserves all necessary aspects of the district's academic program and the district's ongoing response to the nationwide challenge of higher academic standards. It provides for:

- An expanded summer school session for secondary-level students
- A revamped alternate school program
- Necessary instructional resources
- A new course in forensic science in the high schools and accelerated math/science at the middle schools
- Further maintaining the district's outstanding visual and performing arts programs

- Introduction of a Junior Air Force ROTC program
- Maintaining continuous improvement in technology-based instruction



Your Board of Education's primary responsibility is to always try to do the very best for students in all schools.

At the same time, the Board of Education has made every effort to lessen the impact of the proposed budget on your tax dollars. As in 2004-05, this budget again utilizes any reserve fund balance from the current year to supplement tax dollars and keep down the tax levy. The Board pruned over \$4 million from the initial working draft of this budget, eliminating some employment positions, downsizing programs and reducing costs wherever possible without reducing the quality of the educational program.

## College Acceptances

This year's high school seniors were accepted at many of the best colleges in the country, including these: Barnard, Binghamton, Case Western Reserve, Columbia, Cornell, Georgetown, Harvard, Lehigh, Univ. of Michigan, NYU, Univ. of Rochester, Rutgers, Stanford, Stony Brook, Syracuse, Wisconsin, and Yale.

## Proposition 2 Capital Projects & Bond Issue

The Board of Education has received and accepted community input asking for a program of capital projects, which is outside the annual budget. At the May 17 election, **Proposition 2** will ask the voters whether they approve \$9,775,000 for routine building renovations, and \$2,855,000 for new school buses, all over a period of five years. If approved, the District will issue bonds starting June 2007. The full impact on property taxes will be only four tenths of one percent, as of the 2008-09 year. This bond issue will help the District to protect the community's assets invested in this school district, and provide safe buses for school children. It will also help reduce the level of the 2005-06 and 2006-07 budgets by spreading building renovation and bus costs over a number of years.



## What does this budget support?

This budget supports a continued and accelerating response to higher academic standards for all students, as required under New York State statute as well as the federal No Child Left Behind legislation, and the East Ramapo Board of Education's goals for improved academic and personal outcomes for all students.

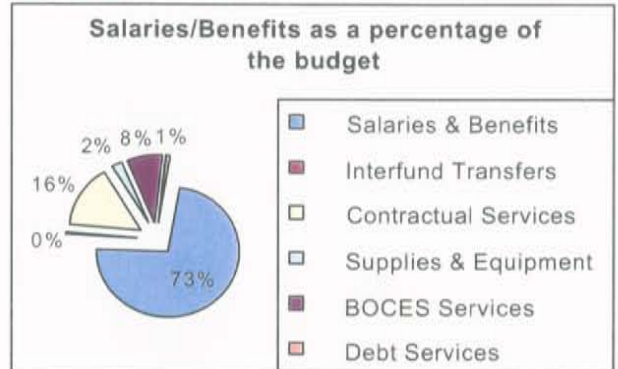
## On the Budget

The East Ramapo Board of Education is pleased to present to the voting public the 2005-06 budget that was adopted on April 12, 2005. The Board and the District administration have worked hard to develop a budget that preserves and protects the East Ramapo educational program at the least cost to taxpayers. Here are the highlights of the budget:

Adopted 2005-06 Budget:	\$172,743,007
% Increase over 2004-05 Budget	5.65%
\$ Increase over 2004-05 Budget	\$9,237,564

Here are the components of the adopted budget:

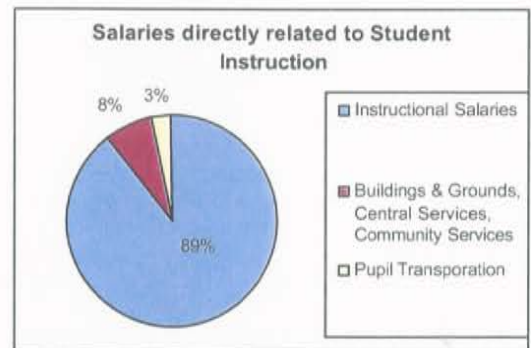
<u>Code</u>	<u>Description</u>	<u>Budget</u>
100	Salaries	\$ 89,037,318
400	Contractual Services	26,840,099
200,450	Supplies & Equipment	3,986,966
490	BOCES Services	13,742,095
600,700	Debt Service	1,675,550
800	Employee Benefits	36,685,979
900	Interfund Transfers	<u>775,000</u>
<b>Total</b>		<b>\$172,743,007</b>



The BOCES category is primarily for special education services for students with disabilities and special needs. Contractual services include utilities, such as natural gas, electric service and telephone service, and bus contractors for the transportation program, as well as a variety of educational services.

**All Employee Salaries and benefits** make up 73 percent of the budget. Of these salaries/benefits, 89 percent is targeted for direct instruction of students. Here are the details:

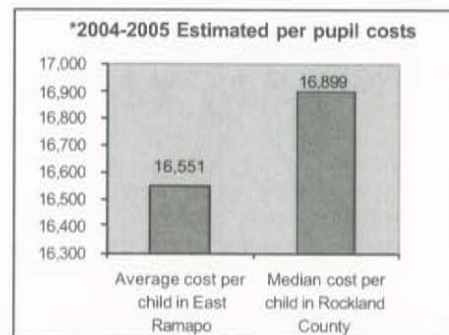
Salaries – Teachers and other instructional	\$ 68,475,808
School Administration employees	8,904,350
District Administration employees	1,928,660
Buildings & Grounds, Central Services, Community	6,932,900
Pupil Transportation employees	2,795,600
Pension Contributions	8,379,560
Social Security Contribution	6,959,819
Medical Insurance	19,744,500
Workers Compensation Insurance	750,000
All other employee benefits	<u>762,100</u>
<b>Total</b>	<b>\$125,633,297</b>



**Transportation services** are made available by East Ramapo to all students, including students attending non-public schools. Altogether the District transports approximately 25,000 students each day. The adopted transportation budget is \$19,051,281 (including employee benefits), and so the budget per child is about \$762 for public and nonpublic students.

### Major factors in the budget increase

	<u>Increase</u>
Health insurance	\$2,802,090
Pension contribution by District	1,895,989
Natural gas and electricity	453,000
Pupil bus transportation	<u>1,367,373</u>
<b>Total</b>	<b>\$6,518,452</b>



\* Source: Mid-Hudson School Study Council using Total Aidable Pupil Units, per State Education Department.

**These four items account for 71% of the \$9,237,564 budget increase.** The rise in health insurance rates is a longstanding nationwide trend. Pension contribution rates are imposed on all school districts by the State of New York. The cost of natural gas and electricity has been rising recently, as local homeowners have noted. The District purchases gas and electricity by competitive bid and gets the best possible rates. The rising cost of bus transportation reflects higher fuel costs, other cost increases, and more student passengers, along with new non public schools to which we are required to transport. The remaining increase in the budget, the \$2.7 million not shown above, is due to cost increases: higher costs for books and materials, and annual wage adjustments for employees, per their employment contracts.

**Property Tax Report Card  
East Ramapo Central School District  
2005-06 Year**

**Overall Budget Proposal**

	Budget Adopted for the 2004-05 School Year	Budget Proposed for the 2005-06 School Year	Contingency Budget for the 2005-06 School Year*
Total budgeted amount	\$ 163,505,443	\$ 172,743,007	\$ 169,379,728
Increase/decrease for the 2005-06 school year		\$ 9,237,564	\$ 5,874,285
Percentage increase (decrease) in each proposed budget		5.65%	3.59%
Change in the consumer price index		2.7%	
Resulting est. property tax levy for the 2005-06 school year		\$ 121,454,481	\$ 118,091,202
Administrative component	\$ 19,077,700	\$ 19,745,763	\$ 19,390,853
Program component	\$ 128,258,873	\$ 136,249,904	\$ 133,418,225
Capital component	\$ 16,168,870	\$ 16,747,340	\$ 16,570,650

\* Statement of assumptions made in projecting a contingency budget for the 2005-06 school year, should the proposed budget be defeated: Elimination of equipment and transfers to the Capital Fund; elimination of administrative and instructional positions; reduction of selected administrative and instructional expenses.

**Basic STAR Exemption Impact**

Estimated Basic STAR Exemption Savings Based on a Hypothetical Home Within the School District with a Full Value of One Hundred Thousand Dollars (\$100,000)

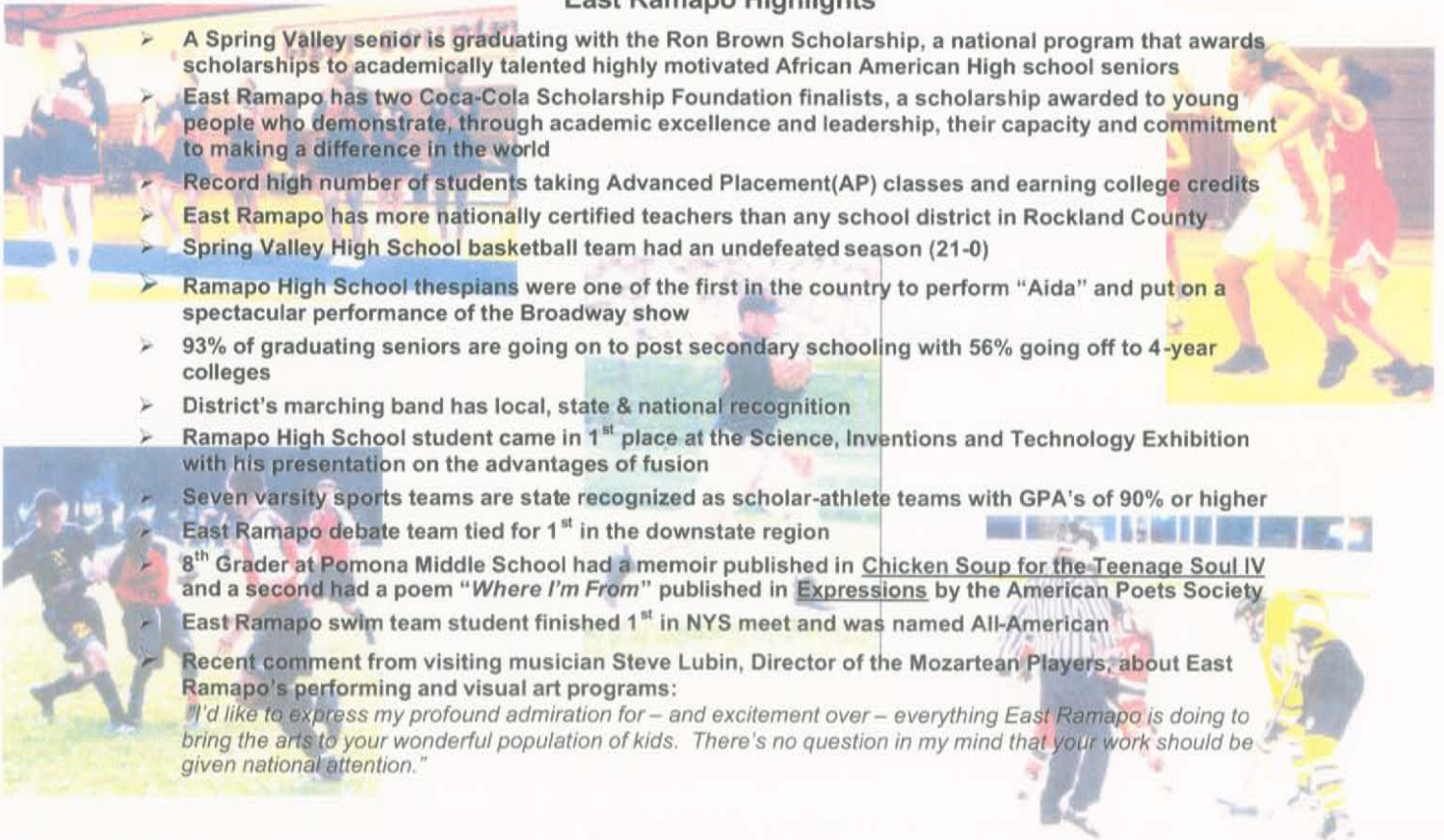
	Budget Adopted for the 2004-05 School Year	Budget Proposed for the 2005-06 School Year
Basic STAR tax savings	\$ 1,139	\$ 1,238
School tax increase/(decrease)	\$ (257)	\$ 138
Net Basic STAR tax savings	\$ 1,396	\$ 1,101

The annual budget vote for the fiscal year 2005-06 by the qualified voters of the East Ramapo Central School District, Rockland County, New York, will be held at Lime Kiln School, Summit Park School, Ramapo Freshman Center School, Ramapo High School, Hillcrest School, Rockland Community College Spring Valley Annex (North Main Street, Spring Valley), Spring Valley High School, Margetts School, Chestnut Ridge Middle School, and Hempstead School in said district on Tuesday, May 17, 2005 between the hours of 7:00 am and 9:00 pm, prevailing time, at which time the polls will be opened to vote by voting ballot or machine.

**East Ramapo Highlights**

- A Spring Valley senior is graduating with the Ron Brown Scholarship, a national program that awards scholarships to academically talented highly motivated African American High school seniors
- East Ramapo has two Coca-Cola Scholarship Foundation finalists, a scholarship awarded to young people who demonstrate, through academic excellence and leadership, their capacity and commitment to making a difference in the world
- Record high number of students taking Advanced Placement(AP) classes and earning college credits
- East Ramapo has more nationally certified teachers than any school district in Rockland County
- Spring Valley High School basketball team had an undefeated season (21-0)
- Ramapo High School thespians were one of the first in the country to perform "Aida" and put on a spectacular performance of the Broadway show
- 93% of graduating seniors are going on to post secondary schooling with 56% going off to 4-year colleges
- District's marching band has local, state & national recognition
- Ramapo High School student came in 1<sup>st</sup> place at the Science, Inventions and Technology Exhibition with his presentation on the advantages of fusion
- Seven varsity sports teams are state recognized as scholar-athlete teams with GPA's of 90% or higher
- East Ramapo debate team tied for 1<sup>st</sup> in the downstate region
- 8<sup>th</sup> Grader at Pomona Middle School had a memoir published in Chicken Soup for the Teenage Soul IV and a second had a poem "Where I'm From" published in Expressions by the American Poets Society
- East Ramapo swim team student finished 1<sup>st</sup> in NYS meet and was named All-American
- Recent comment from visiting musician Steve Lubin, Director of the Mozartean Players, about East Ramapo's performing and visual art programs:

*"I'd like to express my profound admiration for – and excitement over – everything East Ramapo is doing to bring the arts to your wonderful population of kids. There's no question in my mind that your work should be given national attention."*



## Voter Information

For more information on the District's Budget/Trustee vote please visit our website at:  
<http://www.ercsd.k12.ny.us/BudgetVote.htm>

or please call the Office of the District Clerk at 577-6015.

## Where to Vote

To find where to register and vote, please call the District Clerk's Office at 577-6015.

### Polling Places in East Ramapo

- #1 Lime Kiln Elementary
- #2 Summit Park Elementary
- #3 Ramapo Freshman Center
- #4 Ramapo High School
- #5 Hillcrest Elementary
- #6 RCC Annex
- #7 Spring Valley High School
- #8 Margetts Elementary
- #9 Chestnut Ridge Middle School
- #10 Hempstead Elementary

## What would austerity mean?

If a budget is not approved, the school district is required to adopt an austerity budget. Districts are required, by law, to fulfill all mandates and contractual obligations. Under austerity, any necessary additional cuts must come from nonmandated areas.

With mandates increasing yearly, and with contractual obligations soaring in areas such as contributions to retirement systems and health premiums, a point is reached where, in order to keep tax rates down, in all likelihood educational programs and services would need to be reduced or eliminated.

If the budget is defeated, austerity would mean the district would need to cut 1.9% from this proposed budget. About 77% of the

reductions would have to come from the Program Component of the budget. Reductions of this amount would result in:

- Loss of nonmandated transportation services, for public/nonpublic school students
- Loss of essential education-related services, for public/nonpublic school students
- Elimination of funds for all equipment, including computers
- Significant increases in fees to all outside groups using district facilities, including PTA and public/nonpublic youth organizations
- Reduction in interscholastic sports and co-curricular activities
- Reductions in supplemental services, for public/nonpublic school students
- Significantly increased elementary class size

**Vote Tuesday May 17, 2005 7 am – 9 pm**



### East Ramapo Board of Education

Christian Sampson, President  
Stephen Price, Vice Pres.  
Danielle Bright  
Mimi Calhoun  
Susan Gordon  
Georgine Hyde  
Nathan Rothschild  
Richard Stone  
Gabriel Tenembaum

Jason P. Friedman  
Superintendent of Schools



### East Ramapo Central School District

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**TIME-DATED DOCUMENT**

Appendix L  
Con Edison  
General Protection Guidelines



### 5.3 General Protection Requirements

5.3-1 In each case when construction, maintenance, test or repair work is to be performed on system electrical equipment, protection of the type prescribed for the particular conditions shall be provided in order to fulfill the following objectives:

- I Safety to personnel
- II. Continuity of service to customers.
- III. Prevention of damage to equipment.

5.3-2 There are, in general, two approved methods of protection for safeguarding personnel working on system electrical equipment. These are:

- a. Protection applied at the working point or at other points to prevent accidental energizing of current-carrying parts which have been de-energized for dead work - the use of this method of protection is applicable to work on equipment in any voltage classification. The means employed to prevent accidental energizing of current-carrying parts varies for equipment in different voltage classifications and in different working locations. To verify that electrical equipment which is not visibly grounded at the work point, is dead prior to proceeding with dead work, all conductors at the work point must be tested dead with an approved voltage detector. A spear may be utilized in field situations as outlined in 11.8-1 when it is impractical to test the cable dead at the work point. Approved rubber gloves must be used while performing this test and the portable voltage detector must be tested before and after use.
- b. Protection applied by the worker at the working point in the form of insulating protective devices approved for live work - Such devices include high-voltage or low-voltage rubber gloves, as required, rubber mats, and insulating stools and platforms or insulated tools for insulating the worker from contact with current carrying or grounded parts. The term "insulating protective devices" also includes blankets, bandages, line hose, hoods, pigs, and other approved insulating devices intended primarily for protecting the worker from contact with current carrying parts in close proximity to the parts being worked upon.

**Note 1** The Station Operator shall determine the need to apply supplemental static grounds to prevent the buildup of charge on otherwise isolated underground equipment in the vicinity of electric fields caused by non-shielded energized conductors.

**Note 2** If there is any doubt about the identification of cable or equipment to be worked upon or the adequacy of protective measures taken to insure safety, employees shall not proceed with their work, but shall consult their Supervisor.

5.3-3 No connection shall be installed between an energized cable, wire, or bus and a network protector unless the network protector is in the open position, has been made non-automatic, and the network protector fuses removed. Network protectors shall be blocked open when installing or removing network protector fuses or links.

A network protector shall not be blocked closed or closed manually without permission from the operator having jurisdiction unless the network protector has first been isolated from the associated transformer and street mains. Where no initial connections exist, a connection shall not be installed between a cable, wire, or bus and a network rectifier unless the ac supply switch is open and the dc fuses are removed.

5.3-4 Where a new network distribution transformer is equipped with a ground switch, the ground switch shall be locked in the ground position until the transformer is ready to be energized.

5.4-1 A Work Permit must be obtained before any surface penetration, structural alterations, excavations, renovations, or demolition work can be performed within the confines of station areas. Before a Work Permit is issued, a survey shall be made to determine if any hazards exist in the specific area in which the work is to be performed.

5.4-2 The operator having jurisdiction shall be responsible for determining the protection required for dead work or for tests, shall order the protection applied, and shall ascertain that the protection has been applied before issuing or ordering the issuance of a Work Permit or a Test Permit.

5.4-3 When it is practicable, the person who has received the Work Permit shall verify, by inspections, the protection at the work location in the presence of the operating employee who is responsible for applying the protection.

5.4.4 When required by operating conditions, certain kinds of work, may be permitted on equipment while the equipment is alive. Examples are:

- a. Applying or removing arc-proofing or bonding on cables having a grounded metallic sheath or armor.
- b. Cleaning and painting metal clad equipment if all current-carrying parts are fully covered by grounded metallic enclosures.
- c. Drawing off samples of insulating liquid from apparatus, which is equipped with sampling valves and either a provision for venting a point above the fluid level or where a positive nitrogen pressure is present. Certain types of apparatus are designated as unsuitable for sampling insulating liquid while the apparatus is energized. Drawing samples of insulating liquid from energized apparatus is prohibited if the level of liquid is below or can be brought below the prescribed "minimum" level.



- d. Adding tested insulating liquids or gases to apparatus, which is equipped with valves and connections approved for such use. Adding insulating liquid to energized apparatus is prohibited if the level is initially below that which the level indicator is capable of showing unless specifically designed and approved by an Engineering Department specification. Certain types of apparatus are unsuitable for adding insulating liquid while the apparatus is energized. Adding dielectric liquid to station circuit breakers which are energized is prohibited.
- e. Connecting and disconnecting dielectric fluid reservoirs used in connection with dielectric-fluid filled cables if dielectric-fluid supply to the cable is maintained.
- f. Connecting and disconnecting joint regulators and tubing up to the oil line insulator used in conjunction with solid type cable.

## 5.5 **On The Overhead System All Voltage Classifications**

5.5-1 No construction, maintenance, or repair work which requires contact or which may result in contact with current-carrying parts of cables, wires, or other equipment shall be started unless one of the two following forms of protection is employed.

- a. The work shall be done as live work using all of the precautions prescribed for such work, including a Work Permit, when required. For specific operating and protection requirements see "General Instructions Governing work on Overhead System Electrical Equipment. Where practical, permission to perform work on overhead systems shall be submitted in writing to the operator having jurisdiction.
- b. The equipment to be worked upon shall have been removed from service, isolated, identified, and protected as prescribed for dead work. A Work Permit covering the work to be done shall also be obtained from the operator having jurisdiction.

## 5.6 **On Other Than The Overhead System**

### 5.6-1 Low Voltage Classification

Proceed in accordance with paragraphs 5.5-1a or 5.5-1b.

### 5.6-2 Intermediate Voltage Classification

No construction, maintenance, or repair work which requires contact or which may result in contact with current-carrying parts of cables, wires, or other equipment shall be started unless one of the two following forms of protection is employed:

- a. The equipment to be worked upon shall have been removed from service, isolated, identified, and protected as prescribed for dead work. A Work Permit shall also be obtained from the operator having jurisdiction.

- b. When it is impractical to isolate, identify and protect the equipment as prescribed, the equipment shall be de-energized and the work done as "Dead as Alive" using all of the precautions prescribed for such work. A Work Permit shall also be obtained from the operator having jurisdiction. This applies to single conductor cables only.

### 5.6-3 **High Voltage Classification**

Proceed in accordance with paragraph 5.6-2a above.

### 5.7 **Working Clearance**

5.7.1 When construction, maintenance, inspection, testing, or repair work is to be performed on any cables, wires, or other equipment, the group responsible for applying the protection shall determine whether there is adequate working clearance from exposed current carrying parts of adjacent equipment as outlined in Table #1.

5.7.2 Table #2 shall be used as the reference for determining clearances when utilizing vehicles and mechanical equipment.

5.7.3 Table #3 is for qualified electrical employees working on exposed, energized parts. The clear live line tool distance shall equal or exceed the values for the indicated voltage ranges. Phase to phase clearances apply to live line bare handed work.

**TABLE 1  
STATION WORK**

**MINIMUM APPROACH DISTANCES**

<u>VOLTAGE</u>	Unqualified Personnel Working Near Exposed Energized Parts	Qualified <sup>1</sup> Personnel Working Near Exposed Energized Parts	Qualified Personnel Working On Exposed Energized Parts
4 kV	3' 4"	2' 1"	2' 1"
13 kV	3' 6"	2' 1"	2' 1"
27 kV	4'	2' 4"	2' 4"
33 kV	4'	2' 4"	2' 4"
69 kV	4' 11"	3'	3'
138 kV	6' 8"	4' 7"	3' 7"
230 kV	9' 4"	6' 3"	5' 3"
345 kV	14' 8"	9' 6"	8' 6"
500 kV	22' 10"	12' 3"	11' 3"

<sup>1</sup>These distances also apply to unqualified personnel who have been trained in the safe work practices and are under the direct supervision of a qualified person.

**TABLE 2**

**VEHICLE AND MECHANICAL EQUIPMENT  
CLEARANCE DISTANCE**

<u>VOLTAGE</u>	Qualified Personnel Operating Grounded Equipment With A Designated Watcher	Unqualified Personnel Operating Grounded Equipment Lowered	All Personnel Moving Ungrounded Equipment W/Structure
4 kV	2' 1"	10'	4'
13 kV	2' 1"	10'	4'
27 kV	2' 4"	10'	4'
33 kV	2' 4"	10'	4'
69 kV	3'	10' 8"	4' 8"
138 kV	3' 7"	12' 11"	7'
230 kV	5' 3"	16'	10'
345 kV	8' 6"	19' 10"	13' 10"
500 kV	11' 3"	25'	19'

**TABLE 3****AC LIVE-LINE WORK MINIMUM APPROACH DISTANCE**

	Nominal voltage in kilovolts		Distance phase to phase	
	Phase to ground exposure		Phase to phase exposure	
	(ft-in)	(m)	(ft-in)	(m)
0.05 to 1.0	Avoid Contact		Avoid Contact	
1.1 to 15.0	2-1	0.64	2-2	0.66
15.1 to 36.0	2-4	0.72	2-7	0.77
36.1 to 46.0	2-7	0.77	2-10	0.85
46.1 to 72.5	3-0	0.90	3-6	1.05
72.6 to 121	3-2	0.95	4-3	1.29
138 to 145	3-7	1.09	4-11	1.50
161 to 169	4-0	1.22	5-8	1.71
230 to 242	5-3	1.59	7-6	2.27
345 to 362	8-6	2.59	12-6	3.80
500 to 550	11-3	3.42	18-1	5.50
765 to 800	14.11	4.53	26-0	7.91

The following notes pertain to Table 3:

**NOTE 1:** These distances take into consideration the highest switching surge an employee will be exposed to on any system with air as the insulating medium and the maximum voltages shown.

**NOTE 2:** The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

**NOTE 3:** Phase to phase clearances apply to live line bare handed work.

**NOTE 4:** Lesser distances may be employed based on specific engineering studies.

5.7-1 Where there is not adequate working clearance from exposed current-carrying parts of adjacent equipment, no work shall be performed on any cables, wires, or other devices unless:

- a. A barrier of an approved type has been installed temporarily to prevent accidental contact with adjacent live parts, or

- b. The adjacent equipment has been removed from service and protected as directed by the operator having jurisdiction.

5.7.4 Whenever there is any question of the adequacy of the clearance between the specific area in which work is to be done and exposed current-carrying parts of adjacent equipment a field inspection shall be made by the appropriate management representative. The results of this inspection shall be the basis for a departmental written work procedure, where required, which shall include all protection necessary to complete the work safely, including watchers where needed. The procedure shall be prepared by the operating group and distributed to all groups involved in advance of the starting time. If required, a watcher or watchers shall be delegated to assure that confines of the work area are not violated. The watcher shall be an approved employee who has a comprehensive understanding of the job.

5.7.5 Employees shall not pass over or perform work above exposed or unprotected live equipment unless necessary safety precautions have been taken to prevent the worker or his tools and equipment from falling into such equipment.

5.7.6 No work shall be done on throughbolts, operating rods, pipes, conduits, mounting brackets, shelves, screens, iron details etc. in a dead compartment which may in any way alter the clearance in an adjoining compartment unless it is definitely known that all equipment and parts therein are dead. Compartment doors must be removed to present a clear view of the work procedure and the effects of work on the equipment in the adjoining compartment must be noted and corrected if necessary.

5.7.7 When it is necessary to snake a duct, precautions shall be taken to guard against personal injury or damage to equipment, particularly at the far end of the duct. Adjoining ducts also shall be observed when there is a possibility that a snake might be directed to a different location through a break in the duct wall, especially if the snake could made contact with live or moving parts when it emerges.

### 5.3 General Protection Requirements

5.3-1 In each case when construction, maintenance, test or repair work is to be performed on system electrical equipment, protection of the type prescribed for the particular conditions shall be provided in order to fulfill the following objectives:

- I Safety to personnel
- II. Continuity of service to customers.
- III. Prevention of damage to equipment.

5.3-2 There are, in general, two approved methods of protection for safeguarding personnel working on system electrical equipment. These are:

- a. Protection applied at the working point or at other points to prevent accidental energizing of current-carrying parts which have been de-energized for dead work - the use of this method of protection is applicable to work on equipment in any voltage classification. The means employed to prevent accidental energizing of current-carrying parts varies for equipment in different voltage classifications and in different working locations. To verify that electrical equipment which is not visibly grounded at the work point, is dead prior to proceeding with dead work, all conductors at the work point must be tested dead with an approved voltage detector. A spear may be utilized in field situations as outlined in 11.8-1 when it is impractical to test the cable dead at the work point. Approved rubber gloves must be used while performing this test and the portable voltage detector must be tested before and after use.
- b. Protection applied by the worker at the working point in the form of insulating protective devices approved for live work - Such devices include high-voltage or low-voltage rubber gloves, as required, rubber mats, and insulating stools and platforms or insulated tools for insulating the worker from contact with current carrying or grounded parts. The term "insulating protective devices" also includes blankets, bandages, line hose, hoods, pigs, and other approved insulating devices intended primarily for protecting the worker from contact with current carrying parts in close proximity to the parts being worked upon.

**Note 1** The Station Operator shall determine the need to apply supplemental static grounds to prevent the buildup of charge on otherwise isolated underground equipment in the vicinity of electric fields caused by non-shielded energized conductors.

**Note 2** If there is any doubt about the identification of cable or equipment to be worked upon or the adequacy of protective measures taken to insure safety, employees shall not proceed with their work, but shall consult their Supervisor.

5.3-3 No connection shall be installed between an energized cable, wire, or bus and a network protector unless the network protector is in the open position, has been made non-automatic, and the network protector fuses removed. Network protectors shall be blocked open when installing or removing network protector fuses or links.

A network protector shall not be blocked closed or closed manually without permission from the operator having jurisdiction unless the network protector has first been isolated from the associated transformer and street mains. Where no initial connections exist, a connection shall not be installed between a cable, wire, or bus and a network rectifier unless the ac supply switch is open and the dc fuses are removed.

5.3-4 Where a new network distribution transformer is equipped with a ground switch, the ground switch shall be locked in the ground position until the transformer is ready to be energized.

5.4-1 A Work Permit must be obtained before any surface penetration, structural alterations, excavations, renovations, or demolition work can be performed within the confines of station areas. Before a Work Permit is issued, a survey shall be made to determine if any hazards exist in the specific area in which the work is to be performed.

5.4-2 The operator having jurisdiction shall be responsible for determining the protection required for dead work or for tests, shall order the protection applied, and shall ascertain that the protection has been applied before issuing or ordering the issuance of a Work Permit or a Test Permit.

5.4-3 When it is practicable, the person who has received the Work Permit shall verify, by inspections, the protection at the work location in the presence of the operating employee who is responsible for applying the protection.

5.4.4 When required by operating conditions, certain kinds of work, may be permitted on equipment while the equipment is alive. Examples are:

- a. Applying or removing arc-proofing or bonding on cables having a grounded metallic sheath or armor.
- b. Cleaning and painting metal clad equipment if all current-carrying parts are fully covered by grounded metallic enclosures.
- c. Drawing off samples of insulating liquid from apparatus, which is equipped with sampling valves and either a provision for venting a point above the fluid level or where a positive nitrogen pressure is present. Certain types of apparatus are designated as unsuitable for sampling insulating liquid while the apparatus is energized. Drawing samples of insulating liquid from energized apparatus is prohibited if the level of liquid is below or can be brought below the prescribed "minimum" level.

- d. Adding tested insulating liquids or gases to apparatus, which is equipped with valves and connections approved for such use. Adding insulating liquid to energized apparatus is prohibited if the level is initially below that which the level indicator is capable of showing unless specifically designed and approved by an Engineering Department specification. Certain types of apparatus are unsuitable for adding insulating liquid while the apparatus is energized. Adding dielectric liquid to station circuit breakers which are energized is prohibited.
- e. Connecting and disconnecting dielectric fluid reservoirs used in connection with dielectric-fluid filled cables if dielectric-fluid supply to the cable is maintained.
- f. Connecting and disconnecting joint regulators and tubing up to the oil line insulator used in conjunction with solid type cable.

## **5.5 On The Overhead System All Voltage Classifications**

5.5-1 No construction, maintenance, or repair work which requires contact or which may result in contact with current-carrying parts of cables, wires, or other equipment shall be started unless one of the two following forms of protection is employed.

- a. The work shall be done as live work using all of the precautions prescribed for such work, including a Work Permit, when required. For specific operating and protection requirements see "General Instructions Governing work on Overhead System Electrical Equipment. Where practical, permission to perform work on overhead systems shall be submitted in writing to the operator having jurisdiction.
- b. The equipment to be worked upon shall have been removed from service, isolated, identified, and protected as prescribed for dead work. A Work Permit covering the work to be done shall also be obtained from the operator having jurisdiction.

## **5.6 On Other Than The Overhead System**

### **5.6-1 Low Voltage Classification**

Proceed in accordance with paragraphs 5.5-1a or 5.5-1b.

### **5.6-2 Intermediate Voltage Classification**

No construction, maintenance, or repair work which requires contact or which may result in contact with current-carrying parts of cables, wires, or other equipment shall be started unless one of the two following forms of protection is employed:

- a. The equipment to be worked upon shall have been removed from service, isolated, identified, and protected as prescribed for dead work. A Work Permit shall also be obtained from the operator having jurisdiction.



- b. When it is impractical to isolate, identify and protect the equipment as prescribed, the equipment shall be de-energized and the work done as "Dead as Alive" using all of the precautions prescribed for such work. A Work Permit shall also be obtained from the operator having jurisdiction. This applies to single conductor cables only.

#### 5.6-3 **High Voltage Classification**

Proceed in accordance with paragraph 5.6-2a above.

#### 5.7 **Working Clearance**

5.7.1 When construction, maintenance, inspection, testing, or repair work is to be performed on any cables, wires, or other equipment, the group responsible for applying the protection shall determine whether there is adequate working clearance from exposed current carrying parts of adjacent equipment as outlined in Table #1.

5.7.2 Table #2 shall be used as the reference for determining clearances when utilizing vehicles and mechanical equipment.

5.7.3 Table #3 is for qualified electrical employees working on exposed, energized parts. The clear live line tool distance shall equal or exceed the values for the indicated voltage ranges. Phase to phase clearances apply to live line bare handed work.

**TABLE 1  
STATION WORK**

**MINIMUM APPROACH DISTANCES**

<u>VOLTAGE</u>	Unqualified Personnel Working Near Exposed Energized Parts	Qualified <sup>1</sup> Personnel Working Near Exposed Energized Parts	Qualified Personnel Working On Exposed Energized Parts
4 kV	3' 4"	2' 1"	2' 1"
13 kV	3' 6"	2' 1"	2' 1"
27 kV	4'	2' 4"	2' 4"
33 kV	4'	2' 4"	2' 4"
69 kV	4' 11"	3'	3'
138 kV	6' 8"	4' 7"	3' 7"
230 kV	9' 4"	6' 3"	5' 3"
345 kV	14' 8"	9' 6"	8' 6"
500 kV	22' 10"	12' 3"	11' 3"

<sup>1</sup>These distances also apply to unqualified personnel who have been trained in the safe work practices and are under the direct supervision of a qualified person.

**TABLE 2**

**VEHICLE AND MECHANICAL EQUIPMENT  
CLEARANCE DISTANCE**

<u>VOLTAGE</u>	Qualified Personnel Operating Grounded Equipment With A Designated Watcher	Unqualified Personnel Operating Grounded Equipment Lowered	All Personnel Moving Ungrounded Equipment W/Structure
4 kV	2' 1"	10'	4'
13 kV	2' 1"	10'	4'
27 kV	2' 4"	10'	4'
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69 kV	3'	10' 8"	4' 8"
138 kV	3' 7"	12' 11"	7'
230 kV	5' 3"	16'	10'
345 kV	8' 6"	19' 10"	13' 10"
500 kV	11' 3"	25'	19'

**TABLE 3****AC LIVE-LINE WORK MINIMUM APPROACH DISTANCE**

	Nominal voltage in kilovolts		Distance phase to phase	
	Phase to ground exposure		Phase to phase exposure	
	(ft-in)	(m)	(ft-in)	(m)
0.05 to 1.0	Avoid Contact		Avoid Contact	
1.1 to 15.0	2-1	0.64	2-2	0.66
15.1 to 36.0	2-4	0.72	2-7	0.77
36.1 to 46.0	2-7	0.77	2-10	0.85
46.1 to 72.5	3-0	0.90	3-6	1.05
72.6 to 121	3-2	0.95	4-3	1.29
138 to 145	3-7	1.09	4-11	1.50
161 to 169	4-0	1.22	5-8	1.71
230 to 242	5-3	1.59	7-6	2.27
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500 to 550	11-3	3.42	18-1	5.50
765 to 800	14.11	4.53	26-0	7.91

The following notes pertain to Table 3:

**NOTE 1:** These distances take into consideration the highest switching surge an employee will be exposed to on any system with air as the insulating medium and the maximum voltages shown.

**NOTE 2:** The clear live-line tool distance shall equal or exceed the values for the indicated voltage ranges.

**NOTE 3:** Phase to phase clearances apply to live line bare handed work.

**NOTE 4:** Lesser distances may be employed based on specific engineering studies.

5.7-1 Where there is not adequate working clearance from exposed current-carrying parts of adjacent equipment, no work shall be performed on any cables, wires, or other devices unless:

- a. A barrier of an approved type has been installed temporarily to prevent accidental contact with adjacent live parts, or

- b. The adjacent equipment has been removed from service and protected as directed by the operator having jurisdiction.

5.7.4 Whenever there is any question of the adequacy of the clearance between the specific area in which work is to be done and exposed current-carrying parts of adjacent equipment a field inspection shall be made by the appropriate management representative. The results of this inspection shall be the basis for a departmental written work procedure, where required, which shall include all protection necessary to complete the work safely, including watchers where needed. The procedure shall be prepared by the operating group and distributed to all groups involved in advance of the starting time. If required, a watcher or watchers shall be delegated to assure that confines of the work area are not violated. The watcher shall be an approved employee who has a comprehensive understanding of the job.

5.7.5 Employees shall not pass over or perform work above exposed or unprotected live equipment unless necessary safety precautions have been taken to prevent the worker or his tools and equipment from falling into such equipment.

5.7.6 No work shall be done on throughbolts, operating rods, pipes, conduits, mounting brackets, shelves, screens, iron details etc. in a dead compartment which may in any way alter the clearance in an adjoining compartment unless it is definitely known that all equipment and parts therein are dead. Compartment doors must be removed to present a clear view of the work procedure and the effects of work on the equipment in the adjoining compartment must be noted and corrected if necessary.

5.7.7 When it is necessary to snake a duct, precautions shall be taken to guard against personal injury or damage to equipment, particularly at the far end of the duct. Adjoining ducts also shall be observed when there is a possibility that a snake might be directed to a different location through a break in the duct wall, especially if the snake could make contact with live or moving parts when it emerges.

Appendix M  
Phase 1  
Environmental  
Site Assessment Report



**PHASE I ENVIRONMENTAL  
SITE ASSESSMENT REPORT**

**DE STASO ENTERPRISES, LTD.  
1-42 HYENGA LAKE  
SPRING VALLEY, NY 10954**

**TEAM ENVIRONMENTAL  
CONSULTANTS, INC.  
30 INDUSTRIAL DRIVE  
MIDDLETOWN, NEW YORK  
(845) 692-8124**

**MARCH 21, 2006**

## **1.0 EXECUTIVE SUMMARY**

Team Environmental Consultants, Inc. (TEAM), was authorized by Provident Bank to conduct a Phase I Environmental Assessment (Due Diligence Survey) of a multi-family residential property located at 1-42 Hyenga Lake in Spring Valley, New York. The objective of the Phase I Environmental Site Assessment (ESA) was to identify significant environmental impairments and liabilities associated with the subject property. The requested scope of work included the following tasks: 1) Review of available historical and regulatory file information; 2) Performance of site/regulatory interviews and a walk-through property inspection; 3) Review of a federal and state environmental database report; and 4) Documentation of findings in a Phase I ESA Report.

Based on the site setting, availability of a municipal water supply, review of available information, performance of site/regulatory interviews, and findings of the property walk-through inspection, no significant and immediate environmental liability issues associated with the subject property were identified.

## **2.0 PROPERTY DESCRIPTION**

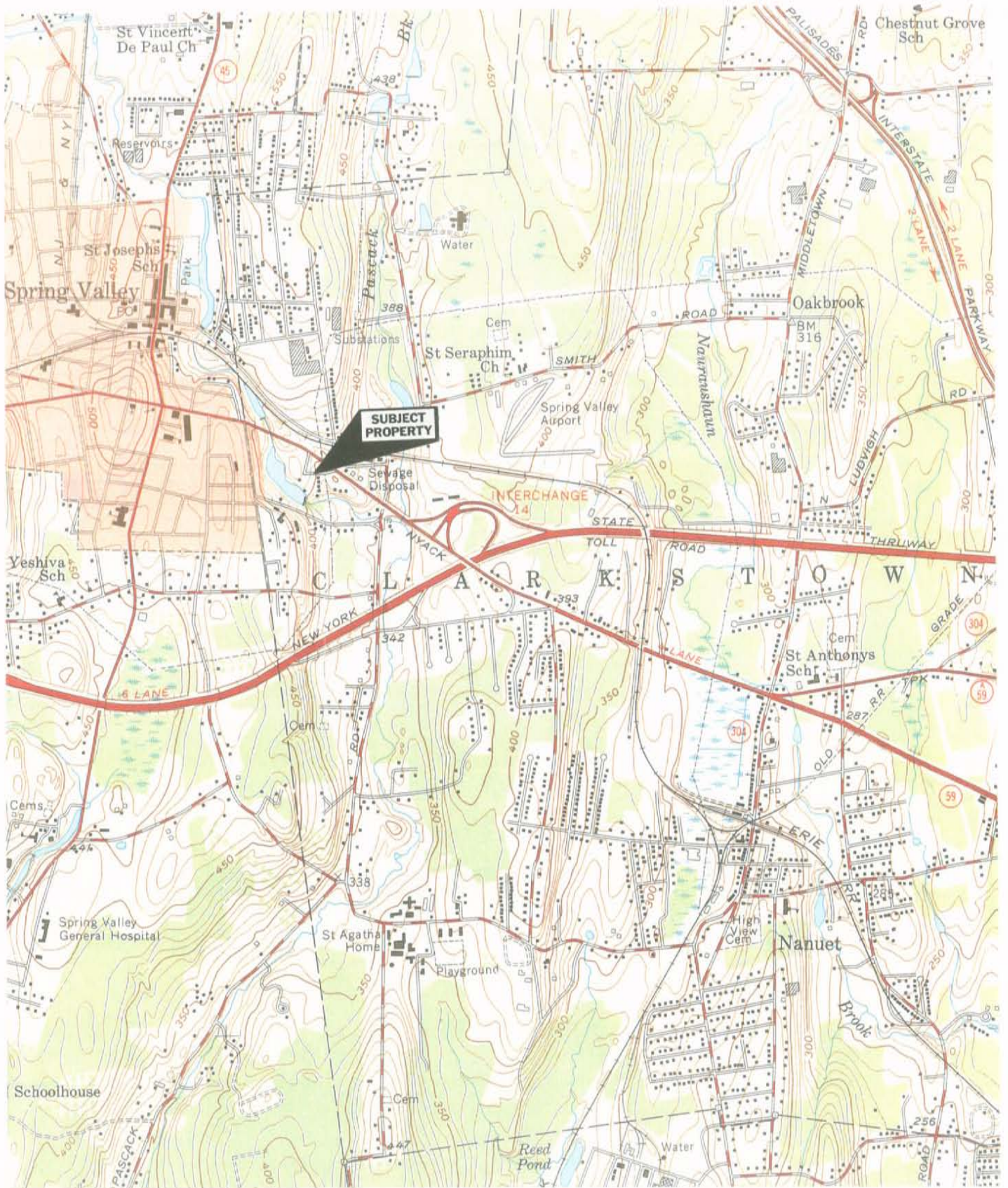
### **2.1 Site Description**

The subject property is located along the northern side of Pipetown Hill Road, approximately 1,500-feet northwest of the New York State Thruway (Interstate Route 87), in the Town of Clarkstown, Rockland County, New York (Figures 1 and 2). The site is bordered to the north by an automobile dealership (Wide World of Cars) and a multi-tenanted commercial building, to the east by residential and undeveloped wooded properties, to the south by Pipetown Hill Road, residential condominium developments, and undeveloped wooded property, and to the west by residential properties situated along South Central Avenue. The property is accessed from New York State Route 59 (Nyack Turnpike) via a right-of-way driveway. The site topography is variable and partially below the grade of Pipetown Hill Road. Photographs obtained during performance of the property inspection are presented within Attachment A.

The irregularly shaped 12.4-acre property is improved with thirteen one-story (with full unfinished basements) wood framed one and two family residences and a one-story (on slab) wood frame single family residence. Also situated onsite are two unoccupied "boarded-up" residential structures and a partially filled in-ground swimming pool. An Orange and Rockland Utilities (O&R) utility line easement traverses the eastern section of the property in a general north-south direction. A surface water stream (Pascack Brook) and former lake bed (Hyenga Lake) are situated



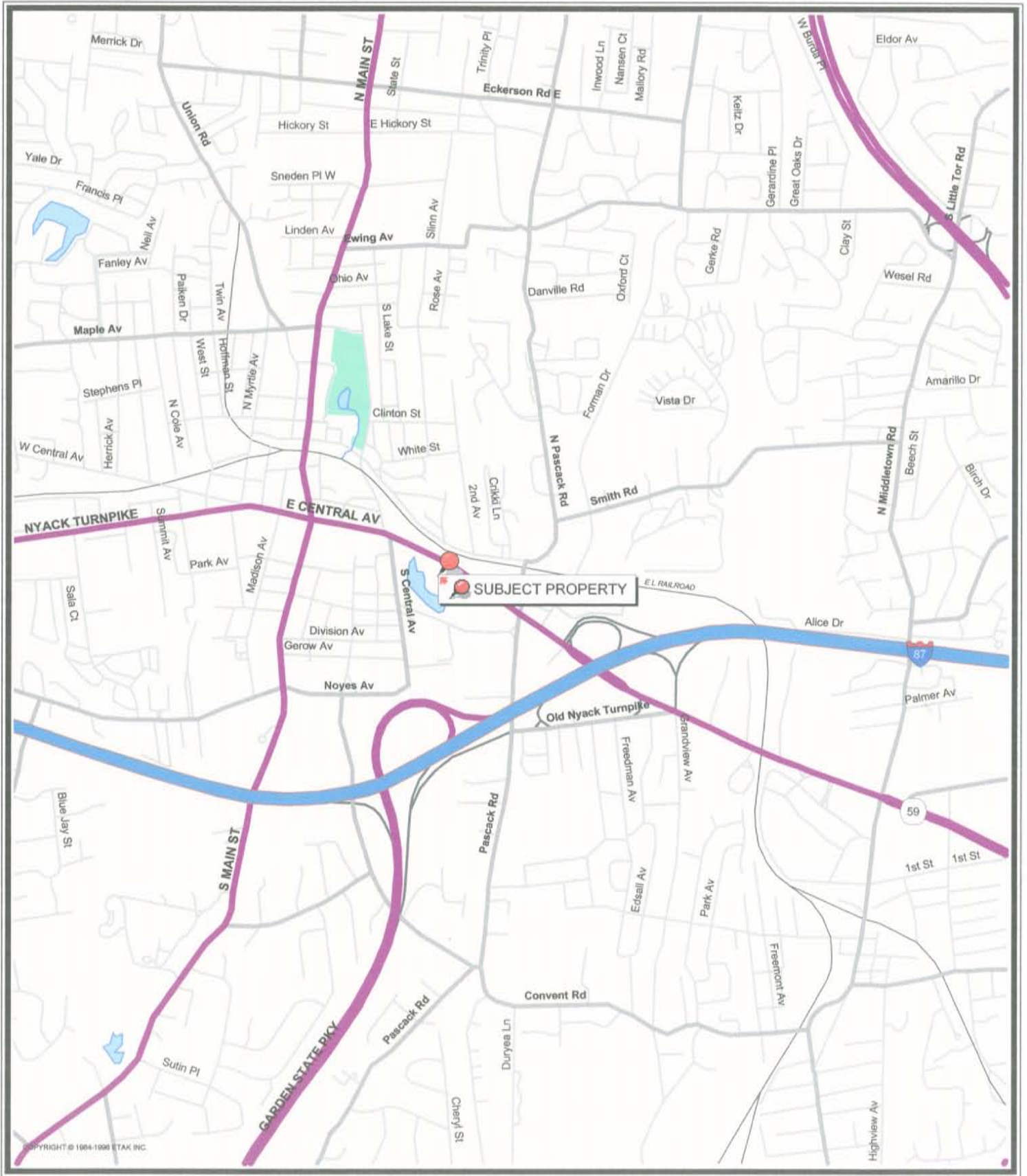
# SITE LOCATION MAP



USGS TOPOGRAPHIC MAP  
7.5 MINUTE SERIES 1955  
PARK RIDGE, NJ-NY QUADRANGLE  
SCALE = 1 : 24000

FIGURE 1

# FIGURE 2 - PROPERTY LOCATOR MAP



within the southeastern and western portions of the site, respectively. According to Town of Clarkstown Tax Assessor records and Phase I ESA interviews, the residential structures range in size from approximately 900 to 2,000-ft<sup>2</sup> and were constructed in the 1930's. No documentation detailing historic site development or the performance of building renovation efforts was available for TEAM review. Proposed site improvement plans call for the demolition of all onsite buildings and the construction of an eighty unit townhouse development. Each residential apartment will range in area from 900 to 1,200-ft<sup>2</sup>. Site demolition and clearing activities are scheduled to commence in July of 2006. Completion of the construction project is expected in July of 2007. No formal site development plans were available for review.

The potable water supply and sanitary waste treatment service are provided to the subject property by the United Water Company and Rockland County Sewer District, respectively. An inactive water supply well is located within the northern section of the site. All of the current and proposed residential structures are/will be heated by natural gas fired equipment. No site or regulatory information concerning the current or former onsite presence of any underground or aboveground petroleum storage tanks was available during performance of the Phase I ESA. Electrical service and natural gas are supplied by Orange and Rockland Utilities (O&R). Non-hazardous solid waste is removed by a private hauler (HIEP Sanitation). Utility connections are located both aboveground and underground.

## 2.2 Site History

Information obtained from the Town of Clarkstown Tax Assessor's Office indicates the subject property (Section 57.14, Block 3, Lot 2) to have been acquired by De Staso Enterprises, Ltd., in June of 1999 (Liber 1999, Page 30606). The property was previously owned by BG Shefa Development. No previously conducted title searches or file documentation detailing historic property ownership was available for TEAM review. None of the documented former owners on record appear to have been an industrial concern that would be expected to have utilized the property for the storage, usage, or disposal of industrial chemicals or hazardous materials.

According to site and regulatory interviews, the subject parcel has historically been utilized for residential purposes. The subject property was operated as a seasonal bungalow colony from the time of initial development in the 1930's until the mid-1980's. No site or regulatory information as to historic use of the property for industrial or manufacturing purposes (i.e., activities that would be expected to have routinely produced regulated hazardous materials or waste products) was available during performance of the Phase I ESA.

### 2.3 Fire Insurance Map Search

No fire insurance maps (e.g., Sanborn, Hopkins, Nirenstein, etc.) for the subject property location were located within the Environmental Data Resources, Inc. (EDR) Historic Map Collection. The absence of historic maps may be indicative of the generally non-industrialized area.

## **3.0 SITE INSPECTION**

On March 9, 2006, TEAM conducted an inspection of accessible sections of the subject property. The requested scope of work did not include performance of any field sampling activities (e.g., asbestos, soil, surface water, or groundwater) or completion of a formal regulatory compliance audit, as it would relate to the use, storage, permitting, or disposal of regulated materials and waste products. A listing of Phase I ESA interview and information sources is presented as Attachment B.

### 3.1 Property Inspection

The inspection of accessible portions of the subject property (extremely difficult due to the size of the parcel and the presence of vegetation, leaf litter, parked vehicles, and scattered debris) revealed no unusual odors or visual evidence of significant surface staining that could be indicative of leaking petroleum storage tanks, chemical spills, or industrial waste disposal. No PCB-labeled electrical equipment, aboveground petroleum/chemical storage tanks, suspected underground petroleum storage tank fill ports or vent pipes, unmarked waste storage drums, stormwater collection drains, groundwater monitoring wells, or industrial waste storage or disposal facilities within the exterior property confines were observed. Property owner Vincent De Staso informed TEAM that he was unaware of any adverse environmental issues associated with the property or the current/former onsite presence of any underground petroleum storage tanks.

No significant freshwater wetland habitat areas were observed within or proximate to the subject property. As previously indicated Pascack Brook and a former lake bed (Hyenga Lake) are located onsite. The requested scope of work did not include performance of formal wetland or flood plain delineation surveys.

### 3.2 Building Inspections

TEAM was unable to access the interior of any of the onsite residential buildings. According to Phase I ESA interviews, no regulated or hazardous waste products requiring RCRA manifesting

and tracking procedures are generated as a result of current residential site use or building maintenance activities. Due to the age of the site buildings, asbestos containing materials (ACM) may be associated within the residential structures. No historic asbestos sampling or abatement documentation was available. The requested scope of work did not include performance of a formal asbestos or lead-based paint sampling survey.

#### **4.0 RECORD REVIEW AND DOCUMENTATION**

##### 4.1 Regulatory Review - Town of Clarkstown

Review of available files and interviews with Town of Clarkstown Building and Planning Department representatives, revealed no information concerning the existence of any adverse environmental concerns or violations associated with the subject property. No information pertaining to the current or former onsite presence of any underground petroleum storage tanks was available during performance of the regulatory review effort.

##### 4.2 Regulatory Review - New York State Department of Environmental Conservation

The requested Phase I ESA time frame precluded submittal of a Freedom of Information Legislation (FOIL) request to the New York State Department of Environmental Conservation (estimated four week time period to review available files).

##### 4.3 Federal and State Database Report

TEAM has obtained an Environmental FirstSearch Network (EFSN) Site Assessment Report which provides information concerning the target property and those sites located within an ASTM established radius and listed in any of the following Federal and State databases:

- National Priority List (NPL);
- Resource Conservation and Recovery Information System (RCRIS),  
Large Quantity Generators and TSD Facilities,  
Small Quantity Generators and Transporters;
- New York State Spills Database (SPILLS);
- Comprehensive Environmental Response, Compensation, and Liability System (CERCLIS);
- New York State Registry of Inactive Hazardous Waste Disposal Sites (STATE);

- Emergency Response Notification System (ERNS);
- New York Leaking Storage Tanks (LUST);
- New York Active Solid Waste Facility Register (SWL); and
- New York Registered Bulk Storage Tanks (UST/AST).

The EFSN Database Report presented in Attachment C, identifies no NPL, CERCLIS, NFRAP, ERNS, or SWL sites within the ASTM established survey radius. Six LUST, eighteen SPILLS, and three STATE sites are found within a one-eighth to one mile distance. The nearest of these is a SPILLS site (Jiffy Lube/Quik Lube) located approximately 600-feet to the northwest along Route 59. The Spill Date for this location is listed as April 1, 1991 (waste oil release). The remedial status is indicated to be "closed." The closest LUST site (Strip Mall) is situated approximately 800-feet to the southwest at 99 South Central Avenue. The Spill Date is referenced as March 1, 1999 (waste oil tank test failure). The remedial status is listed as "active." The nearest STATE site (Ramapo Helicopter) is found approximately 3,500-feet to the northeast.

As the subject property is serviced with a municipal water supply, the proximity of EFSN identified sites would not appear to impact or pose significant environmental liabilities with respect to proposed site use or water quality issues. The subject Hyenga Lake property is not identified within any of the EFSN accessed databases.

## **5.0 CONCLUSIONS**

Based on the site setting, availability of a municipal water supply, review of available information, performance of site/regulatory interviews, and findings of the property walk-through inspection, no significant and immediate environmental liability issues associated with the Hyenga Lake property were identified. No additional environmental site investigations are recommended at this time.

## 6.0 LIMITATIONS

The conclusions stated are based on the limits of the investigation described herein. TEAM can offer no assurances and assumes no responsibility for site conditions or activities which were outside the scope of the inquiry requested. In performing its investigations, TEAM has used reasonable care and has performed its work in keeping with industry standards and standard engineering practice, as appropriate. It should be understood that TEAM has relied on the accuracy of documents, oral information, and other material and information provided by sources documented in this report. There can be no assurance, and TEAM offers no assurance, that site conditions do not exist or could not exist in the future which were undetected and which could lead to liability in connection with the site. Similarly, past and present activities on the site indicating potential environmental concerns may not have been discovered by TEAM's inquiries.

The Phase I Environmental Site Assessment was prepared for reliance by Provident Bank in accordance with all regulatory and good management standards, and to the best of our knowledge, is complete and accurate.

Martin C. Wodka

Martin C. Wodka  
President



# **ATTACHMENT A**

**SITE PHOTOLOG - MARCH 9, 2006**

**ATTACHMENT A – PHOTOLOG**  
**DESTASO ENTERPRISES, LTD. PROPERTY**  
**1-42 HYENGA LAKE, SPRING VALLEY, NEW YORK**

<u>Photo No.</u>	<u>Description</u>
1	Western view from Route 59 towards subject property entrance (left side of photograph).
2	Western view across site as seen from access road.
3	Southern view towards onsite residences.
4	Western view towards residential buildings.
5	Unoccupied residential structure.
6	Unoccupied residential structure.
7	Partially filled in-ground swimming pool situated within northern section of site.
8	Southeastern view towards Pascack Creek.
9	Inactive water supply well.



1



2



3



4



5



6



7



8



9



# **ATTACHMENT B**

**PHASE I ESA INTERVIEW AND INFORMATION SOURCES**

## ATTACHMENT B

### PHASE I ESA INTERVIEW & INFORMATION SOURCES

#### DE STASO ENTERPRISES, LTD. PROPERTY

1-42 HYENGA LAKE, SPRING VALLEY, NEW YORK 10954

Person(s) Interviewed	Affiliation	Phone Number
Alex Rusiecki	Provident Bank	845-918-5657
Vincent De Staso	De Staso Enterprises, Ltd. - Property Owner	845-406-2206
Howard Hellman	Site Developer	845-358-1200
Joe Simoes	Town of Clarkstown Planner	845-639-2070
Nicholas Longo	Town of Clarkstown Tax Assessor	845-639-2031
Mary Ann Antolino	Town of Clarkstown Building Department	845-639-2100
Michael Costello	Environmental FirstSearch Technology, Inc.	781-320-3720



# **ATTACHMENT C**

**EFSN FEDERAL & STATE DATABASE REPORT**

# *FirstSearch Technology Corporation*

## **Environmental FirstSearch™ Report**

TARGET PROPERTY:

**1-42 HYENGA LAKE**

**NANUET NY 10954**

Job Number: PHASE I

**PREPARED FOR:**

TEAM Environmental Consultants

30 Industrial Drive

Middletown, NY 10941

03-20-06



*Tel: (781) 551-0470*

*Fax: (781) 551-0471*

## Environmental FirstSearch Search Summary Report

**Target Site:** 1-42 HYENGA LAKE  
NANUET NY 10954

### FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	01-13-06	1.00	0	0	0	0	0	0	0
CERCLIS	Y	01-13-06	0.50	0	0	0	0	-	0	0
NFRAP	Y	01-13-06	0.25	0	0	0	-	-	0	0
RCRA TSD	Y	02-06-06	0.50	0	0	0	0	-	0	0
RCRA COR	Y	02-06-06	1.00	0	0	0	0	0	0	0
RCRA GEN	Y	02-06-06	0.25	0	1	1	-	-	0	2
RCRA NLR	N	02-06-06	0.25	-	-	-	-	-	-	-
ERNS	Y	12-31-05	0.25	0	0	0	-	-	2	2
NPDES	N	10-14-05	0.25	-	-	-	-	-	-	-
FINDS	N	09-12-05	0.25	-	-	-	-	-	-	-
TRIS	N	12-01-05	0.25	-	-	-	-	-	-	-
State Sites	Y	02-09-06	1.00	0	0	0	0	3	0	3
Spills-1990	Y	10-15-05	0.25	0	1	17	-	-	23	41
Spills-1980	N	10-18-00	0.15	-	-	-	-	-	-	-
SWL	Y	01-05-06	0.50	0	0	0	0	-	0	0
Permits	N	05-01-99	0.25	-	-	-	-	-	-	-
Other	N	01-01-02	0.25	-	-	-	-	-	-	-
REG UST/AST	Y	01-01-02	0.25	0	2	8	-	-	5	15
Leaking UST	Y	10-15-05	0.25	0	0	6	-	-	2	8
State Wells	N	02-02-98	0.50	-	-	-	-	-	-	-
Aquifers	N	07-06-01	0.50	-	-	-	-	-	-	-
ACEC	N	NA	0.50	-	-	-	-	-	-	-
Wetlands	N	11-20-00	0.50	-	-	-	-	-	-	-
Floodplains	N	04-08-98	0.50	-	-	-	-	-	-	-
Nuclear Permits	N	04-30-99	0.50	-	-	-	-	-	-	-
Historic/Landmark	N	11-17-05	0.50	-	-	-	-	-	-	-
Federal Land Use	N	01-27-05	0.50	-	-	-	-	-	-	-
Federal Wells	N	05-19-03	0.50	-	-	-	-	-	-	-
Releases(Air/Water)	N	12-31-05	0.25	-	-	-	-	-	-	-
HMIRS	N	03-15-05	0.25	-	-	-	-	-	-	-
NCDB	N	08-30-04	0.25	-	-	-	-	-	-	-
PADS	N	12-27-05	0.25	-	-	-	-	-	-	-
Federal Other	N	05-13-05	0.25	-	-	-	-	-	-	-
Brownfield	N	10-18-05	0.25	-	-	-	-	-	-	-
Towers	N	01-15-04	0.25	-	-	-	-	-	-	-
Soils	N	11-28-05	0.25	-	-	-	-	-	-	-
Receptors	N	01-01-95	0.50	-	-	-	-	-	-	-
FIMAP	N	07-14-05	0.12	-	-	-	-	-	-	-
- TOTALS -				0	4	32	0	3	32	71

#### Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

#### Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

**Environmental FirstSearch  
Sites Summary Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**TOTAL:** 71      **GEOCODED:** 39      **NON GEOCODED:** 32      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
3	RCRAGN	WIDE WORLD OF CARS INC NYD987024296/SGN	125 E RTE 59 SPRING VALLEY NY 10977	0.10 NW	1
3	UST	WIDE WORLD OF CARS, INC. R3-990778	125 EAST ROUTE 59 SPRING VALLEY NY 10977	0.10 NW	3
13	SPILLS	JIFFY LUBE / QUIK LUBE 9100020/CLOSED 12/20/2004	RT. 59 SPRING VALLEY NY 10977	0.11 NW	5
18	UST	CHARLIE S CAR CARE, INC. R3-990647	81 EAST ROUTE 59 SPRING VALLEY NY 10977	0.11 SE	6
11	SPILLS	CLARKSTOWN EQUIP. CO. 9814886/CLOSED 03/15/1999	RT59 SPRING VALLEY NY 10977	0.13 SE	9
11	UST	CLARKSTOWN EQUIPMENT CO. R3-990777	77 EAST ROUTE 59 SPRING VALLEY NY 10977	0.13 SE	10
2	RCRAGN	BIOSOURCE PHARM INC NYR000026633/VGN	135 RTE 59 E SPRING VALLEY NY 10977	0.14 NW	13
10	SPILLS	CLARKSTOWN EQUIP. 9000722/CLOSED 04/30/1990	44 EAST RT.59 SPRING VALLEY NY 10977	0.15 SE	14
14	LUST	STRIP MALL 9814365/ACTIVE	99 SOUTH CENTRAL AVE SPRING VALLEY NY 10977	0.15 SW	15
14	SPILLS	STRIP MALL 9814365/ACTIVE	99 SOUTH CENTRAL AVE SPRING VALLEY NY 10977	0.15 SW	16
14	SPILLS	OLD AUTO SHOP 9710643/ACTIVE	99 S. CENTRAL AVE SPRING VALLEY NY 10977	0.15 SW	17
14	UST	ANY N ALL AUTO R3-990813	99 SOUTH CENTRAL AVENUE SPRING VALLEY NY 10977	0.15 SW	18
14	UST	MAX S AUTO CARE R3-990843	99 A SOUTH CENTRAL AVENUE SPRING VALLEY NY 10977	0.15 SW	20
7	LUST	AMOCO STATION 9205739/CLOSED 08/27/1992	RT. 59 SPRING VALLEY NY 10977	0.16 NW	22
7	SPILLS	AMOCO STATION 9205739/CLOSED 08/27/1992	RT. 59 SPRING VALLEY NY 10977	0.16 NW	23
7	SPILLS	AMOCO 9400323/CLOSED 11/25/1997	BILL WOLF PETRO SPRING VALLEY NY 10977	0.16 NW	24
6	SPILLS	A AND J GUTTER SERVICE 0101068/CLOSED 05/23/2001	39 SOUTH CENTRAL SPRING VALLEY NY 10977	0.16 NW	25
7	UST	BABU LAKOSE R3-990219	140 EAST ROUTE 59 SPRING VALLEY NY 10977	0.16 NW	26
17	UST	ALBERT RICHARD REALTY R3-990488	31 EAST ROUTE 59 SPRING VALLEY NY 10977	0.16 SE	29
12	SPILLS	EXPRESSWAY LUBE CENTER 9301330/ACTIVE	17 EAST RT. 57 SPRING VALLEY NY 10977	0.18 SE	32
12	UST	EXPRESSWAY LUBE CENTER R3-990353	17 EAST ROUTE 59 SPRING VALLEY NY 10977	0.18 SE	33

**Environmental FirstSearch  
Sites Summary Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**TOTAL:** 71      **GEOCODED:** 39      **NON GEOCODED:** 32      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
19	LUST	BENZENE CORP. 8900318/CLOSED	1 EAST RT. 59 SPRING VALLEY NY 10977	0.20 SE	36
19	LUST	CYCO PETROLEUM 8809828/CLOSED	1 EAST RT. 59 SPRING VALLEY NY 10977	0.20 SE	37
19	UST	SEVGEN ENT, INC. (GULF) R3-990356	1 EAST ROUTE 59 SPRING VALLEY NY 10977	0.20 SE	38
15	SPILLS	ROCKLAND MINI STORAGE 9101648/CLOSED 05/16/1991	75 DASCAC ROAD SPRING VALLEY NY 10977	0.23 SE	41
8	LUST	APT. HOUSE KOOK MAINT. 9407590/CLOSED 11/30/1998	2 DUTCH LANE SPRING VALLEY NY 10977	0.24 NW	42
8	LUST	APARTMENT 9411072/CLOSED 08/03/2005	2 DUTCH LANE SPRING VALLEY NY 10977	0.24 NW	43
16	SPILLS	WIDE WORLD OF CARS 0101196/CLOSED 05/03/2001	RT 59 & DUTCH LN SPRING VALLEY NY 10977	0.24 NW	44
8	SPILLS	APARTMENT 9411072/CLOSED 08/03/2005	2 DUTCH LANE SPRING VALLEY NY 10977	0.24 NW	45
8	SPILLS	APT. HOUSE KOOK MAINT. 9407590/CLOSED 11/30/1998	2 DUTCH LANE SPRING VALLEY NY 10977	0.24 NW	46
8	UST	DUTCH LANE APARTMENTS R3-990697	2 DUTCH LANE SPRING VALLEY NY 10977	0.24 NW	47
9	SPILLS	BURNS SUB STATION 0207625/CLOSED	PASZACK RD SPRING VALLEY NY 10977	0.24 SE	49
9	SPILLS	BURNS SUBSTATION 0413335/CLOSED	PASCACK RD SPRING VALLEY NY 10954	0.24 SE	50
9	SPILLS	BURNS SUBSTATION 0502199/CLOSED	PASCACK RD. SPRING VALLEY NY 10954	0.24 SE	51
9	SPILLS	BURNS SUBSTATION 0206137/CLOSED	PASCACK RD SPRING VALLEY NY 10977	0.24 SE	52
9	SPILLS	SUB STATION BURNES 0309012/CLOSED	PASCACK RD / RT 59 SPRING VALLEY NY 10977	0.24 SE	53
1	STATE	RAMAPO HELICOPTER, INC. HS3061/INACTIVE	U SPRING VALLEY NY 10977	0.69 NE	54
4	STATE	COSCO 344035	15 WEST STREET SPRING VALLEY NY 10977	0.80 NW	56
5	STATE	SPRING VALLEY WELL FIELD 344018	RT. 45 AND MAPLE AVENUE, SP RAMAPO NY 10977	0.86 NW	58





# Environmental FirstSearch

1 Mile Radius  
ASTM Map: NPL, RCRACOR, STATE Sites



## 1-42 HYENGA LAKE , NANUET NY 10954



Source: 2002 U.S. Census TIGER Files

Target Site (Latitude: 41.106141 Longitude: -74.036864) .....

Identified Site, Multiple Sites, Receptor .....

NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste .....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





# Environmental FirstSearch

.5 Mile Radius

ASTM Map: CERCLIS, RCRATSD, LUST, SWL



1-42 HYENGA LAKE , NANUET NY 10954



Source: 2002 U.S. Census TIGER Files

Target Site (Latitude: 41.106141 Longitude: -74.036864) .....

Identified Site, Multiple Sites, Receptor .....

NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





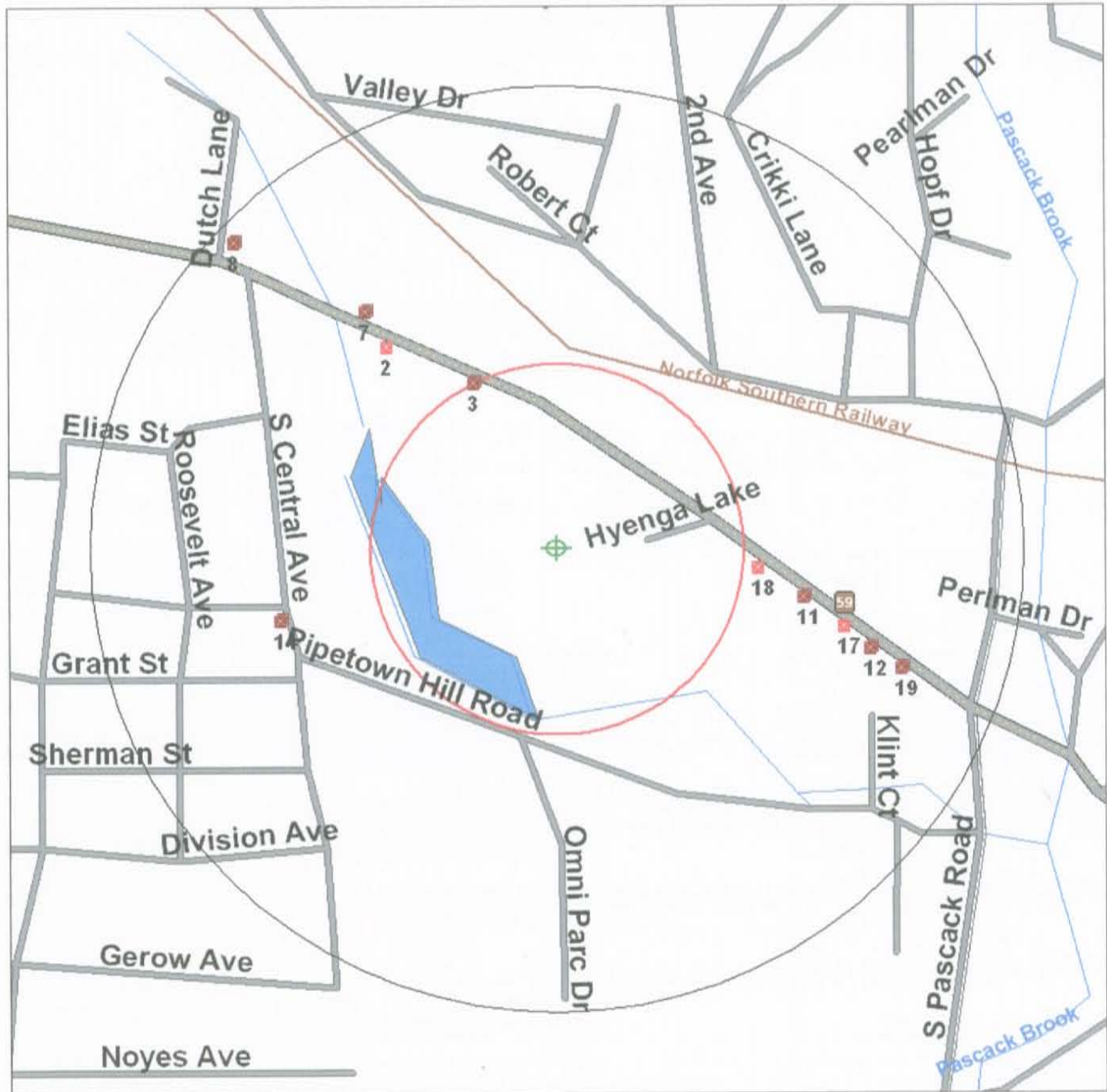


# Environmental FirstSearch

.25 Mile Radius  
ASTM Map: RCRAGEN, ERNS, UST



## 1-42 HYENGA LAKE , NANUET NY 10954



Source: 2002 U.S. Census TIGER Files

- Target Site (Latitude: 41.106141 Longitude: -74.036864) .....
- Identified Site, Multiple Sites, Receptor .....
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste .....
- Railroads .....
- Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



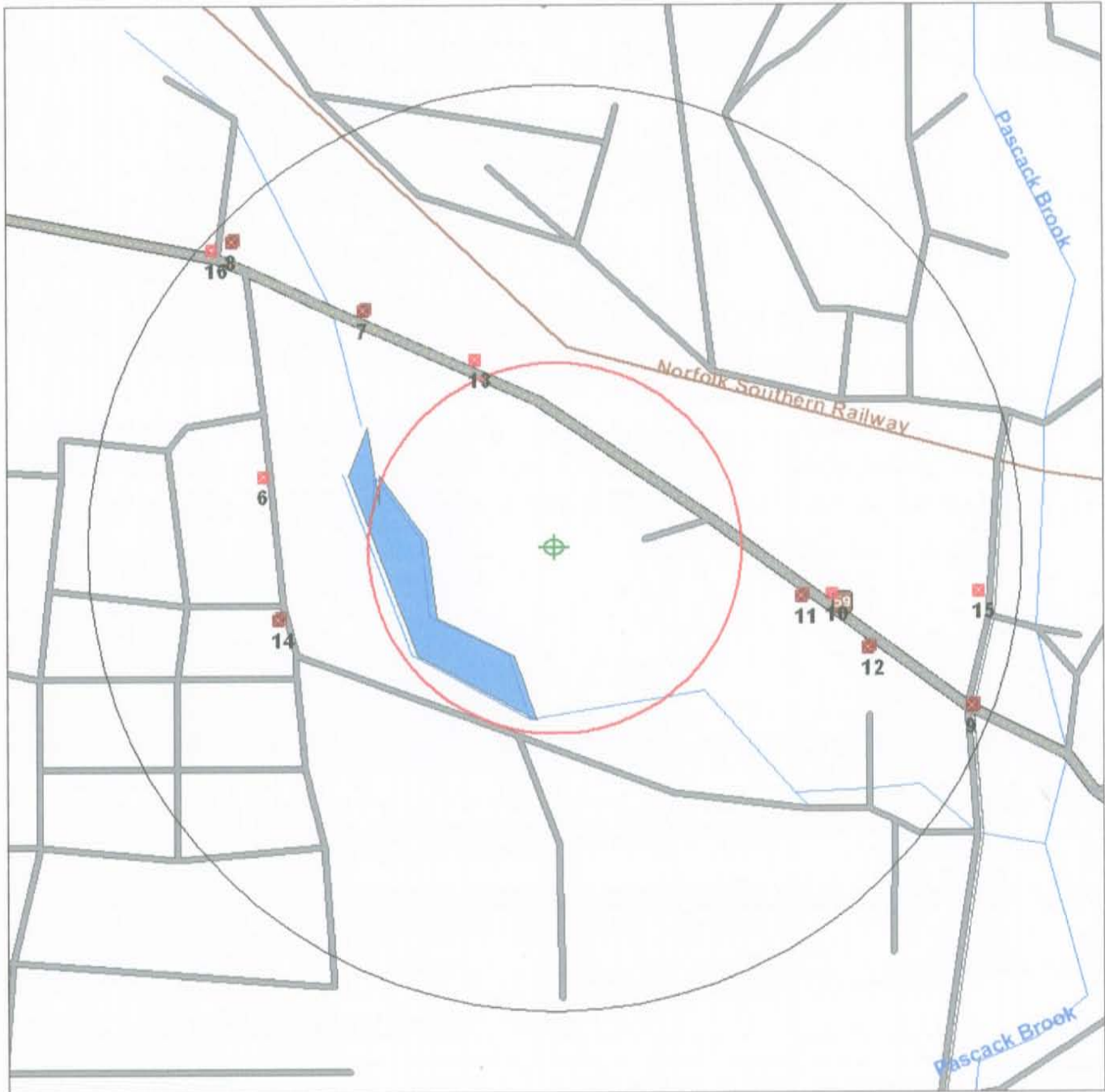


# Environmental FirstSearch

.25 Mile Radius  
Non-ASTM Map: Spills 90



1-42 HYENGA LAKE , NANUET NY 10954



Source: 2002 U.S. Census TIGER Files

- Target Site (Latitude: 41.106141 Longitude: -74.036864) .....
- Identified Site, Multiple Sites, Receptor .....
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste .....
- National Historic Sites and Landmark Sites .....
- Railroads .....



Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

**Environmental FirstSearch  
Sites Summary Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**TOTAL:** 71      **GEOCODED:** 39      **NON GEOCODED:** 32      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
	ERNS	ORANGE AND ROCKLAND 448451/FIXED FACILITY	MIDDLETOWN RD NANUET NY 10954	NON GC	N/A
	ERNS	SPRING VALLEY WATER CO. 276411/UNKNOWN	TOWNLIN RD NANUET NY 10954	NON GC	N/A
	LUST	CHEVRON 8503867/CLOSED	RT 59 NANUET NY 10954	NON GC	N/A
	LUST	SCHETTINO CARTERS CO. 9012190/CLOSED 03/01/1991	PROSPECT AVE. NANUET NY 10954	NON GC	N/A
	SPILLS	O & R 9310280/CLOSED 11/24/1993	NANUET SUBSTATION NANUET NY 10954	NON GC	N/A
	SPILLS	HYENGA LAKE 9913544/CLOSED 10/29/2002	LOT # 23 ON RT 59 NANUET NY 10954	NON GC	N/A
	SPILLS	POLE 0405209/CLOSED	SOUTH MIDDLETOWN/OLD MIDD NANUET NY	NON GC	N/A
	SPILLS	NAURASHAUN BROOK 0303226/CLOSED	RT 59A NANUET NY 10954	NON GC	N/A
	SPILLS	ALICE DRIVE 0208196/CLOSED	ALICE DRIVE NANUET NY 10954	NON GC	N/A
	SPILLS	@ 0404721/CLOSED	19 NORMANDY VILLAGE NANUET NY	NON GC	N/A
	SPILLS	SCHETTINO CARTERS CO. 9012190/CLOSED 03/01/1991	PROSPECT AVE. NANUET NY 10954	NON GC	N/A
	SPILLS	STEVEN FAMILY PROPERTY 9103619/CLOSED 10/28/2002	RT. 46 & 59A NANUET NY 10954	NON GC	N/A
	SPILLS	BUILDING 8 - APT. COMPLEX 0506761/CLOSED	JAMES DRIVE NANUET NY	NON GC	N/A
	SPILLS	NAURASHAUN CREEK TRIBUTAR 0304493/ACTIVE	RT 59A NANUET NY 10954	NON GC	N/A
	SPILLS	BEHIND OLD CORVETT S SHP. 9200867/CLOSED 10/31/1992	ORCHARD STREET NANUET NY 10954	NON GC	N/A
	SPILLS	BRIAR ROAD 9201729/CLOSED 05/14/1992	BRIAR ROAD NANUET NY 10954	NON GC	N/A
	SPILLS	MANHOLE 0510702/CLOSED	HUTTON AVE NANUET NY	NON GC	N/A
	SPILLS	WELL # 13 9204784/CLOSED 07/28/1992	TOWNLIN ROAD NANUET NY 10954	NON GC	N/A
	SPILLS	G. ROTH DISTRUBUTORS 9502419/CLOSED 06/20/1995	50 AIRPORT EXECUTIVE NANUET NY 10954	NON GC	N/A
	SPILLS	CONSTRUCTION SITE 0403500/CLOSED	OLD RT 59 NANUET NY	NON GC	N/A

**Environmental FirstSearch  
Sites Summary Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**TOTAL:** 71      **GEOCODED:** 39      **NON GEOCODED:** 32      **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
	SPILLS	TOWN LINE ROAD 9012991/CLOSED 12/21/2004	BET.PEACH ST. & PALISADES NANUET NY 10954	NON GC	N/A
	SPILLS	THRUWAY OVERPASS 9404613/CLOSED 07/08/1994	RT. 304 NANUET NY 10954	NON GC	N/A
	SPILLS	C.V. LOT 0108895/CLOSED 02/01/2002	1287 NANUET NY 10954	NON GC	N/A
	SPILLS	WERNER DIESEL SPILL 0210824/CLOSED	I-87WB NEAR EXIT 14 NANUET NY 10954	NON GC	N/A
	SPILLS	MANHOLE 9413143/CLOSED 01/18/1995	WEST NYACK ROAD BARDONIA NY 10954	NON GC	N/A
	SPILLS	TRIANGLE PUB 9504642/CLOSED 07/20/1995	MIDDLETOWN ROAD NANUET NY 10954	NON GC	N/A
	SPILLS	9807665/CLOSED 10/09/1998	ROSE RD NANUET NY 10954	NON GC	N/A
	UST	AIRPORT EXECUTIVE PARK, INC R3-990911	100 AIRPORT EXECUTIVE PARK NANUET NY 10954	NON GC	N/A
	UST	NANUET THEATER COMPANY R3-990628	ROUTE 59 NANUET NY 10954	NON GC	N/A
	UST	POOKS SERVICE STATION R3-990794	301 ROUTE 59 NANUET NY 10954	NON GC	N/A
	UST	TREETOP POOL CBS3-000105/ACTIVE FACILITY	P.O. BOX 650 NANUET NY 10954	NON GC	N/A
	UST	SPRING VALLEY AIRPORT R3-990534	SMITH ROAD NANUET NY 10954	NON GC	N/A

**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**RCRA GENERATOR SITE**

**SEARCH ID:** 2

**DIST/DIR:** 0.10 NW

**MAP ID:** 3

**NAME:** WIDE WORLD OF CARS INC  
**ADDRESS:** 125 E RTE 59  
SPRING VALLEY NY 10977  
ROCKLAND  
**CONTACT:** GARY STONE

**REV:** 2/6/06  
**ID1:** NYD987024296  
**ID2:**  
**STATUS:** SGN  
**PHONE:** 9144252600

**SITE INFORMATION**

**CONTACT INFORMATION:** GARY STONE  
125 E RTE 59  
SPRING VALLEY NY 10977

**PHONE:** 9144252600

**UNIVERSE INFORMATION:**

**SNC:** N - NO  
**BOYSNC:** N - NO  
**GPRA PERMIT:** N - NO  
**GPRA POSTCLOSURE:** N - NO  
**GPRA CA:** N - NO  
**GPRA CME:** N - NO  
**PERM PROG:** ----  
**PREM WRKLD:** ----  
**CLOSURE WRKLD:** ----  
**P C WRKLD:** ----  
**SUBJCA:** N - NO  
**SUBJCA TSD 3004:** N - NO  
**SUBJCA NON TSD:** N - NO  
**CA WRKLD:** N - NO  
**GEN STATUS:** SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

<b>SECOND ID:</b>		<b>OFF SITE RECEIPT:</b>	U - UNKNOWN
<b>ACCESSIBILITY:</b>		<b>COUNTY OWNER:</b>	
<b>FED WSTE GEN OWNER:</b>	HQ	<b>FED WASTE GEN:</b>	2
<b>STATE WSTE GEN OWNER:</b>		<b>STATE WSTE GEN:</b>	

<b>SECOND ID:</b>		<b>OFF SITE RECEIPT:</b>	U - UNKNOWN
<b>ACCESSIBILITY:</b>		<b>COUNTY OWNER:</b>	
<b>FED WSTE GEN OWNER:</b>	HQ	<b>FED WASTE GEN:</b>	1
<b>STATE WSTE GEN OWNER:</b>		<b>STATE WSTE GEN:</b>	

**NAIC INFORMATION**

336211 - MOTOR VEHICLE BODY MANUFACTURING

**ENFORCEMENT INFORMATION:**

**VIOLATION INFORMATION:**

**HAZARDOUS WASTE INFORMATION:**

- Continued on next page -

**Environmental FirstSearch**  
**Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

RCRA GENERATOR SITE

**SEARCH ID:** 2

**DIST/DIR:** 0.10 NW

**MAP ID:** 3

**NAME:** WIDE WORLD OF CARS INC  
**ADDRESS:** 125 E RTE 59  
SPRING VALLEY NY 10977  
ROCKLAND  
**CONTACT:** GARY STONE

**REV:** 2/6/06  
**ID1:** NYD987024296  
**ID2:**  
**STATUS:** SGN  
**PHONE:** 9144252600

Lead

Tetrachloroethylene

The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a to

The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/ blends containing, b

Benzene

X001

Ignitable waste



**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 33

**DIST/DIR:** 0.10 NW

**MAP ID:** 3

**NAME:** WIDE WORLD OF CARS, INC.  
**ADDRESS:** 125 EAST ROUTE 59  
SPRING VALLEY NY 10977  
ROCKLAND  
**CONTACT:** WIDE WORLD OF CARS

**REV:** 7/2/03  
**ID1:** R3-990778  
**ID2:**  
**STATUS:**  
**PHONE:** (914) 425-2600

**SPILL PREVENTION 2:** 0  
**DISPENSER:** 0  
**DATE TESTED:**  
**NEXT TEST:**

<b>TANK NUMBER:</b>	2	<b>TANK STATUS:</b>	IN SERVICE
<b>INSTALLED:</b>	11/11/1111	<b>CLOSED:</b>	
<b>TANK CAPACITY:</b>	275 GALLONS		
<b>PRODUCT:</b>	WASTE OIL		

**TANK TYPE:** STEEL/CARBON STEEL  
**TANK LOCATION:** ABOVEGROUND ON SADDLES, LEGS, STILTS, RACK, OR CRADLE  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** NONE  
**EXTERNAL PROTECTION 2:** NONE

**PIPE TYPE:** STEEL/IRON  
**PIPE LOCATION:** ABOVE GROUND  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** NONE  
**EXTERNAL PROTECTION 2:** NONE

**SECONDARY CONTAINMENT 1:** NONE  
**SECONDARY CONTAINMENT 2:** NONE  
**LEAK DETECTION 1:** NONE  
**LEAK DETECTION 2:** NONE  
**OVERFILL PROTECTION 1:** NONE  
**OVERFILL PROTECTION 2:** NONE  
**SPILL PREVENTION:** 0  
**SPILL PREVENTION 2:** 0  
**DISPENSER:** 0  
**DATE TESTED:**  
**NEXT TEST:**



**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

STATE SPILLS SITE

**SEARCH ID:** 18                      **DIST/DIR:** 0.11 NW                      **MAP ID:** 13

<b>NAME:</b> JIFFY LUBE / QUIK LUBE	<b>REV:</b> 10/15/05
<b>ADDRESS:</b> RT. 59 SPRING VALLEY NY ROCKLAND	<b>ID1:</b> 9100020
<b>CONTACT:</b>	<b>ID2:</b>
	<b>STATUS:</b> CLOSED 12/20/2004
	<b>PHONE:</b>

<b>SPILL DATE:</b> 04/01/91	<b>DATE REPORTED:</b> 04/01/91
<b>SPILL TIME:</b> 12:00	<b>TIME REPORTED:</b> 10:45

<b>MATERIAL SPILLED:</b> WASTE OIL	<b>AMOUNT SPILLED:</b> 0
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0

<b>CAUSE OF SPILL:</b>	DELIBERATE
<b>RESOURCE AFFECTED:</b>	ON LAND
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	COMMERCIAL/INDUSTRIAL
<b>REPORTED BY:</b>	CITIZEN

**CALLER REMARKS:**  
WHITE PIPE COMES OUT OF OIL CHANGE GARAGE DEPOSITS OF WASTE OIL WASTE ARE OBSERVABLE BEHIND GARAGE NEAR THE RAILROAD TRACKS KATHY QUINN RCHD NOTIFIED AND WILL HANDLE

**REGION:** 3                      **UST TRUST?** F

**SPILL INVESTIGATOR:** GHIOSAY                      **TELEPHONE:**

**SPILL CONTACT:**                      **TELEPHONE:**

**SPILLER:**

**ADDRESS:**

**SPILLER CONTACT:**                      **TELEPHONE:**

<b>CALLER:</b>	<b>NOTIFIER:</b>
<b>AGENCY:</b>	<b>AGENCY:</b>
<b>TELEPHONE:</b>	<b>TELEPHONE:</b>

<b>LAST DEC UPDATE:</b> //	<b>CLOSE DATE:</b> //
<b>DOES CLEAN UP MEET STANDARDS?</b> F	<b>PENALTY RECOMMENDED?</b> F
<b>DEC REMARKS:</b>	

**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 27

**DIST/DIR:** 0.11 SE

**MAP ID:** 18

**NAME:** CHARLIE S CAR CARE, INC.  
**ADDRESS:** 81 EAST ROUTE 59  
SPRING VALLEY NY 10977  
ROCKLAND  
**CONTACT:** CHARLES RABINOWITZ

**REV:** 7/2/03  
**ID1:** R3-990647  
**ID2:**  
**STATUS:**  
**PHONE:** (914) 352-2740

**SITE INFORMATION**

**TOTAL NUMBER OF TANKS:** 4

**TYPE OF SITE:** OTHER RETAIL SALES  
**OLD PBS NUMBER:**  
**SECTION:** **CBS NUMBER:** **SPDES NUMBER:**  
**ADDITIONAL ADDRESS INFO:** **BLOCK:** **LOT:**

**TYPE OF OWNER:** CORPORATE/COMMERCIAL  
**OWNER ADDRESS:** 3 FALCON COURT  
SPRING VALLEY NY 10977  
**PHONE:** (914) 356-8539

**EMERGENCY CONTACT:** BARBARA RABINOWITZ  
**PHONE:** (914) 352-2740

**MAILING NAME:** CHARLIE S CAR CARE, INC.  
**ADDRESS:** 3 FALCON COURT  
SPRING VALLEY NY 10977  
**ATTENTION:** MR. CHARLES RABINOWITZ  
**PHONE:** (914) 356-8539

**EXP. DATE:** 12/27/2001

**TANK INFORMATION**

**TANK NUMBER:** 1 **TANK STATUS:** CLOSED - REMOVED  
**INSTALLED:** 11/11/1111 **CLOSED:** 1/14/2002  
**TANK CAPACITY:** 275 GALLONS  
**PRODUCT:** WASTE OIL

**TANK TYPE:** STEEL/CARBON STEEL  
**TANK LOCATION:** UNDERGROUND  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** NONE  
**EXTERNAL PROTECTION 2:** NONE

**PIPE TYPE:** NONE  
**PIPE LOCATION:** NONE  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** NONE  
**EXTERNAL PROTECTION 2:** NONE

**SECONDARY CONTAINMENT 1:** NONE  
**SECONDARY CONTAINMENT 2:** NONE  
**LEAK DETECTION 1:** NONE  
**LEAK DETECTION 2:** NONE  
**OVERFILL PROTECTION 1:** NONE  
**OVERFILL PROTECTION 2:** NONE  
**SPILL PREVENTION:** 0

- Continued on next page -



**Environmental FirstSearch**  
**Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 27

**DIST/DIR:** 0.11 SE

**MAP ID:** 18

**NAME:** CHARLIE S CAR CARE, INC.  
**ADDRESS:** 81 EAST ROUTE 59  
SPRING VALLEY NY 10977  
ROCKLAND  
**CONTACT:** CHARLES RABINOWITZ

**REV:** 7/2/03  
**ID1:** R3-990647  
**ID2:**  
**STATUS:**  
**PHONE:** (914) 352-2740

**SECONDARY CONTAINMENT 1:** NONE  
**SECONDARY CONTAINMENT 2:** NONE  
**LEAK DETECTION 1:** NONE  
**LEAK DETECTION 2:** NONE  
**OVERFILL PROTECTION 1:** NONE  
**OVERFILL PROTECTION 2:** NONE  
**SPILL PREVENTION:** 0  
**SPILL PREVENTION 2:** 0  
**DISPENSER:** SUCTION  
**DATE TESTED:**  
**NEXT TEST:**

**TANK NUMBER:** 3  
**INSTALLED:** 11/11/1111  
**TANK CAPACITY:** 4000 GALLONS  
**PRODUCT:** LEADED GASOLINE  
**TANK STATUS:** CLOSED - REMOVED  
**CLOSED:** 4/1/1989

**TANK TYPE:** STEEL/CARBON STEEL  
**TANK LOCATION:** UNDERGROUND  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** NONE  
**EXTERNAL PROTECTION 2:** NONE

**PIPE TYPE:** STEEL/IRON  
**PIPE LOCATION:** UNDERGROUND  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** NONE  
**EXTERNAL PROTECTION 2:** NONE

**SECONDARY CONTAINMENT 1:** NONE  
**SECONDARY CONTAINMENT 2:** NONE  
**LEAK DETECTION 1:** NONE  
**LEAK DETECTION 2:** NONE  
**OVERFILL PROTECTION 1:** NONE  
**OVERFILL PROTECTION 2:** NONE  
**SPILL PREVENTION:** 0  
**SPILL PREVENTION 2:** 0  
**DISPENSER:** SUCTION  
**DATE TESTED:**  
**NEXT TEST:**



**Environmental FirstSearch**  
**Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 28                                      **DIST/DIR:** 0.13 SE                                      **MAP ID:** 11

<b>NAME:</b> CLARKSTOWN EQUIPMENT CO. <b>ADDRESS:</b> 77 EAST ROUTE 59 SPRING VALLEY NY 10977 ROCKLAND	<b>REV:</b> 7/2/03 <b>ID1:</b> R3-990777 <b>ID2:</b> <b>STATUS:</b> <b>PHONE:</b> (845) 356-3900
<b>CONTACT:</b> ROBERT STUETZLE	

**SITE INFORMATION**

**TOTAL NUMBER OF TANKS:** 6

**TYPE OF SITE:** OTHER

**OLD PBS NUMBER:**                      **CBS NUMBER:**                      **SPDES NUMBER:**  
**SECTION:** 6                      **BLOCK:** B                      **LOT:** 21

**ADDITIONAL ADDRESS INFO:**

**TYPE OF OWNER:** CORPORATE/COMMERCIAL  
**OWNER ADDRESS:** 77 EAST ROUTE 59  
SPRING VALLEY NY 10977

**PHONE:** (845) 356-3900

**EMERGENCY CONTACT:** JOSEPH F. LOIS, JR.  
**PHONE:** (845) 424-4109

**MAILING NAME:** CLARKSTOWN EQUIPMENT CO., INC.  
**ADDRESS:** 77 EAST ROUTE 59  
SPRING VALLEY NY 10977

**ATTENTION:** JOSEPH F. LOIS, JR.  
**PHONE:** (845) 356-3900

**EXP. DATE:** 10/1/2006

**TANK INFORMATION**

<b>TANK NUMBER:</b> 1	<b>TANK STATUS:</b> IN SERVICE
<b>INSTALLED:</b> 12/1/1998	<b>CLOSED:</b>
<b>TANK CAPACITY:</b> 1000 GALLONS	
<b>PRODUCT:</b> UNLEADED GASOLINE	
<b>TANK TYPE:</b> STEEL/CARBON STEEL	
<b>TANK LOCATION:</b> ABOVEGROUND	
<b>INTERNAL PROTECTION:</b> NONE	
<b>EXTERNAL PROTECTION 1:</b> PAINTED/ASPHALT COATING	
<b>EXTERNAL PROTECTION 2:</b> JACKETED	
<b>PIPE TYPE:</b> 5	
<b>PIPE LOCATION:</b> ABOVEGROUND/UNDERGROUND COMBINATION	
<b>INTERNAL PROTECTION:</b> FIBERGLASS LINER (FRP)	
<b>EXTERNAL PROTECTION 1:</b> JACKETED	
<b>EXTERNAL PROTECTION 2:</b> NONE	
<b>SECONDARY CONTAINMENT 1:</b> DOUBLE-WALLED TANK	
<b>SECONDARY CONTAINMENT 2:</b> PREFABRICATED STEEL DIKE	
<b>LEAK DETECTION 1:</b> IN-TANK SYSTEM	
<b>LEAK DETECTION 2:</b> NONE	
<b>OVERFILL PROTECTION 1:</b> NONE	
<b>OVERFILL PROTECTION 2:</b> NONE	
<b>SPILL PREVENTION:</b> 7	

- Continued on next page -

**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 28

**DIST/DIR:** 0.13 SE

**MAP ID:** 11

**NAME:** CLARKSTOWN EQUIPMENT CO.  
**ADDRESS:** 77 EAST ROUTE 59  
SPRING VALLEY NY 10977  
ROCKLAND  
**CONTACT:** ROBERT STUETZLE

**REV:** 7/2/03  
**ID1:** R3-990777  
**ID2:**  
**STATUS:**  
**PHONE:** (845) 356-3900

**SPILL PREVENTION 2:** 0  
**DISPENSER:** SUCTION  
**DATE TESTED:**  
**NEXT TEST:**

<b>TANK NUMBER:</b>	2	<b>TANK STATUS:</b>	IN SERVICE
<b>INSTALLED:</b>	12/1/1998	<b>CLOSED:</b>	
<b>TANK CAPACITY:</b>	500 GALLONS		
<b>PRODUCT:</b>	KEROSENE		

**TANK TYPE:** STEEL/CARBON STEEL  
**TANK LOCATION:** ABOVEGROUND  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** PAINTED/ASPHALT COATING  
**EXTERNAL PROTECTION 2:** JACKETED

**PIPE TYPE:** GALVANIZED STEEL  
**PIPE LOCATION:** ABOVE GROUND  
**INTERNAL PROTECTION:** EPOXY LINER  
**EXTERNAL PROTECTION 1:** PAINTED/ASPHALT COATING  
**EXTERNAL PROTECTION 2:** NONE

**SECONDARY CONTAINMENT 1:** DOUBLE-WALLED TANK  
**SECONDARY CONTAINMENT 2:** PREFABRICATED STEEL DIKE  
**LEAK DETECTION 1:** IN-TANK SYSTEM  
**LEAK DETECTION 2:** NONE  
**OVERFILL PROTECTION 1:** NONE  
**OVERFILL PROTECTION 2:** NONE  
**SPILL PREVENTION:** 7  
**SPILL PREVENTION 2:** 0  
**DISPENSER:** SUCTION  
**DATE TESTED:**  
**NEXT TEST:**

<b>TANK NUMBER:</b>	3	<b>TANK STATUS:</b>	IN SERVICE
<b>INSTALLED:</b>	12/1/1998	<b>CLOSED:</b>	
<b>TANK CAPACITY:</b>	500 GALLONS		
<b>PRODUCT:</b>	DIESEL		

**TANK TYPE:** STEEL/CARBON STEEL  
**TANK LOCATION:** ABOVEGROUND  
**INTERNAL PROTECTION:** NONE  
**EXTERNAL PROTECTION 1:** PAINTED/ASPHALT COATING  
**EXTERNAL PROTECTION 2:** JACKETED

**PIPE TYPE:** GALVANIZED STEEL  
**PIPE LOCATION:** ABOVE GROUND  
**INTERNAL PROTECTION:** EPOXY LINER  
**EXTERNAL PROTECTION 1:** PAINTED/ASPHALT COATING  
**EXTERNAL PROTECTION 2:** NONE

- Continued on next page -

**Environmental FirstSearch**  
**Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 28                                      **DIST/DIR:** 0.13 SE                                      **MAP ID:** 11

<b>NAME:</b> CLARKSTOWN EQUIPMENT CO.	<b>REV:</b> 7/2/03
<b>ADDRESS:</b> 77 EAST ROUTE 59	<b>ID1:</b> R3-990777
SPRING VALLEY NY 10977	<b>ID2:</b>
ROCKLAND	<b>STATUS:</b>
<b>CONTACT:</b> ROBERT STUETZLE	<b>PHONE:</b> (845) 356-3900

<b>SECONDARY CONTAINMENT 1:</b>	DOUBLE-WALLED TANK
<b>SECONDARY CONTAINMENT 2:</b>	PREFABRICATED STEEL DIKE
<b>LEAK DETECTION 1:</b>	IN-TANK SYSTEM
<b>LEAK DETECTION 2:</b>	NONE
<b>OVERFILL PROTECTION 1:</b>	NONE
<b>OVERFILL PROTECTION 2:</b>	NONE
<b>SPILL PREVENTION:</b>	7
<b>SPILL PREVENTION 2:</b>	0
<b>DISPENSER:</b>	SUCTION
<b>DATE TESTED:</b>	
<b>NEXT TEST:</b>	

<b>TANK NUMBER:</b>	4	<b>TANK STATUS:</b>	IN SERVICE
<b>INSTALLED:</b>	11/11/1111	<b>CLOSED:</b>	
<b>TANK CAPACITY:</b>	275 GALLONS		
<b>PRODUCT:</b>	WASTE OIL		

<b>TANK TYPE:</b>	STEEL/CARBON STEEL
<b>TANK LOCATION:</b>	ABOVEGROUND
<b>INTERNAL PROTECTION:</b>	NONE
<b>EXTERNAL PROTECTION 1:</b>	NONE
<b>EXTERNAL PROTECTION 2:</b>	NONE

<b>PIPE TYPE:</b>	NONE
<b>PIPE LOCATION:</b>	NONE
<b>INTERNAL PROTECTION:</b>	NONE
<b>EXTERNAL PROTECTION 1:</b>	NONE
<b>EXTERNAL PROTECTION 2:</b>	NONE

<b>SECONDARY CONTAINMENT 1:</b>	NONE
<b>SECONDARY CONTAINMENT 2:</b>	NONE
<b>LEAK DETECTION 1:</b>	NONE
<b>LEAK DETECTION 2:</b>	NONE
<b>OVERFILL PROTECTION 1:</b>	NONE
<b>OVERFILL PROTECTION 2:</b>	NONE
<b>SPILL PREVENTION:</b>	0
<b>SPILL PREVENTION 2:</b>	0
<b>DISPENSER:</b>	0
<b>DATE TESTED:</b>	
<b>NEXT TEST:</b>	

<b>TANK NUMBER:</b>	5	<b>TANK STATUS:</b>	IN SERVICE
<b>INSTALLED:</b>	2/1/2002	<b>CLOSED:</b>	
<b>TANK CAPACITY:</b>	275 GALLONS		
<b>PRODUCT:</b>	LUBE OIL		

<b>TANK TYPE:</b>	STEEL/CARBON STEEL
<b>TANK LOCATION:</b>	ABOVEGROUND
<b>INTERNAL PROTECTION:</b>	NONE
<b>EXTERNAL PROTECTION 1:</b>	PAINTED/ASPHALT COATING
<b>EXTERNAL PROTECTION 2:</b>	NONE

- More Details Exist For This Site; Max Page Limit Reached -





**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**STATE SPILLS SITE**

**SEARCH ID:** 15

**DIST/DIR:** 0.15 SE

**MAP ID:** 10

**NAME:** CLARKSTOWN EQUIP.  
**ADDRESS:** 44 EAST RT.59  
SPRING VALLEY NY  
ROCKLAND

**REV:** 10/15/05  
**ID1:** 9000722  
**ID2:**  
**STATUS:** CLOSED 04/30/1990  
**PHONE:**

**CONTACT:**

**SPILL DATE:** 04/20/90  
**SPILL TIME:** 14:00

**DATE REPORTED:** 04/20/90  
**TIME REPORTED:** 14:57

**MATERIAL SPILLED:** #2 FUEL OIL  
**MATERIAL CLASS:** PETROLEUM

**AMOUNT SPILLED:** 2 G  
**AMOUNT RECOVERED:** 0 G

**CAUSE OF SPILL:** UNKNOWN  
**RESOURCE AFFECTED:** ON LAND  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** UNKNOWN  
**REPORTED BY:** AFFECTED PERSONS

**CALLER REMARKS:**

FUEL STAIN ON GROUND DISCOVERED BY CUSTOMER AFTER DELIVRY NOTIFIER APPLIED SPEEDI-DRY WILL PICK UP AND DISPOSE SOS OIL (914) 351-4704 CHECKED OUT TRUCK AND ITS OK

**REGION:** 3

**UST TRUST?** F

**SPILL INVESTIGATOR:** GHIOSAY  
**SPILL CONTACT:**

**TELEPHONE:**

**SPILLER:**  
**ADDRESS:**

**SPILLER CONTACT:**

**TELEPHONE:**

**CALLER:**  
**AGENCY:**  
**TELEPHONE:**

**NOTIFIER:**  
**AGENCY:**  
**TELEPHONE:**

**LAST DEC UPDATE:** 08/01/90  
**DOES CLEAN UP MEET STANDARDS?** T  
**DEC REMARKS:**

**CLOSE DATE:** 04/30/90  
**PENALTY RECOMMENDED?** F



**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

STATE SPILLS SITE

**SEARCH ID:** 21                                      **DIST/DIR:** 0.15 SW                                      **MAP ID:** 14

<b>NAME:</b> STRIP MALL	<b>REV:</b> 7/12/05
<b>ADDRESS:</b> 99 SOUTH CENTRAL AVE	<b>ID1:</b> 9814365
SPRING VALLEY NY	<b>ID2:</b>
ROCKLAND	<b>STATUS:</b> ACTIVE
<b>CONTACT:</b>	<b>PHONE:</b>

<b>SPILL DATE:</b> 03/01/99	<b>DATE REPORTED:</b> 03/01/99
<b>SPILL TIME:</b> 17:30	<b>TIME REPORTED:</b> 20:27

<b>MATERIAL SPILLED:</b> WASTE OIL	<b>AMOUNT SPILLED:</b> 0 G
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G

<b>CAUSE OF SPILL:</b>	TANK TEST FAILURE
<b>RESOURCE AFFECTED:</b>	ON LAND
<b>WATERBODY AFFECTED:</b>	
<b>SOURCE OF SPILL:</b>	COMMERCIAL/INDUSTRIAL
<b>REPORTED BY:</b>	TANK TESTER
<b>CALLER REMARKS:</b>	
TANK FAILED THE TEST	

<b>REGION:</b> 3	<b>UST TRUST?</b> FALSE
------------------	-------------------------

<b>SPILL INVESTIGATOR:</b> RCHD	
<b>SPILL CONTACT:</b> DIANA ANDRONATTA	<b>TELEPHONE:</b> (914) 365-1455

<b>SPILLER:</b> STRIP MALL	
<b>ADDRESS:</b> 99 SOUTH CENTRAL AVE	
SPRING VALLEY , NY 10977-	
<b>SPILLER CONTACT:</b> DIANA ANDRONATTA	<b>TELEPHONE:</b> (914) 365-1455

<b>CALLER:</b>	<b>NOTIFIER:</b>
<b>AGENCY:</b>	<b>AGENCY:</b>
<b>TELEPHONE:</b>	<b>TELEPHONE:</b>

<b>LAST DEC UPDATE:</b> 03/08/99	<b>CLOSE DATE:</b> / /
<b>DOES CLEAN UP MEET STANDARDS?</b> FALSE	<b>PENALTY RECOMMENDED?</b> FALSE

**DEC REMARKS:**  
3/01/99 THIS TANK AND TWO OTHERS TO BE REMOVED. COURT ORDER TO COMPLETE WORK BY END OF MARCH. RCHD ALREADY ADVISE OF SITE.

**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

STATE SPILLS SITE			
<b>SEARCH ID:</b> 19	<b>DIST/DIR:</b> 0.15 SW	<b>MAP ID:</b> 14	
<b>NAME:</b> OLD AUTO SHOP	<b>REV:</b> 10/15/05	<b>ID1:</b> 9710643	
<b>ADDRESS:</b> 99 S. CENTRAL AVE SPRING VALLEY NY ROCKLAND	<b>ID2:</b>	<b>STATUS:</b> ACTIVE	
<b>CONTACT:</b>	<b>PHONE:</b>		
<b>SPILL DATE:</b> 12/17/97	<b>DATE REPORTED:</b> 12/17/97		
<b>SPILL TIME:</b> 15:30	<b>TIME REPORTED:</b> 16:39		
<b>MATERIAL SPILLED:</b> AUTO WASTE FLUIDS	<b>AMOUNT SPILLED:</b> 0 G		
<b>MATERIAL CLASS:</b> PETROLEUM	<b>AMOUNT RECOVERED:</b> 0 G		
<b>CAUSE OF SPILL:</b> DELIBERATE			
<b>RESOURCE AFFECTED:</b> ON LAND			
<b>WATERBODY AFFECTED:</b>			
<b>SOURCE OF SPILL:</b> COMMERCIAL/INDUSTRIAL			
<b>REPORTED BY:</b> DEC			
<b>CALLER REMARKS:</b>			
CALLER BELIEVES IT S OVER 110GALS DUMPED INTO THE SUMP HOLE IN THE BUILDING AND LEAKING OUT INTO THE GROUND			
<b>REGION:</b> 3	<b>UST TRUST?</b> F		
<b>SPILL INVESTIGATOR:</b> GHIOSAY			
<b>SPILL CONTACT:</b> JILL CAUFMAN	<b>TELEPHONE:</b> (914) 256-3013		
<b>SPILLER:</b> RAY SWANN			
<b>ADDRESS:</b> UNKNOWN			
<b>SPILLER CONTACT:</b>	<b>TELEPHONE:</b>		
<b>CALLER:</b>	<b>NOTIFIER:</b>		
<b>AGENCY:</b>	<b>AGENCY:</b>		
<b>TELEPHONE:</b>	<b>TELEPHONE:</b>		
<b>LAST DEC UPDATE:</b> 01/23/98	<b>CLOSE DATE:</b> / /		
<b>DOES CLEAN UP MEET STANDARDS?</b> F	<b>PENALTY RECOMMENDED?</b> F		
<b>DEC REMARKS:</b>			





**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**REGISTERED UNDERGROUND STORAGE TANKS**

**SEARCH ID:** 31                              **DIST/DIR:** 0.15 SW                              **MAP ID:** 14

<b>NAME:</b>	MAX S AUTO CARE	<b>REV:</b>	7/2/03
<b>ADDRESS:</b>	99 A SOUTH CENTRAL AVENUE SPRING VALLEY NY 10977 ROCKLAND	<b>ID1:</b>	R3-990843
<b>CONTACT:</b>	MAX AUTO CARE	<b>ID2:</b>	
		<b>STATUS:</b>	
		<b>PHONE:</b>	(914) 356-7848

**SITE INFORMATION**

**TOTAL NUMBER OF TANKS:** 1

**TYPE OF SITE:** OTHER                      **CBS NUMBER:**                      **SPDES NUMBER:**  
**OLD PBS NUMBER:**                      **BLOCK:**                              **LOT:**  
**SECTION:**                                  **ADDITIONAL ADDRESS INFO:**

**TYPE OF OWNER:** CORPORATE/COMMERCIAL  
**OWNER ADDRESS:** 28 ORCHARD STREET  
SPRING VALLEY NY 10977  
**PHONE:** (914) 352-2341

**EMERGENCY CONTACT:** MAX OCCENA  
**PHONE:** (914) 352-2341

**MAILING NAME:** MAX S AUTO CARE  
**ADDRESS:** 99 A SOUTH CENTRAL AVENUE  
SPRING VALLEY NY 10977  
**ATTENTION:** MR. MAX OCCENA  
**PHONE:** (914) 356-7848

**EXP. DATE:** 12/27/2001

**TANK INFORMATION**

<b>TANK NUMBER:</b>	1	<b>TANK STATUS:</b>	IN SERVICE
<b>INSTALLED:</b>	11/11/1111	<b>CLOSED:</b>	
<b>TANK CAPACITY:</b>	500 GALLONS		
<b>PRODUCT:</b>	WASTE OIL		
<b>TANK TYPE:</b>	STEEL/CARBON STEEL		
<b>TANK LOCATION:</b>	UNDERGROUND		
<b>INTERNAL PROTECTION:</b>	NONE		
<b>EXTERNAL PROTECTION 1:</b>	NONE		
<b>EXTERNAL PROTECTION 2:</b>	NONE		
<b>PIPE TYPE:</b>	NONE		
<b>PIPE LOCATION:</b>	NONE		
<b>INTERNAL PROTECTION:</b>	NONE		
<b>EXTERNAL PROTECTION 1</b>	NONE		
<b>EXTERNAL PROTECTION 2:</b>	NONE		
<b>SECONDARY CONTAINMENT 1:</b>	NONE		
<b>SECONDARY CONTAINMENT 2:</b>	NONE		
<b>LEAK DETECTION 1:</b>	NONE		
<b>LEAK DETECTION 2:</b>	NONE		
<b>OVERFILL PROTECTION 1:</b>	NONE		
<b>OVERFILL PROTECTION 2:</b>	NONE		
<b>SPILL PREVENTION:</b>	0		

- Continued on next page -











**Environmental FirstSearch  
Site Detail Report**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

**STATE SPILLS SITE**

**SEARCH ID:** 6

**DIST/DIR:** 0.16 NW

**MAP ID:** 6

**NAME:** A AND J GUTTER SERVICE  
**ADDRESS:** 39 SOUTH CENTRAL  
SPRING VALLEY NY  
ROCKLAND  
**CONTACT:**

**REV:** 10/15/05  
**ID1:** 0101068  
**ID2:**  
**STATUS:** CLOSED 05/23/2001  
**PHONE:**

**SPILL DATE:** 04/20/01  
**SPILL TIME:** 11:30

**DATE REPORTED:** 04/27/01  
**TIME REPORTED:** 13:10

**MATERIAL SPILLED:** HYDRAULIC OIL  
**MATERIAL CLASS:** PETROLEUM

**AMOUNT SPILLED:** 2 G  
**AMOUNT RECOVERED:** 2 G

**CAUSE OF SPILL:** EQUIPMENT FAILURE  
**RESOURCE AFFECTED:** ON LAND  
**WATERBODY AFFECTED:**  
**SOURCE OF SPILL:** COMMERCIAL VEHICLE  
**REPORTED BY:** RESPONSIBLE PARTY  
**CALLER REMARKS:**

SPILL FROM A BROKEN HYD. LINE. SPILL CLEANED UP. SPILL WAS NOT REPORTED BECAUSE THEY DIDNT BELIEVE THAT THE SPILL WAS REPORTABLE. SPILL WAS ON TO BLACKTOP AND CLEANED UP RIGHT AWAY...WAS CALLED TODAY AND TOLD BY THE LOCAL BUILDING DEPT THAT THE SPILL HAS SEAPED IN TO THE SOIL AND THE ENTIRE PARKING LOT NEEDS TO BE REMOVED...SOIL REMOVED AND ENTIRE PARKING LTO RE-BLACKTOPPED...

**REGION:** 3

**UST TRUST?** FALSE

**SPILL INVESTIGATOR:** RCDOH  
**SPILL CONTACT:** PAT

**TELEPHONE:** (845) 356-3886

**SPILLER:** WASTE MANAGEMENT  
**ADDRESS:** 89 BLACKMEADOW RD  
CHESTER, NY 10918-

**SPILLER CONTACT:** DAVID MCLAUGHLIN

**TELEPHONE:** (845) 469-6414

**CALLER:**  
**AGENCY:**  
**TELEPHONE:**

**NOTIFIER:**  
**AGENCY:**  
**TELEPHONE:**

**LAST DEC UPDATE:** 07/02/01  
**DOES CLEAN UP MEET STANDARDS?** TRUE  
**DEC REMARKS:**

**CLOSE DATE:** 05/23/01  
**PENALTY RECOMMENDED?** FALSE

04/27/2001 HOWARD HOLMAN - TOWN BUILDING DEPT. @914/393-4897. IRA CONKLIN ENROUTE TO INVESTIGATE. RCDOH NOTIFIED. 05/23/2001 SPILL FROM HYDRAULIC LINE OF TRUCK. SOIL DISPOSED OF 5/23. NO FURTHER ACTION PER FRANK G. (RCDOH).









































## Environmental FirstSearch Database Descriptions

**NPL:** *EPA* NATIONAL PRIORITY LIST - Database of confirmed, proposed or deleted Superfund sites.

**CERCLIS:** *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM - Database of current and potential Superfund sites currently or previously under investigation.

**NFRAP:** *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

**RCRA TSD:** *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of facilities licensed to store, treat and dispose of hazardous waste materials.

**RCRA COR:** *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of RCRA facilities with reported violations and subject to corrective actions.

**RCRA GEN:** *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities that generate or transport hazardous waste or meet other RCRA requirements. LGN - Large Quantity Generators SGN - Small Quantity Generators VGN - Conditionally Exempt Generator. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

**ERNS:** *EPA/NRC* EMERGENCY RESPONSE NOTIFICATION SYSTEM - Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

**STATE SITES:** *NYSDEC* ENVIRONMENTAL SITE REMEDIATION DATABASE - database of sites being remediated under a DER remedial program/s (i.e. , State Superfund, Brownfield Cleanup, etc.). This database also includes the Registry of Institutional and Engineering Controls in New York State. REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES - HAZARDOUS SUBSTANCE SITE STUDY - (STATIC) This study was done in 1998 and was prepared by the NY DEC, Hazardous Substances Waste Disposal Task Force. In consultation with N.Y. Department of Health

**SPILLS-1990:** *NYSDEC* SPILL INCIDENTS DATABASE - database of chemical and petroleum spill



incidents that occurred since 1990.

**SWL:** *NYSDEC* ACTIVE FACILITIES REGISTRY - database of solid waste landfill facilities. The data includes location, waste type, owner and permit number

**REG UST/AST:** *NYSDEC* DATABASE OF PETROLEUM BULK STORAGE, MAJOR OIL STORAGE (MOSF), AND CHEMICAL BULK STORAGE (CBS) FACILITIES - database of petroleum or chemical storage facilities. The data includes status, tank type, capacity and contents. The data also includes Nassau County Department of Health's PBS Tanks Nassau County Fire Marshall's PBS Tanks Suffolk County Department of Health Services PBS Tanks Cortland County Health Department PBS Tanks Rockland County Department of Health PBS Tanks Westchester County Department of Health PBS Tanks.

**LEAKING UST:** *NYSDEC* SPILL INCIDENTS DATABASE SUBSET - database of chemical and petroleum spill incidents where the cause was a tank test failure or tank failure

**RADON:** *NTIS* NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

## Environmental FirstSearch Database Sources

**NPL:** *EPA* Environmental Protection Agency

*Updated quarterly*

**CERCLIS:** *EPA* Environmental Protection Agency

*Updated quarterly*

**NFRAP:** *EPA* Environmental Protection Agency.

*Updated quarterly*

**RCRA TSD:** *EPA* Environmental Protection Agency.

*Updated quarterly*

**RCRA COR:** *EPA* Environmental Protection Agency.

*Updated quarterly*

**RCRA GEN:** *EPA* Environmental Protection Agency.

*Updated quarterly*

**ERNS:** *EPA/NRC* Environmental Protection Agency

*Updated semi-annually*

**STATE SITES:** *NYSDEC* New York Department of Environmental Remediation  
New York State Department of Environmental Conservation

*Updated quarterly*

**SPILLS-1990:** *NYSDEC* New York State Department of Environmental Conservation

*Updated quarterly*

**SWL:** *NYSDEC* New York State Department of Environmental Conservation

*Updated annually*

**REG UST/AST:** *NYSDEC* New York State Department of Environmental Conservation  
Nassau County Department of Health  
Nassau County Fire Marshal  
Cortland County Health Department

Rockland County Department of Health

*Updated quarterly*

**LEAKING UST:** *NYSDEC* New York State Department of Environmental Conservation

*Updated quarterly*

**RADON:** *NTIS* Environmental Protection Agency, National Technical Information Services

*Updated periodically*

**Environmental FirstSearch**  
**Street Name Report for Streets within .25 Mile(s) of Target Property**

**TARGET SITE:** 1-42 HYENGA LAKE  
NANUET NY 10954

**JOB:** PHASE I  
DESTASO ENTERPRISES

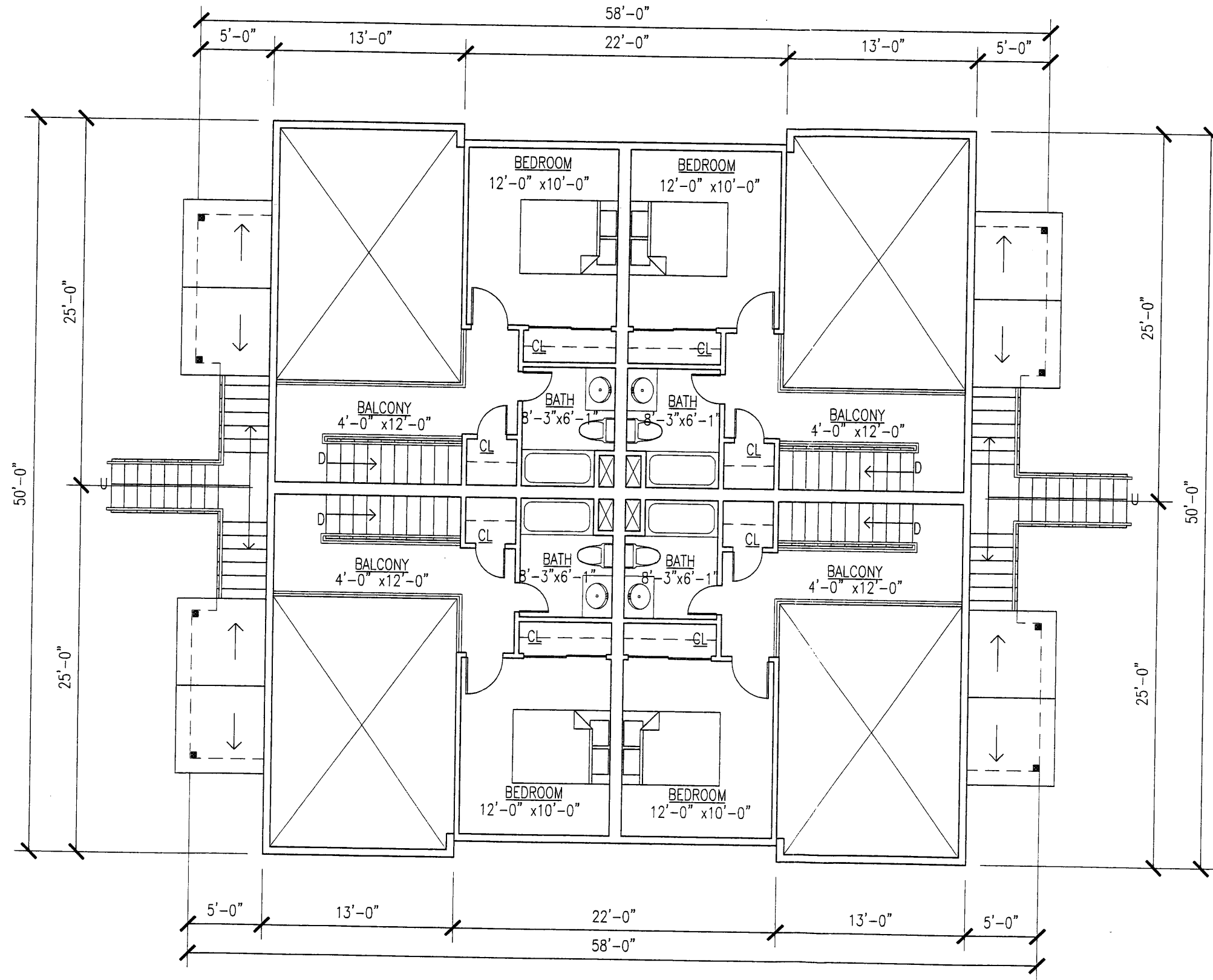
<b>Street Name</b>	<b>Dist/Dir</b>	<b>Street Name</b>	<b>Dist/Dir</b>
2nd Ave	0.13 NE		
Crikki Ln	0.17 NE		
Division Ave	0.20 SW		
Drayton Pl	0.16 NE		
Dutch Ln	0.24 NW		
E Central Ave	0.22 NW		
EAST Central Ave	0.22 NW		
Elias St	0.21 NW		
Elise Dr	0.25 NE		
Grant St	0.15 SW		
Highridge Ct	0.16 NE		
Hopf Dr	0.21 NE		
Klint Ct	0.19 SE		
Lawrence St	0.13 NE		
Lincoln St	0.15 SW		
N Pascack Rd	0.24 NE		
NORTH Pascack Rd	0.24 NE		
Omni Parc Dr	0.10 SW		
Pipetown Hill Rd	0.10 SW		
Roosevelt Ave	0.17 NW		
S Central Ave	0.14 SW		
S Pascack Rd	0.24 SE		
Sherman St	0.18 SW		
SOUTH Central Ave	0.14 SW		
SOUTH Pascack Rd	0.24 SE		
State Highway 59	0.05 NE		
Town Hill Rd	0.24 SE		
Valley Dr	0.22 NE		

Appendix N

Floor Plans



# SCHEME "A"



**1 LOFT PLAN NO. 1**  
SCALE: 1/8"=1'-0"

No.	Date	PER CLIENT COMMENT	Revisions
1	11-7-02		

Drawn by KPT/NN  
 Checked by MS/JC  
 Project No. 22039  
 Scale AS NOTED  
 Date 10-31-02

**HYENGA LAKE APARTMENTS**  
 Pipetown Hill Road  
 Nanuet, 10977  
 Town of Clarkstown, NY

**MICHAEL RICHARD SHILALE**  
 ARCHITECTS  
 140 Park Avenue New City, N.Y. 10955 Tel. (845) 708-9200

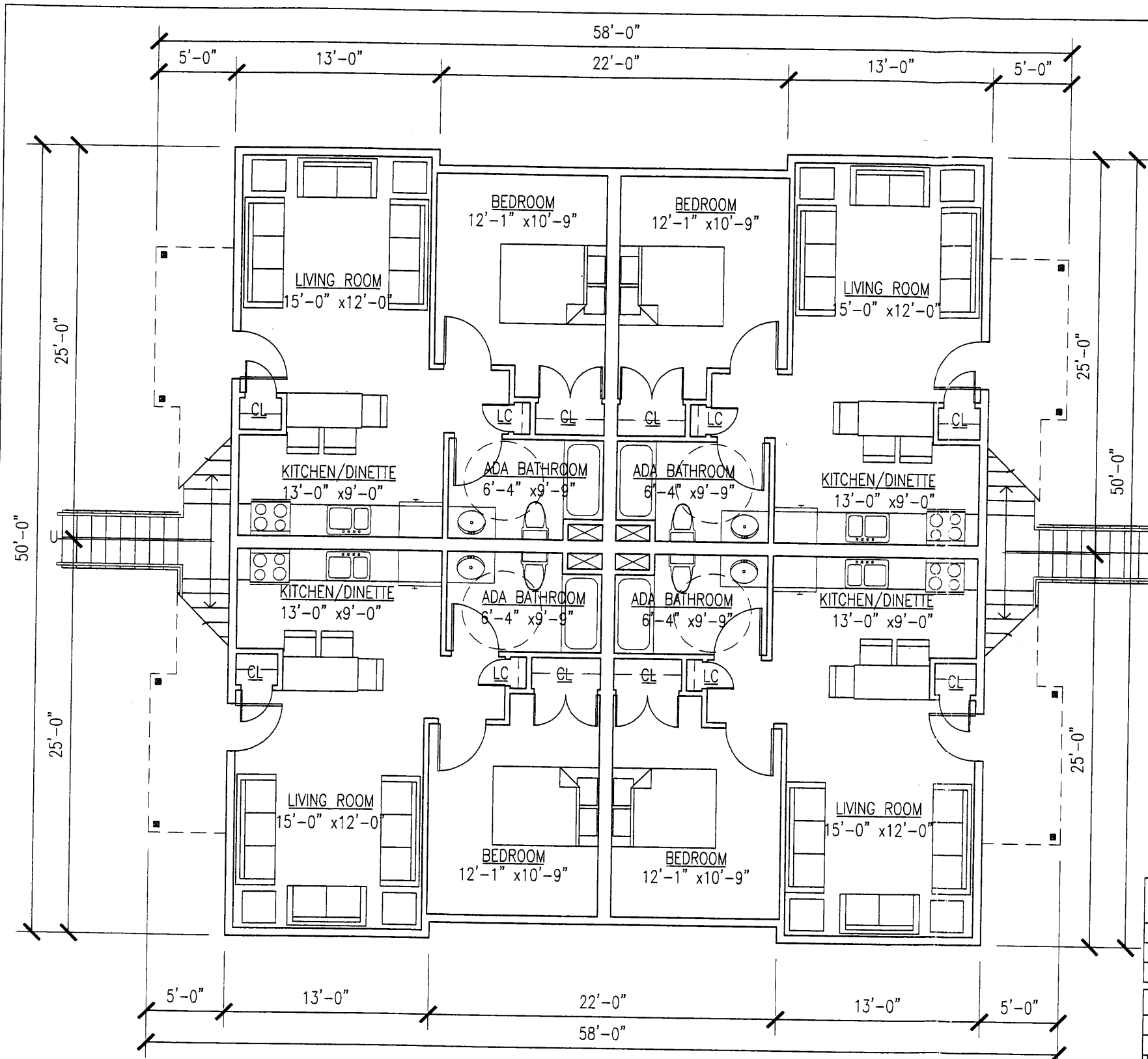
**LOFT 1 FLOOR PLAN**  
 Drawing No. **A-12A**  
 3 OF 4

© COPYRIGHT, MICHAEL RICHARD SHILALE ARCHITECTS, ALL RIGHTS RESERVED.  
 Drawing Title





# SCHEME 'A'



**1 FIRST FLOOR PLAN**  
SCALE: 1/8"=1'-0"

## SQUARE FOOTAGE

LEVEL	NET	GROSS PER UNIT	GROSS PER FLOOR
SECOND	498 SF	588 SF	2352 SF
LOFT No. 1	256 SF	359 SF	1436 SF
DUPLEX	754 SF	947 SF	3788 SF
FIRST	507 SF	588 SF	2352 SF
TOTAL BUILDING ALT. No.1		1535 SF	6140 SF

LEVEL	NET	GROSS PER UNIT	GROSS PER FLOOR
SECOND	498 SF	588 SF	2352 SF
LOFT NO. 2	211 SF	290 SF	1160 SF
DUPLEX	709 SF	878 SF	3512 SF
FIRST	507 SF	588 SF	2352 SF
TOTAL BUILDING ALT. No.2		1466 SF	5864 SF

No.	Date	PER CLIENT COMMENT	Revisions
1	11-7-02		

Drawn by	KPT/NN
Checked by	MS/JC
Project No.	22039
Scale	AS NOTED
Date	10-31-02

**HYENGA LAKE APARTMENTS**  
Pipetown Hill Road  
Nanuet, 10977  
Town of Clarkstown, NY

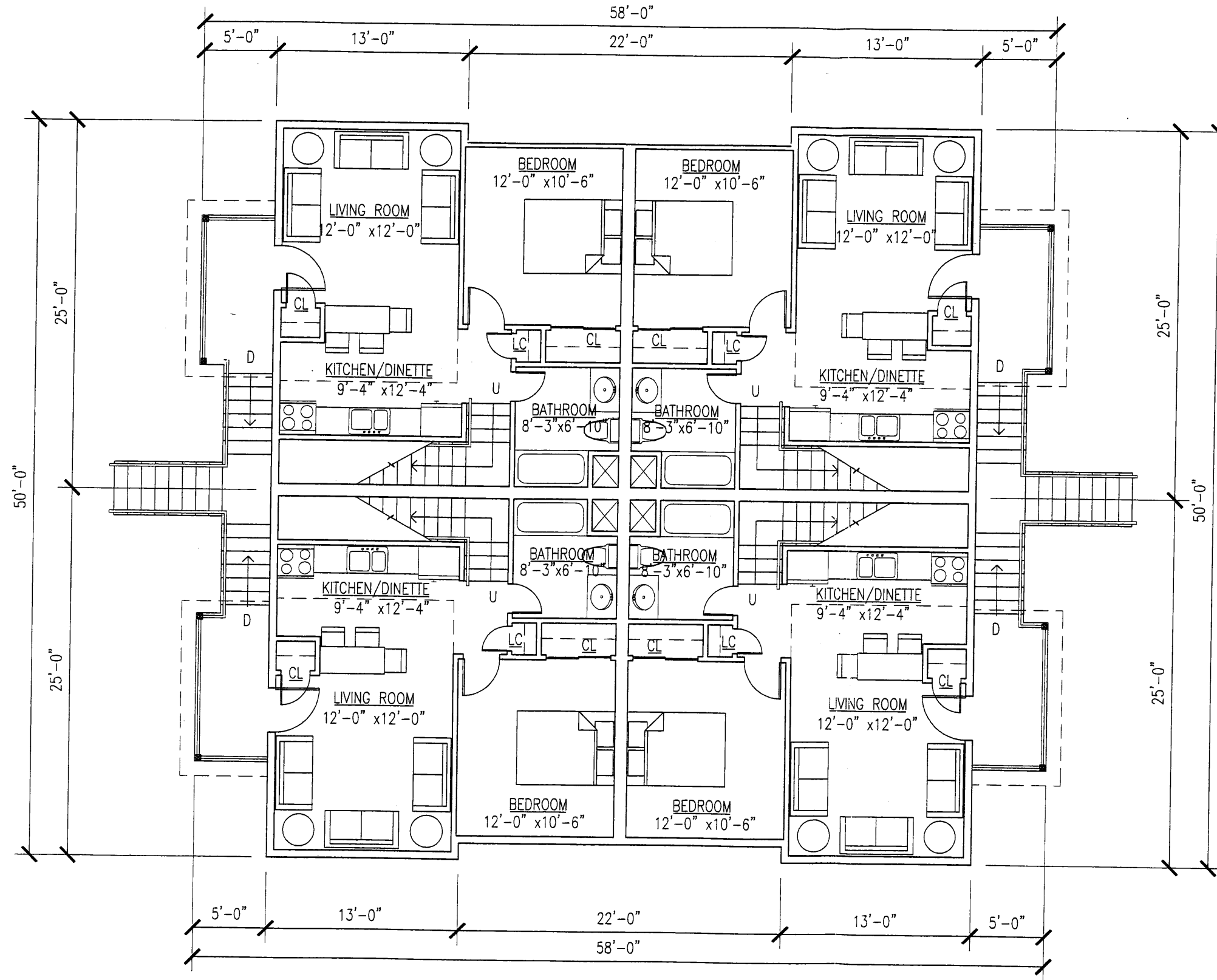
**MICHAEL RICHARD SHILALE**  
ARCHITECTS  
140 Park Avenue New City, N.Y. 10956 Tel. (845) 708-9200

**FIRST FLOOR PLAN**  
Drawing No. **A-10**  
1 OF 4

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# SCHEME "A"



**1 SECOND FLOOR PLAN**  
SCALE: 1/8"=1'-0"

No.	Date	Revisions
1	11-7-02	PER CLIENT COMMENT

Drawn by	KPT/NN
Checked by	MS/JC
Project No.	22039
Scale	AS NOTED
Date	10-31-02

**HYENGA LAKE APARTMENTS**  
Pipetown Hill Road  
Nanuet, 10977  
Town of Clarkstown, NY

**MICHAEL RICHARD SHILALE**  
ARCHITECTS  
140 Park Avenue New City, N.Y. 10956 Tel. (845) 708-9200

**SECOND FLOOR PLAN**  
Drawing No. **A-11**  
2 OF 4

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Appendix O  
Title Insurance Report



# Fidelity National Title Insurance Company OF NEW YORK

Certifies to: TRACY, BERTOLINO & EDWARDS, P.C. *205-1-4418*

that an examination of title to the premises described in Schedule A has been made in accordance with its usual procedure and agrees to issue its standard form of insurance policy in the amount of \$1,400,000.00 insuring a fee estate and the marketability thereof, after the closing of the transaction in conformance with procedures approved by the Company excepting (a) all loss or damage by reason of the estates, interests, defects, objection, liens, encumbrances and other matters set forth herein that are not disposed of to the satisfaction of the Company prior to such closing or issuance of the policy (b) any question or objection coming to the attention of the Company before the date of closing, or if there be no closing, before the issuance of said policy.

This Certificate shall be null and void (1) if the fees therefor are not paid (2) if the prospective insured, his attorney or agent makes any untrue statement with respect to any material fact or suppresses or fails to disclose any material fact or if any untrue answers are given to material inquiries by or on behalf of the Company (3) upon delivery of the policy. Any claim arising by reason of the issuance hereof shall be restricted to the terms and conditions of the standard form of insurance policy. If the title, interest or lien to be insured was acquired by the prospective insured prior to delivery hereof, the Company assumes no liability except under its policy when issued.

THIS CERTIFICATE IS INTENDED FOR LAWYERS ONLY. SUCH EXCEPTIONS AS MAY BE SET FORTH HEREIN MAY AFFECT MARKETABILITY OF TITLE. YOUR LAWYER SHOULD BE CONSULTED BEFORE TAKING ANY ACTION BASED UPON THE CONTENTS HEREOF. THE COMPANY'S REPRESENTATIVE AT THE CLOSING HEREUNDER MAY NOT ACT AS LEGAL ADVISOR TO ANY OF THE PARTIES OR DRAW LEGAL INSTRUMENTS FOR THEM. SUCH REPRESENTATIVE IS PERMITTED TO BE OF ASSISTANCE ONLY TO AN ATTORNEY. IT IS ADVISABLE TO HAVE YOUR ATTORNEY PRESENT AT THE CLOSING.

IF ANY OF THE CLOSING INSTRUMENTS WILL BE OTHER THAN COMMONLY USED FORMS OR CONTAIN UNUSUAL PROVISIONS, THE CLOSING CAN BE SIMPLIFIED AND EXPEDITED BY FURNISHING THE COMPANY WITH COPIES OF THE PROPOSED DOCUMENTS IN ADVANCE OF CLOSING.

Dated 9 A.M. 6/1/99

Redated 9 A.M. *6/10/99*

National Granite Title Insurance Agency, Inc.  
155 North Main Street  
New City, New York 10956  
7(914)639-1415

Premises in Section 6 Block B Lot 4  
On the land/tax map of the Town of Clarkstown,  
County of Rockland

Fidelity National Title Insurance Company  
of New York

*Kent Gulog*

Authorized Signature

Will be pleased to confer on any questions concerning this certificate

IF THE INSURED CONTEMPLATES MAKING IMPROVEMENTS TO THE PROPERTY COSTING MORE THAN TWENTY PER CENTUM OF THE AMOUNT OF INSURANCE TO BE ISSUED HEREUNDER, WE SUGGEST THAT THE AMOUNT OF INSURANCE BE INCREASED TO COVER THE COST THEREOF; OTHERWISE, IN CERTAIN CASES THE INSURED WILL BECOME A CO-INSURER.

The following matters are expressly excluded from the coverage of our standard form of policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (I) the occupancy, use or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

(b) Any governmental policy power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:

(a) created, suffered, assumed or agreed to by the insured claimant;

(b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;

(c) resulting in no loss or damage to the insured claimant;

(d) attaching or created subsequent to the Date of Policy; or

(e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.

4. Any claim, which arises out of the transaction vesting in the insured the estate or interest (or interest of the mortgagee) insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditor's rights laws that is based on; (i) the transaction creating the estate or interest insured by this policy being deemed a fraudulent conveyance or fraudulent transfer; or (ii) the transaction creating the estate or interest (or interest of the mortgagee) insured by this policy being deemed a preferential transfer except where the preferential transfer results from the failure:

(a) to timely record the instrument of transfer; or

(b) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

(For mortgage policies add) (ii) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination, or (iii) (see (4)(ii)(a) and (b), above)

5. (applicable to mortgage policies only) Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

Our policy will except from coverage any state of facts which an accurate survey might show, unless survey coverage is ordered. When such coverage is ordered, this certificate will set forth the specific survey exceptions which we will include in our policy. Whenever the word "trim" is used in any survey exceptions from coverage, it shall be deemed to include roof cornices, show window cornices, lintels, sills, window trim, entrance trim, bay window cornices, moldings, belt courses, water tables, keystones, pilasters, porticos, balconies all of which project beyond the street line. In certain areas, our policy will except from coverage any state of facts which a personal inspection might disclose unless survey coverage is ordered. In these cases a specific exception will appear in this certificate.

Our examination of the title includes a search for any unexpired financing statements which affect fixtures and which have been properly filed and indexed pursuant to the Uniform Commercial Code in the office of the recording officer of the county in which the real property lies.

No search has been made for other financing statements because we do not insure title to personal property. We will on request, in connection with the issuance of a title insurance policy, prepare such search for an additional charge. Our liability in connection with such search is limited to \$1,000.00.



**NATIONAL GRANITE TITLE INSURANCE AGENCY, INC.****TITLE INFORMATION PAGE**

Title No.: GR99-4249

EFFECTIVE DATE: 6/1/99

REDATED: 6/10/99

PROPOSED INSURED:

Fee: DeStaso Enterprises Ltd.

Mortgagee: N/A

**AMOUNT OF INSURANCE:**

Fee \$1,400,000.00

Mortgage \$N/A

**PROPERTY DESCRIPTION:**

Street Address: Pipetown Hill Road, Spring Valley, New York 10977

Filed Subdivision Map: None

Section: 6 Block: B Lot: 4

County: Rockland

Town: Clarkstown

**ASSISTANCE AND QUESTIONS:**This report issued by **NATIONAL GRANITE TITLE INSURANCE AGENCY, INC.:**

155 North Main Street  
New City, New York 10956  
Tel: 914-639-1415  
Fax: 914-639-1239

Questions concerning this report should be addressed to Joseph Deutsch at the New City Office.

## NATIONAL GRANITE TITLE INSURANCE AGENCY, INC.

## TITLE CERTIFICATION PAGE

Title No.: GR99-4249

THIS COMPANY CERTIFIES that as of effective date set forth herein as redated, a good and marketable title to the premises described in Schedule A, subject to the liens, encumbrances and other matters, if any, set forth in Schedule B and elsewhere in this report can be conveyed or mortgaged

By: B.G. Schefa Development Corp.

Source of title: Deed made by Patsy Bianco, Ben Bianco and Richard Bianco dated January 6, 1983 and recorded January 21, 1983 in Liber 6 page 1824.

RE CERTIFIED & INSURED TO DESTROY  
ENTIRE DEED LTD BY VIRTUE OF DEED  
DATED 6/10/96 TO BE DULY RECORDED  
IN THE R.C. CLERK'S OFFICE  
TW

## NATIONAL GRANITE TITLE INSURANCE AGENCY, INC.

Title No.: GR99-4249

## SCHEDULE A

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying, and being in the Town of Clarkstown, County of Rockland and State of New York, more particularly bounded and described as follows:

**BEGINNING** at a point on the northerly side of Pipetown Hill Road, said point being the most southeasterly corner of the premises herein intended to be described, where the same is intersected by the westerly line of lands now or formerly of the County of Rockland; running thence

1. Along the northerly side of Pipetown Hill Road, the following courses and distances:
  - a. North  $60^{\circ} 36' 34''$  West, 40.41 feet;
  - b. on a curve to the right having a radius of 928.97 feet, a distance of 209.77 feet;
  - c. North  $47^{\circ} 40' 18''$  West, 149.64 feet;
  - d. on a curve to the left having a radius of 849.64 feet, a distance of 210.84 feet; thence
2. North  $40^{\circ} 04' 18''$  West along the northerly line of lands now or formerly of Singer, 76.20 feet; thence
3. still along lands now or formerly of Singer, South  $49^{\circ} 59' 42''$  West, 16.50 feet; thence
4. North  $80^{\circ} 12' 18''$  West, 41.39 feet to the northerly line of Pipetown Hill Road; thence
5. along the same, North  $61^{\circ} 53' 23''$  West, 110.21 feet; thence
6. along the easterly line of lands now or formerly of Singer, North  $36^{\circ} 49' 42''$  East, 36.36 feet; thence
7. along the southerly line of lands now or formerly of Booth, South  $87^{\circ} 47' 48''$  East, 66.00 feet; thence
8. along the westerly line of lands now or formerly of Booth, North  $40^{\circ} 04' 18''$  West, 34.00 feet to an iron pipe; thence
9. along the westerly line of lands now or formerly of Booth and Goodman, North  $25^{\circ} 06' 18''$  West, 295.00 feet; thence
10. along the southerly line of lands now or formerly of Levine, South  $84^{\circ} 55' 18''$  East, 40.06 feet; thence

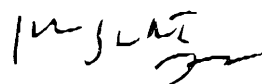
*INSUREE*

## NATIONAL GRANITE TITLE INSURANCE AGENCY, INC.

Title No.: GR99-4249

## SCHEDULE A - CONTINUED

11. along the easterly line of lands now or formerly of Levine, Rickley, Harmon, Personna, Ching Pao Zee, and Horton, the following courses and distances:
  - a. North  $29^{\circ} 53' 18''$  West, 69.21 feet;
  - b. North  $17^{\circ} 10' 46''$  West, 53.86 feet;
  - c. North  $1^{\circ} 12' 22''$  West, 50.26 feet;
  - d. North  $10^{\circ} 27' 08''$  East, 53.02 feet;
  - e. North  $31^{\circ} 00' 14''$  East, 55.81 feet; and
  - f. North  $18^{\circ} 45' 47''$  East, 51.56 feet; thence
12. along the southerly line of lands now or formerly of Dana, South  $85^{\circ} 21' 38''$  East, 28.0 feet; thence
13. along the easterly line of lands now or formerly of Dana, North  $44^{\circ} 20' 53''$  East, 230.26 feet; thence
14. along the line of lands now or formerly of Charo Dev. Corp.; South  $87^{\circ} 06' 38''$  East, 12.02 feet to lands now or formerly of Forbes and Rogowski; thence
15. along the same,
  - a. South  $23^{\circ} 39' 57''$  West, 128.55 feet;
  - b. South  $10^{\circ} 04' 30''$  West, 123.00 feet;
  - c. South  $58^{\circ} 25' 30''$  East, 132.00 feet; and
  - d. South  $9^{\circ} 02' 30''$  West, 50.05 feet; thence
16. South  $9^{\circ} 26' 52''$  East, 124.99 feet partly or completely along the boundary of the Village of Spring Valley; thence
17. South  $84^{\circ} 59' 20''$  East, 513.84 feet along the boundary of the Village of Spring Valley; thence
18. South  $42^{\circ} 26' 30''$  East, 566.19 feet along the boundary of the Village of Spring Valley to lands now or formerly of Lazar; thence
19. South  $8^{\circ} 10' 10''$  West along lands of Lazar approximately 72 feet to lands now or formerly of the County of Rockland; thence along lands of the County of Rockland the following 8 courses and distances:
20. North  $49^{\circ} 35' 41''$  West, 57.37 feet; thence
21. North  $70^{\circ} 38' 52''$  West, 108.64; thence



## NATIONAL GRANITE TITLE INSURANCE AGENCY, INC.

Title No.: GR99-4249

## SCHEDULE A - CONTINUED

22. South 74° 27' 13" West, 138.05 feet; thence
23. South 68° 48' 49" West, 69.18 feet; thence
24. South 07° 07' 29" West 20.16 feet; thence
25. South 56° 18' 35" East 18.03 feet; thence
26. North 88° 38' 54" East, 86.06 feet; thence
27. South 26° 15' 36" West, 331.74 feet to the place of **BEGINNING**.

**TOGETHER WITH** an existing access easement for vehicles approximately 25 feet in width over other lands of B. G. Schefa Development Corp. located to the north of the within premises designated as Tax Lot 6-B-4.01 and shown on Map No. 6375 filed in Rockland County on September 27, 1989 from New York State Route 59 to the within premises, **SUBJECT TO** the right of the owner of said parcel (Tax Lot 6-B-4.01) to move or relocate such access easement.

**TOGETHER WITH** an easement for the encroachment of a building which encroaches in part of other lands of B. G. Schefa Development Corp. (Tax Lot 6-B-4.01) for the purpose of continuing such encroachment as long as the building remains in existence, said building being located in part on the line described in course 18 in the description above.

*Handwritten signature or initials*



Appendix P  
Asbestos Sampling







# DETAIL ASSOCIATES, INC.

ENVIRONMENTAL ENGINEERING CONSULTANTS

September 11, 2006

Mr. Howard Hellman  
Hellman Management  
100 Snake Hill Road  
West Nyack, NY 10994

Re: Inspection Certification  
31 Hyenga Lake, Spring Valley, NY

Dear Mr. Hellman:

This is to inform you that the asbestos survey of the fire damaged house referenced above has been completed. Non destructive sampling was conducted in all accessible areas. No asbestos was found in any of the samples.

The inspection was performed by an accredited asbestos inspector and the survey was conducted in accordance with the procedures outlined in EPA Publications 560/5-85-024 "Guidance for Controlling Asbestos-Containing Materials in Buildings", June 1985 and 560/5-85-030a "Asbestos In Buildings: Simplified Sampling Scheme for Friable Surfacing Materials", October 1985, as well as in accordance with the New Jersey Subchapter 8, N.J.A.C. 5:23-8.20.

The bulk suspect asbestos samples were examined by J & S Environmental Laboratories, Inc. under Polarized Light Microscopy (PLM) in accordance with the EPA protocol, "Method for the Determination of Asbestos in Bulk Building Materials", EPA-600/M4/82/020 and Non-friable Item 198.6 of manual NOB by PLM.

Sincerely yours,  
DETAIL ASSOCIATES, INC.

*A. Valentine*  
Anthony Valentine  
Asbestos Inspector *BR*

300 GRAND AVENUE, ENGLEWOOD, NEW JERSEY 07631-4355  
TEL: (201) 569-6708 Fax: (201) 569-4378 WORLDWIDE WEB: <http://www.daienviro.com>  
E MAIL: [dainfo@daienviro.com](mailto:dainfo@daienviro.com)

EUROPE

NORTH AMERICA

ASIA

**Detail Associates, Inc.**

300 Grand Avenue  
Englewood, NJ 07631  
(201) 569-6708

**BULK SAMPLE SUMMARY SHEET**

**Project #:** NJ060318A  
**Client:** Hellman Management  
**Dates:** 9/6/06 to 9/6/06

<i>Sample #</i>	<i>Sample Location</i>	<i>Total Asbestos</i>
HELL-0906-01	#31 Hyenga Lake, Spring Valley, New York -- 1st Floor, 12 x 12" Linoleum tile	None Detected
HELL-0906-02	#31 Hyenga Lake, Spring Valley, New York -- 1st Floor, Gypsum ceiling	None Detected
HELL-0906-03	#31 Hyenga Lake, Spring Valley, New York -- 1st Floor, Partition wall	None Detected
HELL-0906-04	#31 Hyenga Lake, Spring Valley, New York -- 1st Floor, Felt material in wall	None Detected
HELL-0906-05	#31 Hyenga Lake, Spring Valley, New York -- 1st Floor, Roof shingles	None Detected

# DETAIL ASSOCIATES, INC.

ENVIRONMENTAL ENGINEERING CONSULTANTS

September 11, 2006

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Hellman Management  
100 Snake Hill Road  
West Nyack, NY 10994

Re: Inspection Certification  
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The bulk suspect asbestos samples were examined by J & S Environmental Laboratories, Inc. under Polarized Light Microscopy (PLM) in accordance with the EPA protocol, "Method for the Determination of Asbestos in Bulk Building Materials", EPA-600/M4/82/020 and Non-friable Item 198.6 of manual NOB by PLM.

Sincerely yours,  
DETAIL ASSOCIATES, INC.

*Anthony Valentine*  
Anthony Valentine  
Asbestos Inspector *BR*

300 GRAND AVENUE, ENGLEWOOD, NEW JERSEY 07631-4355  
TEL: (201) 569-6708 Fax: (201) 569-4378 WORLDWIDE WEB: <http://www.daienviro.com>  
E MAIL: [dainfo@daienviro.com](mailto:dainfo@daienviro.com)

EUROPE

NORTH AMERICA

ASIA

**Detail Associates, Inc.**

300 Grand Avenue  
Englewood, NJ 07631  
(201) 569-6708

**BULK SAMPLE SUMMARY SHEET**

**Project #:** NJ060318  
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**Dates:** 9/6/06 to 9/6/06

<i>Sample #</i>	<i>Sample Location</i>	<i>Total Asbestos</i>
HELL-0906-01	#28 Hyenga Lake, Spring Valley, New York -- 1st Floor, Gypsum wall/ceiling	None Detected
HELL-0906-02	#28 Hyenga Lake, Spring Valley, New York -- 2nd Floor, Gypsum wall	None Detected
HELL-0906-03	#28 Hyenga Lake, Spring Valley, New York -- Rear exterior wall plaster	None Detected

100 Snake Hill Road, West Nyack NY 10994  
Tel: 845-358-1200 Fax: 845-353-9603

**HELLMAN  
MANAGEMENT**

03/20  
AC

# Fax



<b>To:</b> Ann Cutignola/Tim Miller Assoc.	<b>From:</b> Howard Hellman
<b>Fax:</b> 265-4418	<b>Pages:</b>
<b>Phone:</b>	<b>Date:</b> 9/28/06
<b>Re:</b>	<b>CC:</b>
<input type="checkbox"/> <b>Urgent</b> <input type="checkbox"/> <b>For Review</b> <input type="checkbox"/> <b>Please Comment</b> <input type="checkbox"/> <b>Please Reply</b> <input type="checkbox"/> <b>Please Recycle</b>	

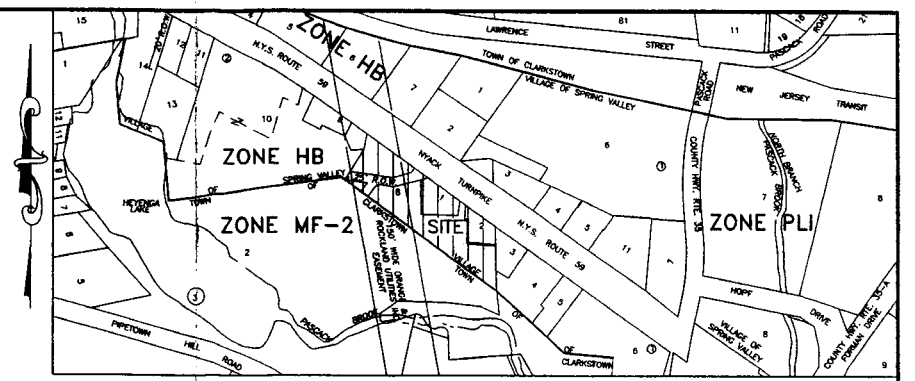


Appendix Q

Wide World of Cars  
Preliminary Site Plan







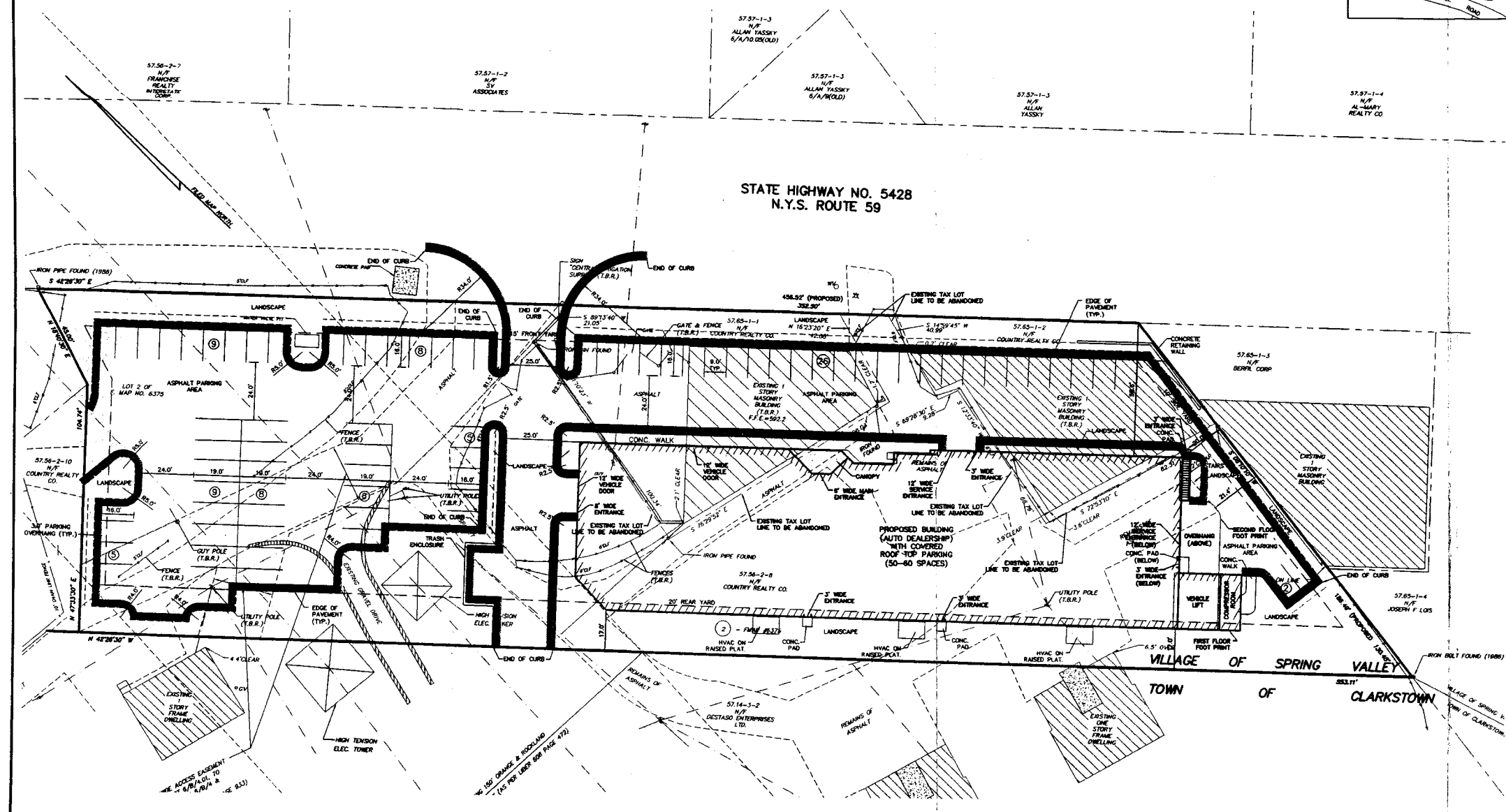
VICINITY MAP  
SCALE 1"=200'

NOTES:

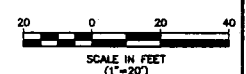
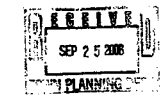
- THIS APPLICATION IS FOR SECTION 57.56, BLOCK 2, LOT 8, SECTION 57.63, BLOCK 1, LOT 1 & 2 AS SHOWN ON THE TOWN OF CLARKSTOWN TAX MAPS.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITY SERVICES. EXISTING SERVICES TO BE MAINTAINED AND UTILIZED IF FEASIBLE. IF NEW SERVICE IS PROVIDED, EXISTING SERVICES SHALL BE SUITABLY DISCONNECTED.
- CONTRACTOR SHALL VERIFY LOCATION AND OPERATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES, FEATURES, CONDITIONS, ETC., AND SHALL NOTIFY THE ENGINEER AND APPLICANT, IN WRITING, OF ANY DISCREPANCIES.
- SILT THAT LEAVES THE SITE IN SPIKE OF THE REQUIRED PRECAUTIONS SHALL BE COLLECTED AND REMOVED AS DIRECTED BY THE APPROPRIATE MUNICIPAL AUTHORITIES.
- AT THE COMPLETION OF THE PROJECT ALL TEMPORARY SITUATION DEVICES SHALL BE REMOVED AND THE AFFECTED AREAS REGRADED, PLANTED OR TREATED IN ACCORDANCE WITH THE APPROVED PLANS.
- ALL CONSTRUCTION SHALL MEET CURRENT SPECIFICATIONS OF THE MUNICIPALITY WHICH APPROVED THE PLANS, AND/OR THAT TOWN OR VILLAGE HAVING JURISDICTION OVER THIS PLOT.
- ADDRESS: 115 EAST ROUTE 59, SPRING VALLEY, N.J. 10977
- AREA OF TRACT: 6,780 S.F. (Lot 57.63-1-1), 6,841 S.F. (Lot 57.63-1-2), 56,213 S.F. (Lot 57.56-2-8)
- ZONE: HB
- EXISTING USE: VACANT BUILDING AND PARKING.
- PROPOSED USE: AUTO SHOWROOM WITH PARKING DECK (SECOND LEVEL), PROPOSED EXTERIOR PARKING & VEHICLE DISPLAY AREAS
- PROPOSED BUILDING AREA = 53,850± S.F.
- DISTRICTS: FIRE - SPRING VALLEY FIRE DEPARTMENT, WATER - UNITED WATER COMPANY, SEWER - ROCKLAND COUNTY SEWER DISTRICT No. 1, SCHOOL - EAST RAMAPO
- OWNER AND DEVELOPER: WIDE WORLD OF CARS, LLC, EAST ROUTE 59, SPRING VALLEY, N.J. 10977
- ALL NEW UTILITIES SHALL BE UNDERGROUND.
- VILLAGE LINE AS PER REFERENCE (FILED MAP 6375, BOOK 111, PAGE 7).

LEGEND:

- ⊕ EXISTING UTILITY POLE
- EXISTING OVERHEAD WIRES
- ⊕ EXISTING FIRE HYDRANT
- ⊕ EXISTING WATER VALVE
- ⊕ EXISTING SPOT ELEVATION
- EXISTING CHAIN LINK FENCE
- ⊕ EXISTING LIGHT POLE
- T.B.R. EXISTING FEATURE TO BE REMOVED
- ⊕ EXISTING WATER VALVE
- ⊕ EXISTING GAS VALVE
- ⊕ NUMBER OF PROPOSED PARKING SPACES
- PROPOSED EDGE OF NEW PAVEMENT
- PROPOSED EDGE OF NEW PAVEMENT



BULK TABLE:				
ZONE: HB				
ITEM	REQUIRED	EXISTING	PROPOSED	COMMENTS
MIN. LOT AREA	0'	71,822 S.F.	57.56-2-8	N/A
MIN. LOT WIDTH	25'	304'	57.56-2-8	COMBINED LOTS
MIN. FRONT YARD	15'	15'	57.56-1-1 & 2	OK
MIN. SIDE YARD	20'	1.7'	57.56-1-1	VARIANCE REQUIRED
TOTAL SIDE YARDS	20'	0'	57.56-1-2	OK
MAX. BLDG. HEIGHT	35'	30'	57.56-1-2	VARIANCE REQUIRED
MAX. F.A.R.	0.50	0.47 (57.56-1-1)	EXISTING	BASED ON COMBINED LOT AREAS
PARKING REQUIREMENTS				
PROPOSED USE: AUTOMOBILE SALES/SERVICE = 1 SPACE/EMPLOYEE 20 EMPLOYEES = 20± SPACES REQUIRED 78 SPACES PROVIDED ADDITIONAL 50-60 ROOFTOP SPACES				



REV.	DATE	DRAWN BY	DESCRIPTION
3	8-3-08	JRM	REVISED PER ATTORNEY COMMENTS
2	8-25-08	JRM	REVISED BULK TABLE/ADDED PARKING OFFSETS
1	8-16-08	JRM	REVISED BLDG. LAYOUT PER ARCHITECT

**MASER CONSULTING, INC.**  
WEST NYACK OFFICE  
Suite 101  
One Crossfield Avenue  
West Nyack, N.Y. 10994  
Phone (845) 727-1180  
Fax (845) 727-1182  
E-mail: solutions@maserconsulting.com

Regional Office  
Red Bank, N.J.  
Clinton, N.J.  
Hamilton Square, N.J.  
Laguna, N.J.  
Mt. Arlington, N.J.  
Newburgh, N.Y.

PROPOSED  
**PRELIMINARY SITE PLAN**  
FOR  
**WIDE WORLD OF CARS**  
PROPOSED  
**FERRARI-MASERATI DEALERSHIP**  
VILLAGE OF SPRING VALLEY, ROCKLAND COUNTY, NEW JERSEY

DATE: 7/21/08  
LATEST REVISION: 9/5/08  
PROJECT NUMBER: HY008637  
DRAWN BY: JRM

1 of 1



Appendix R

Orange & Rockland Field Safety  
Guide





# Field Safety Guide

for developers, contractors, excavators,  
equipment operators and for anyone ...

... working near

## Overhead and Underground Gas and Electric Lines

New York, New Jersey and Pennsylvania

# Table of Contents

<b>Introduction</b>	<b>1</b>
<b>Underground Utilities</b>	
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New York State Law	4
New Jersey Law	8
Pennsylvania Law	12
<b>Overhead Power Lines</b>	
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## Important Notice

**THE INFORMATION IN THIS BROCHURE IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT INTENDED TO CONSTITUTE LEGAL ADVICE.** The extracts of State laws and codes herein are current as of the date of this document's publication (November 2003). **This document does not contain Federal or Municipal laws, which may be applicable in a particular case.**

It is the responsibility of persons working near overhead or underground electric or natural gas services to comply with all state governmental regulations governing such activities, including regulations published subsequent to the printing of this brochure.

Such persons also are advised that this document should not be considered their sole source of regulatory compliance information. In some instances, federal laws or local ordinances are more restrictive than state requirements. It is incumbent on contractors and others, therefore, to make themselves aware of all municipal, state and federal regulations pertaining to the safe conduct of the work they perform near overhead and underground energy facilities.

**Questions concerning the applicability of the law provided in this document should be directed to the reader's own lawyer.**

Over the years, contractors have — unfortunately — been involved in numerous incidents of accidental contact with overhead and underground electric or gas equipment in O&R's tri-state area. The results have almost always been damage to utility property, with repair costs borne by those who caused the damage. Of even greater concern, however, are the personal injuries and human deaths that have occurred as a result of such accidents.

In this brochure, Orange and Rockland Utilities, Inc. (New York) and its subsidiaries, Rockland Electric Company (New Jersey) and Pike County Light & Power Co. (Pennsylvania), join to help you avoid such incidents and to handle them most effectively if problems should occur.

The safety information provided here outlines some of the dangers and risks associated with inadvertent contact with overhead and underground utility equipment. Various local, state and federal regulations prescribe minimum clearances and procedures for working at or near utility installations. Extracts of New York, New Jersey and Pennsylvania state statutes that relate to work safety around utility electric and gas equipment are provided in the following pages.

Your key resource is the One-Call Center in the state where your work activity will take place. It will provide accurate mark-outs for underground utility facilities. Also, the appropriate utility will assist you in pre-planning for any aboveground work, which could place the facility or, more importantly, your employees in jeopardy. (See page 3 for current One-Call numbers.)

This pamphlet is intended to inform you and your employees of your opportunity to Work Safe and Stay Safe. We strongly urge you to make full use of this material in the interest of safety.



“Look up,  
down, around and out...  
for your safety!”

# Underground Utilities

**Notification to Utilities** 3

**New York State Law**

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@753-3.2	Detailed notice requirements	4
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**Pennsylvania State Law**

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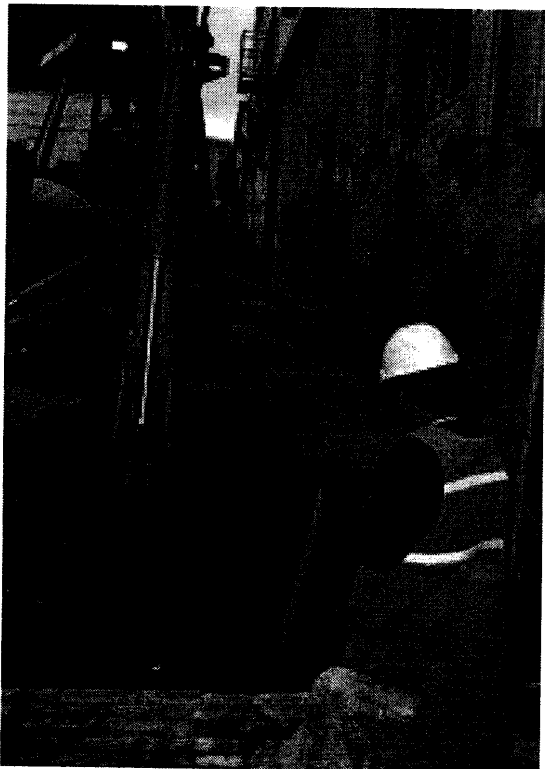
**Note:** All laws cited here are those in effect at the time of publication. Current statutes should always be reviewed. You are responsible for compliance with all laws in effect at the time you perform the work.

See "Important Notice" on inside front cover.



**A**ccidents involving dig-ins to underground facilities occur every year. They can damage equipment and, more importantly, sometimes lead to serious injuries, and even death. To help prevent such incidents, your State legislatures have created a One-Call Notification System to make it safer to dig and work near underground utility facilities.

## Avoid Problems; Call Before You Break Ground



For your safety and protection, your local One-Call Center will contact any member utility for clearance for any digging project. You'll get the locations of all in-ground electrical and natural gas lines near your job-site. That's one of the best safeguards against injury to you and your workers, or damage to utility lines that could lead to costly repair bills.

So remember, call your One-Call Center before you start the job. A single, toll-free call can save you plenty.

### **New York: 1-800-245-2828**

**Seven days a week, 24 hours a day.**

Call at least two working days ahead of time.

### **New Jersey: 1-800-272-1000**

**Seven days a week, 24 hours a day.**

Call at least two working days ahead of time.

### **Pennsylvania: 1-800-242-1776**

**Seven days a week, 24 hours a day.**

Call at least two working days ahead of time.

## New York Codes, Rules and Regulations

Title 16. Department Of Public Service

Chapter VII. Provisions Affecting Two Or More Kinds Of Public Service

Subchapter F. Miscellaneous

Part 753. Protection Of Underground Facilities

Subpart 753-3. Duties Of Excavators

16 NYCRR Subpart 753-3 Notes

### @ 753-3.1 Timing of notice for excavation or demolition

(a) (1) Before commencing or engaging in any nonemergency excavation or demolition, each excavator shall provide notice of the location and date of the planned excavation or demolition to the one-call notification system serving the vicinity in which the excavation or demolition is to take place.

(2) Such notice shall be served at least two but not more than ten working days, not including the date of the call, before the commencement date of the excavation or demolition.

(b) Excavation or demolition which is required to be performed promptly as a result of an emergency, disaster or to correct an immediate hazard may proceed immediately without prior notification to operators, if the situation is so serious that the excavation or demolition cannot reasonably be delayed. However, excavators shall notify the one-call notification system as soon as possible that such excavation or demolition is commencing or is underway. Extreme caution shall be employed by the excavator to prevent damage to existing underground facilities and to avoid endangering persons and property.

(c) At least seven working days in advance of the commencement date of a demolition, the excavator shall request a pre-demolition conference, through the one-call notification system, with all member operators who have underground facilities at or near the demolition area. A pre-demolition conference may encompass one or more demolition(s) in the project area. A request for a pre-demolition conference is not a substitute for the notice of intent to perform demolition work required by Section 753-3.1 of this Part.

(d) Whenever an excavator cancels an excavation or demolition, he or she shall promptly communicate the cancellation to facility operators

utilizing the one-call notification system.

(1) Whenever an excavator postpones the commencement date for ten or less working days, no call to the one-call notification system or operators is required.

(2) Whenever an excavator postpones an excavation or demolition more than ten working days, the same requirements for notice shall pertain to the revised commencement date as listed in subdivision 753-3.1 (a) of this section.

(e) Information requested from an operator for design purposes shall not be a substitute for the notice of intent to perform excavation or demolition as required by this Subpart.

### @ 753-3.2 Detailed notice requirements

(a) Every notice provided by an excavator to the one-call notification system concerning planned excavation or demolition shall contain at least the following information:

(1) Name of the person serving such notice;

(2) Name, address and telephone number of the excavator or excavator's company;

(3) Excavator's field telephone number, if one is available;

(4) Name of the field contact person, if any;

(5) Address and exact location as well as the extent and dimensions of the planned work area;

(6) Means of excavation or demolition and whether or not explosives are to be used;

(7) Brief description of the planned excavation or demolition;

(8) Date and time the excavation or demolition is planned to commence.

(b) When necessary for adequate identification, or as determined by mutual agreement of the operator and excavator, the excavator shall delineate the work area with white paint, white stakes or other suitable white markings.

### 753-3.3 Commencement of excavation or demolition

(a) The excavator may proceed with excavation or demolition on the stated date of commencement if, prior thereto, he or she has received notification from each and every operator notified by the one-call notification system that:

(1) Such operator has no underground facility located in or within 15 feet of the work area; or

(2) That any underground facility located in or within 15 feet of the work area has been staked, marked or otherwise designated in accordance with the provisions of Subpart 753-4 of this Part.

(b) The excavator shall not commence the excavation or demolition on the stated commencement date if he or she has been notified by an operator that the staking, marking or other designations of an underground facility located in or within 15 feet of the work area will not be completed on the stated commencement date. In such case, the operator is required promptly to report such fact to the excavator and to inform the excavator of a prompt and practicable completion date, which in no case shall be more than two working days after the excavator's stated commencement date, unless a longer period is agreed to by both parties.

(c) The excavator may proceed with excavation or demolition prior to the stated date of commencement once he or she has received notification from each and every operator notified by the one-call notification system that each operator has no underground facilities located in or within 15 feet of the work area.

#### **@ 753-3.4 Staking, marking or other designation**

(a) Every excavator shall be familiar with the provisions of this Part, especially those relating to size and depth indications, color coding, center line or offset staking or marking and the location of underground facilities by designations other than staking or marking.

(b) Whenever the excavator determines that a review of the staking, marking or other designation is necessary or that additional information is required, he or she shall so notify the operator or the one-call notification system.

#### **@ 753-3.5 Preservation of stakes, markings or other designations**

Starting on the stated commencement date given in the excavator's notice to the one-call notification system, the excavator shall be responsible for protecting and preserving the staking, marking or other designation until no longer required for proper and safe excavation or demolition work at or near the underground facility.

#### **@ 753-3.6 Verification of underground facilities**

Where an underground facility has been staked, marked or otherwise designated by the operator and the tolerance zone overlaps with any part

of the work area, or the projected line of a bore/directional drill intersects the tolerance zone, the excavator shall verify the precise location, type, size, direction of run and depth of such underground facility or its encasement. Verification shall be completed before the excavation or demolition is commenced or shall be performed as the work progresses.

(a) Powered or mechanized equipment may be used within the tolerance zone for removal of pavement or masonry but only to the depth of such pavement or masonry.

(1) Below the depth of pavement or masonry, powered equipment may be used in the tolerance zone prior to the verification of the location of facilities when agreed to in writing by the affected operator(s).

(2) Operators, or their agents and contractors working under their direction, may use powered equipment to locate their own facilities within the tolerance zone.

(b) The verification of underground facilities furnishing gas or liquid petroleum products shall be accomplished by the excavator by exposing the underground facility or its encasement to view by means of hand dug test holes at one or more points where the work area and tolerance zone overlap, or more points as designated by the operators of such facilities.

(c) The verification of underground facilities other than those furnishing gas or liquid petroleum products shall be performed at one or more points for each such underground facility as may be required by the operator. Verification shall be accomplished by exposing the underground facility or its encasement to view by hand dug test holes or by other means mutually agreed to by the excavator and operator.

#### **@ 753-3.7 Unverifiable underground facilities**

If the precise location of an underground facility cannot be verified by the excavator after diligent search at a reasonable depth within the tolerance zone as staked, marked or otherwise designated by the operator, the excavator shall so notify such operator as soon as possible. The operator shall respond in accordance with subdivision 753-4.10 of this Part.

#### **@ 753-3.8 Powered excavating equipment limitations**

After verifying the location of an underground facility, the excavator shall not employ powered or mechanical excavating equipment closer than

## 6 Orange and Rockland Field Safety Guide

four inches in any direction from the staked, marked or otherwise designated or known outside diameter or perimeter of such facility or its protective coating unless agreed to in writing by the operator of the affected underground facility. Any such written agreement shall be furnished to the excavator by the operator, upon request.

### **@ 753-3.9 Discovery of unknown underground facilities**

Where an undesignated or otherwise unknown underground facility is discovered within a work area, the excavator shall report such discovery as follows:

- (a)** If the identity of the operator of the discovered underground facility is known or is obvious, the excavator shall report the discovery to such operator. The operator shall respond immediately and, in accordance with section 753-4.9 (d) of this Part, take any necessary action and advise the excavator as to whether he or she may proceed in the immediate area.
- (b) (1)** If the identity of the operator of the discovered underground facility is not known or obvious, the excavator shall report the discovery to the one-call notification system and each operator notified by the one-call notification system shall respond immediately and, in accordance with subdivision 753-4.9(d) of this Part, determine whether or not such discovered facility is his or hers.
- (2)** While awaiting a determination of ownership, the excavator may proceed with the excavation or demolition taking reasonable care to protect and prevent damage to such underground facility.

### **@ 753-3.10 Requirements concerning contact and damage to underground facilities**

- (a)** Excavators shall take all reasonable precautions to prevent contact or damage to underground facilities and their protective coatings, including but not limited to, compliance with any reasonable directions or accepted engineering practices given by affected underground facility operators.
- (b)** In the event of contact with or damage to an underground facility, the excavator shall immediately notify the operator of the facility.
- (c)** All excavation or demolition in the immediate vicinity of the contacted or damaged portion of the underground facility shall be suspended until such portion is repaired and the operator advises the excavator that excavation or demolition may proceed.

**(d)** No backfilling shall be done by the excavator in the vicinity of the contact or damage until the operator conducts an inspection and makes any necessary repairs; and, the excavator shall undertake no repairs unless and until authorized by the operator.

### **@ 753-3.11 Requirements concerning underground facilities in danger of failing**

- (a)** An excavator who by removing the surrounding materials exposes an underground facility which in his or her judgment appears to have failed or to be in potential danger of failing from corrosion or other causes shall immediately report such condition to the operator of such underground facility.
- (b)** The excavator shall delay any further work in the immediate vicinity of such underground facility which could jeopardize it but may proceed in areas not affecting the questionable facility.
- (c)** The excavator may proceed in such immediate vicinity after the operator responds and takes necessary action in regard thereto and advises the excavator that he or she may proceed.

### **@ 753-3.12 Required support and protection for underground facilities**

- (a)** An excavator shall provide prompt and adequate support and protection for every underground facility located in the work area as is reasonably specified by the operator of any such facility.
- (b)** In the absence of any specifications by the operator, the excavator shall provide support and protection in accordance with generally accepted engineering practice, including but not limited to shoring and bracing.
- (c)** Support shall be at least equivalent to the previously existing support and shall protect the underground facility against freezing and against traffic and other loads.
- (d)** Support shall be maintained during excavation, during backfilling and, if necessary, after backfilling is completed.
- (e)** The operator may, in agreement with the excavator, provide such support.

### **@ 753-3.13 Backfilling requirements**

- (a)** An excavator performing excavation or demolition at an underground facility shall backfill such excavation with materials and in such manner as specified by the operator or, in the absence of such specifications, with suitable materials and



“Look up,  
down, around and out...  
for your safety!”

in such manner as will avoid damage to, and provide proper support for, such underground facility and its protective coating both during and after backfilling operations.

**(b)** The excavator shall not place large rock, frozen earth, rubble, debris or other heavy or sharp materials or objects which could cause damage to or scraping against any underground facility.

**(c)** The backfill beneath and around any underground facility shall be properly compacted in accordance with generally accepted engineering practice.

**(d)** Heavy loads and excessive forces shall not be imposed on any exposed underground facility at any time during backfilling operations.

#### **@ 753-3.14 Emergency requirements**

In the event of an emergency involving danger to life, health or property as a result of damage to an underground facility containing gas or liquid petroleum products or as a result of an electrical short or escape of gas or hazardous fluids, the excavator shall:

**(a)** proceed to evacuate his or her employees and all other endangered persons from the immediate vicinity to the best of his or her ability; and

**(b)** immediately notify the local police and fire departments and the operator of the affected facility of the exact location, nature of the emergency and of the underground facility which is affected.

#### **@ 753-3.15 Responsibility to employees**

Every excavator subject to the provisions of this Part shall make certain that all of his or her employees directly involved in excavation or demolition are thoroughly familiar with the applicable provisions of this Part and especially the provisions of this Subpart relating to their safety.

## New Jersey Statutes

Title 48. Public Utilities

Chapter 2. Department of Public Utilities;  
Board of Commissioners

Article 9. Underground Facility Protection

N.J. Stat. @ 48:2-73

### @ 48:2-74. Legislative findings and declarations

The Legislature finds and declares that damage to underground facilities caused by excavation and the discharge of explosives poses a significant risk to the public safety; that such damage to underground natural gas facilities poses a substantial risk to the public safety; and that the implementation of a comprehensive One-Call Damage Prevention System can substantially reduce the frequency of damage caused by these activities.

The Legislature therefore determines that it is in the public interest for the State to require all operators of underground facilities to participate in a One-Call Damage Prevention System and to require all excavators to notify the One-Call Damage Prevention System prior to excavation or demolition.

The Legislature further determines that the Board of Public Utilities is the appropriate State agency to designate the operator of, and provide policy oversight to, the One-Call Damage Prevention System and enforce the provisions of this act.

### @ 48:2-75. Definitions

As used in this act: "**Board**" means the Board of Public Utilities; "**Business day**" means any day other than Saturday, Sunday, or a nationally or State recognized holiday; "**Damage**" means any impact or contact with an underground facility, its appurtenances or its protective coating or any weakening of the support for the facility or protective housing, including, but not limited to a break, leak, dent, gouge, groove, or other damage to the facility, its lines, or their coating or cathodic protection.

"**Emergency**" means any condition constituting a clear and present danger to life, health or property caused by the escape of any material or substance transported by means of an underground facility or the interruption of a vital communication or public service that requires immediate action to prevent or mitigate loss or potential loss of the communication or public service, or any condition on or affecting a transportation right-of-way or transportation facility that creates a risk to the public of potential injury or property damage;

"**Excavate**" or "**excavating**" or "**excavation**" or "**demolition**" means any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by means of any tools, equipment, or explosive, and includes but is not limited to drilling, grading, boring, milling to a depth greater than six inches, trenching, tunneling, scraping, tree and root removal, cable or pipe plowing, fence post or pile driving, and wrecking, razing, rending, or removing any structure or mass material, but does not include routine residential property or right-of-way maintenance or landscaping activities performed with non-mechanized equipment, excavation within the flexible or rigid pavement box within the right-of-way, or the tilling of soil for agricultural purposes to a depth of 18 inches or less;

"**Excavator**" means any person performing excavation or demolition;

"**Hand digging**" means any excavation involving non-mechanized tools or equipment, including but not limited to digging with shovels, picks and manual post-hole diggers;

"**Mechanized equipment**" means equipment powered by a motor, engine, or hydraulic, pneumatic or electrical device, including but not limited to trenchers, bulldozers, power shovels, augers, backhoes, scrapers, drills, cable and pipe plows, and other equipment used for plowing-in cable or pipe, but does not include tools manipulated solely by human power;

"**One-Call Damage Prevention System**" means the communication system established pursuant to section 4 of this act;

"**Operator**" means a person owning or operating, or controlling the operation of, an underground facility, but shall not include a homeowner who owns only residential underground facilities, such as an underground lawn sprinkler system or an underground structure for a residential low-voltage lighting system;

"**Person**" means any individual, firm, joint venture, partnership, corporation, association, State, county, municipality, public agency or authority, bi-state or interstate agency or authority, public utility, cooperation association, or joint stock association, and includes any trustee, receiver, assignee, or personal representative thereof;

"**Public entity**" means any federal, State, county or municipal entity responsible for issuing road opening, building, blasting, demolition or excavation permits;

"**Site**" means the specific place where excavation work is performed or to be performed and shall be identified by street address referenced to the nearest intersecting street and subdivision name, if applicable, as well as by lot and block number, if available and by kilometer

or mile marker for railways;

**"State department or agency"** means any department, public authority, public agency, public commission, or other political subdivision of the State, including any county, municipality or political subdivision thereof.

**"Underground facility"** means any public or private personal property which is buried, placed below ground, or submerged on a right-of-way, easement, public street, other public place or private property and is being used or will be used for the conveyance of water, forced sewage, telecommunications, cable television, electricity, oil, petroleum products, gas, optical signals, or traffic control, or for the transportation of a hazardous liquid regulated pursuant to the "Hazardous Liquid Pipeline Safety Act of 1979" (49 U.S.C. app. 2001 et seq.), but does not include storm drains or gravity sewers.

**@ 48:2-76. One-Call Damage Prevention System, established;**

The Board of Public Utilities shall establish a One-Call Damage Prevention System pursuant to the provisions of this act, and may adopt, pursuant to the "Administrative Procedure Act", P.L.1968, c. 410 (C. 52:14B-1 et seq.), such rules and regulations as it deems necessary to implement the provisions of this act. This system shall be a single Statewide 24-hour, seven-day-a-week notification center which shall:

- a. Receive and record the notice of intent to excavate provided by excavators pursuant to subsection a. of section 10 of this act;
- b. Assign a confirmation number to each notice of intent to engage in an excavation, inform the excavator of the confirmation number, and maintain a register showing the name, address, and telephone number of the excavator, the site to which the notice pertains, and the assigned confirmation number;
- c. Promptly transmit to the appropriate operators the information received from an excavator regarding any intended excavation in areas where the operators have underground facilities;
- d. Maintain a record of each notice of intent received pursuant to subsection a. of this section for a period of seven years from the date of notice; and
- e. Provide to the excavator the names of the operators who will be notified by the One-Call Damage Prevention System of the intended excavation.

**@ 48:2-81. Marking, staking or locating of facility; applicability; compliance**

a. The requirement, pursuant to paragraph (2) of subsection a. of section 8 of this act, [FN1] for an operator to mark, stake, locate or otherwise provide the position of its underground facilities shall not apply to an underground non-metallic water pipe or non-metallic water distribution facility installed prior to the effective date of this act. An operator that qualifies for this exemption shall cooperate with the excavator in reasonable efforts to determine the location of such facilities.

b. The requirement pursuant to paragraph (2) of subsection a. of section 8 of this act for an operator to mark, stake, locate or otherwise provide the position of its underground facilities shall be deemed met by a State department or agency when an excavation is conducted on property or a right-of-way owned or controlled by the State department or agency and the excavation is subject to an excavation permitting process by the State department or agency if:

- (1) The underground facilities of the State department or agency at the proposed excavation site comprise only traffic signals and lights or street and highway lights and their associated electrical feeds, control lines and traffic sensing loops;
- (2) The State department or agency excavation permit is conditional upon the excavator notifying the One-Call Damage Prevention System; and
- (3) The State department or agency provides the excavator with plans of the position and number of its underground facilities during the permitting process and agrees to cooperate on a continuing basis with the excavator in reasonable efforts to determine the location of such facilities, including notifying an excavator of any changes which may occur in the position or number of underground facilities after the initial issuance of plans to the excavator. However, the State department or agency may elect to mark, stake, or locate its underground facilities pursuant to the requirements of paragraph (2) of subsection a. of section 8 of this act.

If a State department or agency elects not to mark or stake its facilities under this subsection, an excavator who has conformed with the requirements of this act and all other applicable permit requirements, and uses reasonable care while excavating shall not be liable for damage to the State department or agency's underground facilities.

### **@ 48:2-82. Notification of One-Call Damage Prevention System by excavator, information to be provided; duties of excavator**

a. An excavator shall notify the One-Call Damage Prevention System established pursuant to section 4 of this act of his intent to engage in excavation or demolition not less than three business days and not more than 10 business days prior to the beginning of the excavation or demolition.

b. Upon notifying the One-Call Damage Prevention System, an excavator shall provide the following information:

- (1) The name and telephone number of the person notifying the system;
- (2) The name, address, and office and field telephone numbers and facsimile numbers of the excavator;
- (3) The name, address and telephone number of the person for whom the excavation work is to be performed; and
- (4) The specific site location, starting date, starting time and description of the intended excavation or demolition, including the approximate depth of the excavation or demolition.

c. Where appropriate to provide clarification, an excavator shall mark and identify the perimeter of the proposed site of the excavation by the color white prior to notifying the One-Call Damage Prevention System of his intent to engage in excavation or demolition.

d. An excavator shall:

- (1) Not operate any mechanized equipment within two feet horizontally of the outside wall of any underground facility marked in accordance with the provisions of this act, or marked in accordance with any rule, regulation, or order adopted pursuant to this act, unless the underground facility has first been located by hand digging. Mechanized equipment shall be used with proper care and under adequate supervision to avoid damage to the underground facility;
- (2) Plan the excavation or demolition to avoid damage to and to minimize interference with underground facilities;
- (3) Use reasonable care during excavation or demolition to avoid damage to or interference with underground facilities; and
- (4) After commencement of excavation or demolition, protect and preserve the marking, staking, or other designation of an underground facility until the marking, staking, or other

designation is no longer necessary for safe excavation or demolition.

e. An excavator shall immediately report to the operator of an underground facility any damage to the underground facility caused by or discovered by the excavator in the course of an excavation or demolition.

### **@ 48:2-83. Proof of notification required for permission to excavate**

The provisions of any other law, rule, regulation or ordinance to the contrary notwithstanding, any permit or permission for a road opening, building, blasting, demolition or excavation granted by a public entity to an excavator that will result in excavation or demolition activity shall not be effective until the excavator provides proof to the public entity that the excavator has notified the One-Call Damage Prevention System pursuant to section 10 of this act. This proof may be provided by supplying the public entity with the confirmation number assigned to the notice of intent pursuant to subsection b. of section 4 of this act.

### **@ 48:2-84. Exception for emergency excavations**

The provisions of this act shall not apply when an excavation or demolition is undertaken in response to an emergency, provided that the One-Call Damage Prevention System is notified at the earliest reasonable opportunity and that all reasonable precautions are taken to protect underground facilities.

### **@ 48:2-86. Violation of act; injunction; civil penalties**

a. Whenever it appears to the board that a person has violated any provision of this act, or any rule, regulation or order adopted pursuant thereto, it may issue an order specifying the provision or provisions of this act, or the rule, regulation or order of which the person is in violation, citing the action which constituted the violation, ordering abatement of the violation, and giving notice to the person of his right to a hearing on the matters contained in the order. Such order shall be effective upon receipt and any person to whom such order is directed shall comply with the order immediately.

b. The board may institute an action or proceeding in the Superior Court for injunctive and other relief for any violation of this act, or of any rule or regulation adopted pursuant to this act and the court may proceed in the action in a summary manner. In any such proceeding the court may grant temporary or interlocutory relief, notwithstanding the provisions of R.S. 48:2-24.



Such relief may include, singly or in combination:

- (1)** A temporary or permanent injunction; and
  - (2)** Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and litigating the case under this subsection. Assessments under this subsection shall be paid to the State Treasurer.
- The board or an affected operator may institute an action in the Superior Court to enjoin a person whose repeated failure to comply with the provisions of this act constitutes a threat to public safety from engaging in any further excavation or demolition work within the State, except under such terms and conditions as the Superior Court may prescribe to ensure the safety of the public.

**c.** The provisions of section 16 of this act to the contrary notwithstanding, a person who is determined by the board, after notice and opportunity to be heard, to have violated any provision of this act or any rule, regulation, or order adopted pursuant thereto with respect to a natural gas underground pipeline or distribution facility, or a hazardous liquid underground pipeline or distribution facility, shall be liable to a civil penalty not to exceed \$25,000 for each violation for each day the violation continues, except that the maximum civil penalty may not exceed \$500,000 for any related series of violations.

Any civil penalty imposed pursuant to this subsection may be compromised by the board. In determining the amount of the penalty, or the amount agreed upon in compromise, the board shall consider the nature, circumstances, and gravity of the violation; the degree of the violator's culpability; any history of prior violations; the prospective effect of the penalty on the ability of the violator to conduct business; any good faith effort on the part of the violator in attempting to achieve compliance; the violator's ability to pay the penalty; and other factors the board determines to be appropriate.

The amount of the penalty when finally determined, or the amount agreed upon in compromise, may be deducted from any sums owing by the State to the person charged, or may be recovered, if necessary, in a summary proceeding pursuant to "the penalty enforcement law" (N.J.S. 2A:58-1 et seq.). The Superior Court shall have jurisdiction to enforce the provisions of "the penalty enforcement law" in connection with this act.

**d.** Pursuit of any remedy specified in this section shall not preclude the pursuit of any other remedy, including any civil remedy for damage to an operator's underground facilities or for damage to a person's property, provided by any other law.

Administrative and judicial remedies provided in this section may be pursued simultaneously.

#### **@ 48:2-87. Illegal excavation; third degree crime**

Any person who knowingly engages in an excavation without:

- a.** First using the One-Call Damage Prevention System to determine the location of underground facilities in the area being excavated; or
- b.** Heeding appropriate location information or markings established by any operator; or
- c.** Otherwise complying with the provisions of this act; is guilty of a disorderly persons offense. If, because of the violation, damage occurs to an underground facility resulting in death, serious bodily harm, or actual damage to property or loss of service revenue exceeding \$50,000, or damage occurs to an underground hazardous liquid pipeline facility resulting in the release of more than 50 barrels of product, the person shall, upon conviction, be guilty of a crime of the third degree.

Nothing in this section shall limit the jurisdiction of the board with respect to natural gas pipeline safety or limit the jurisdiction of the board or a court of competent jurisdiction with respect to the civil administrative penalty and enforcement provisions of this act.

#### **@ 48:2-88. Penalties**

**a.** An operator or excavator, or the person who operates the One-Call Damage Prevention System, who violates any provision of this act or any rule or regulation or order adopted pursuant thereto shall be liable to a civil penalty of not less than \$1,000 and not more than \$2,500 per day for each day the violation continues, except that the maximum civil penalty may not exceed \$25,000 for any related series of violations.

**b.** Any civil action pursuant to subsection a. of this section may be brought in a court of this State by the board or by an affected operator. Nothing in this act shall affect any civil remedy for damage to an operator's underground facility or for actual damage to any person's property.

#### **@ 48:2-89. Notice failure, prima facie evidence of negligence**

Evidence that an excavation or demolition that results in any damage to an underground facility was performed without providing the notice required pursuant to section 10 of this act shall be prima facie evidence in any civil or administrative proceeding that the damage was caused by the negligence of the person engaged in the excavation or demolition.

## Pennsylvania Statutes and Consolidated Statutes

Title 73. Trade and Commerce  
Chapter 3. Explosives, Regulation Excavation and Demolition

73 P.S. @ 176

### @176. Definitions

As used in this act:

**"CONTRACTOR"** means any person who or which performs excavation or demolition work for himself or for another person.

**"DEMOLITION WORK"** means the partial or complete destruction of a structure, by any means, served by or adjacent to a line or lines.

**"DESIGNER"** means any architect, engineer or other person who or which prepares a drawing for a construction or other project which requires excavation or demolition work as herein defined.

**"EMERGENCY"** means a sudden or unforeseen occurrence involving a clear and immediate danger to life or property, including, but not limited to, serious breaks or defects in a facility owner's lines.

**"EXCAVATION WORK"** means the use of powered equipment or explosives in the movement of earth, rock or other material, and includes but is not limited to anchoring, augering, backfilling, blasting, boring, digging, ditching, drilling, driving-in, grading, plowing-in, pulling-in, ripping, scraping, trenching and tunneling, but does not include soft excavation technology such as vacuum, high pressure air or water, tilling of soil for agricultural purposes to a depth of less than eighteen inches, operations necessary or incidental to the purposes of finding or extracting natural resources, political subdivisions performing minor routine maintenance up to a depth of less than eighteen inches within the right-of-way of roads or employees of the Department of Transportation performing within the scope of their employment work up to a depth of twenty-four inches beneath the existing surface within the right-of-way of a State highway.

**"FACILITY OWNER"** means the public utility or agency, political subdivision, municipality, authority, rural electric cooperative or other person or entity who or which owns or operates a line. The term does not include the Department of Transportation within a State highway right-of-way.

**"LINE" OR "FACILITY"** means an underground conductor or underground pipe or structure used in providing electric or communication service, or an underground pipe used in carrying or providing gas, oil or oil product, sewage, water or other service to one or more consumers or customers of such service and the appurtenances thereto, regardless of whether such line or structure is located on land owned by a person or public agency or whether it is located within an easement or right-of-way. The term includes storm drainage and traffic loops.

**"MINOR ROUTINE MAINTENANCE"** means shaping of or adding dust palliative to unpaved roads, removal and application of patches to the surface or base of flexible base, rigid base or rigid surface roads by either manual or mechanized method to the extent of the existing exposed base material, crack and joint sealing, adding dust palliative to road shoulders, patching of shoulders and shoulder bases by either manual or mechanized methods to the extent of the existing exposed base, and cleaning of inlets and drainage pipes and ditches.

**"ONE CALL SYSTEM"** means a communication system established within this Commonwealth to provide a single toll-free telephone number for contractors or designers or any other person covered by this act to call facility owners and notify them of their intent to perform excavation, demolition or similar work as defined by this act. A One Call System shall be incorporated and operated as a nonprofit corporation pursuant to 15 Pa.C.S. Pt. II Subpt. C (relating to nonprofit corporations).

**"OPERATOR"** means any individual in physical control of powered equipment or explosives when being used to perform excavation or demolition work.

**"OWNER"** means any person who or which engages a contractor for construction or any other project which requires excavation or demolition work as herein defined.

**"PERSON"** means an individual, partnership, corporation, political subdivision, a municipal authority, the Commonwealth and its agencies and instrumentalities, or any other entity.

**"POWERED EQUIPMENT"** means any equipment energized by an engine or motor and used in excavation or demolition work.

**"SITE"** means the specific place where excavation or demolition work is being or is planned to be performed.

**"WORKING DAY"** means any day except a Saturday, Sunday or legal holiday prescribed by act of the General Assembly.

**@180. Contractors, duties**

It shall be the duty of each contractor who intends to perform excavation or demolition work within this Commonwealth:

**(1), (2)** Repealed. 1996, Dec. 19, P.L. 1460, No. 187, @ 3, imd. effective.

**(2.1)** To request the location and type of facility owner lines at each site by notifying the facility owner through a One Call System. Notification shall be not less than three nor more than ten working days in advance of beginning excavation or demolition work.

**(2.2)** To provide a One Call System with specific information to identify the site so that facility owners might provide indications of their lines. A contractor shall be deemed to have met the obligations of clause (2.1) if he calls a One Call System, provides the required information and receives a serial number.

**(3)** If a contractor intends to perform work at multiple sites or over a large area, he shall take reasonable steps to work with facility owners, including a preconstruction meeting, so that they may locate their facilities at a time reasonably in advance of the actual start of excavation or demolition work for each phase of the work. After commencement of excavation or demolition work, the contractor shall be responsible for protecting and preserving the staking, marking or other designation until no longer required for proper and safe excavation or demolition work at or near the underground facility, or by calling for an additional relocation in the event that the previous markings have been compromised or eliminated.

**(4)** To exercise due care; and to take all reasonable steps necessary to avoid injury to or otherwise interfere with all lines where positions have been provided to the contractor by the facility owners pursuant to clause (5) of section 2. Within the tolerance zone or if insufficient information is available pursuant to clause (5) of section 2, the contractor shall employ prudent techniques, which may include hand-dug test holes, to ascertain the precise position of such facilities, which shall be paid for by the owner pursuant to clause (15) of this section.

**(5)** If the facility owner fails to respond to the contractor's timely request within the two work days as provided under clause (5) of section 2 or the facility owner notifies the contractor that

the line cannot be marked within the time frame and a mutually agreeable date for marking cannot be arrived at, the contractor may proceed with excavation at the end of three working days, provided he exercises due care in his endeavors, subject to the limitations contained in this clause and clauses (2.1) through (4).

**(6)** To inform each operator employed by the contractor at the site of such work of the information obtained by the contractor pursuant to clauses (2.1) through (5), and the contractor and operator shall:

**(i)** Plan the excavation or demolition to avoid damage to or minimize interference with a facility owner's facilities in the construction area. Excavation or demolition work which requires temporary or permanent interruption of a facility owner's service shall be coordinated with the affected facility owner in all cases.

**(ii)** After consulting with a facility owner, provide such support and mechanical protection for known facility owner's lines at the construction site during the excavation or demolition work, including during backfilling operations, as may be reasonably necessary for the protection of such lines.

**(7)** To report immediately to the facility owner any break or leak on its lines, or any dent, gouge, groove or other damage to such lines or to their coating or cathodic protection, made or discovered in the course of the excavation or demolition work.

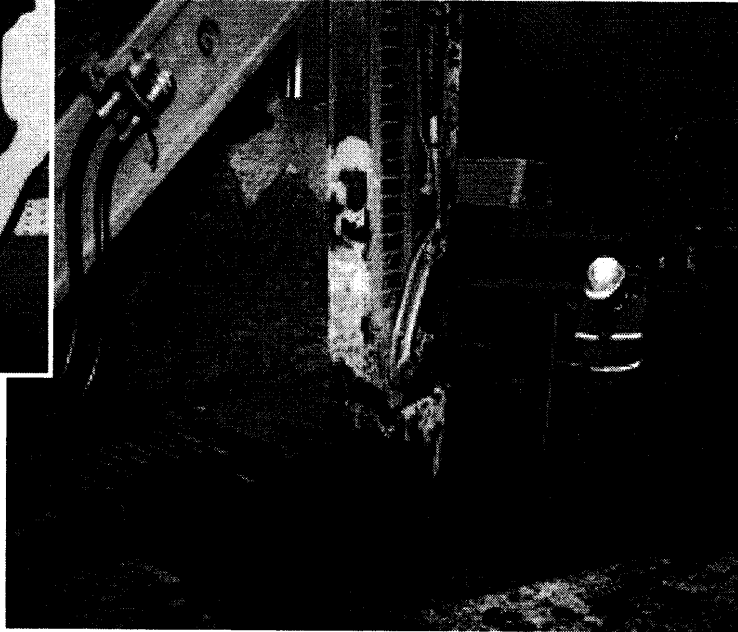
**(8)** To alert immediately the occupants of premises as to any emergency that such person may create or discover at or near such premises.

**(9)** The time requirements of clause (2.1) shall not apply to a facility owner or contractor performing excavation or demolition work in an emergency, as defined in section 1; nonetheless, all facility owners shall be notified as soon as possible before, during or after excavation or demolition, depending upon the circumstances.

**(10)** Repealed. 1996, Dec. 19, P.L. 1460, No. 187, @ 3, imd. effective.

**(11)** A contractor shall use the color white to mark a proposed excavation site when exact site information cannot be provided.

**(12)** The following standards shall be applied in determining whether a contractor shall incur any obligation or be subject to liability as a result of a contractor's demolition or excavation work damaging a facility owner's facilities:



“Look up,  
down, around and out...  
for your safety!”

(i) The contractor who has complied with the terms of this act and who was not otherwise negligent shall not be subject to liability or incur any obligation to facility owners, operators, owners or other persons who sustain injury to person or property as a result of the contractor's excavation or demolition work damaging a facility owner's lines.

(ii) Where a contractor has failed to comply with the terms of this act or was otherwise negligent, and the facility owner or designer has misidentified, mislocated or failed to identify its facilities pursuant to this act, then in computing the amount of reimbursement to which the facility owner is entitled, the cost of repairing or replacing its facilities shall be diminished in the same proportion that the facility owner's or designer's misidentification, mislocation or failure to identify the facilities contributed to the damage. Should the facility owner or designer not have misidentified,

mislocated or failed to identify its facilities pursuant to this act, there shall be no diminution of the facility owner's right of recovery.

(13) If, after receiving information from a One Call System or directly from a facility owner, the contractor decides to change the location, scope or duration of a proposed excavation, the obligations imposed by this section shall apply to the new location.

(14) If a contractor removes its equipment and vacates a worksite for more than two working days, he shall renotify a One Call System unless other arrangements have been made directly with the facility owners involved in his worksite.

(15) When the information required from the facility owner under clause (4) of section 2 cannot be provided or it is reasonably necessary for the contractor to ascertain the precise location of any line by prudent techniques, which may include hand-dug test holes, vacuum excavation

or other similar devices, the contractor shall promptly notify the owner or the owner's representative, either orally or in writing. After giving such notice, the contractor shall be entitled to compensation from the owner for this additional work as provided in the latest edition of the Pennsylvania Department of Transportation Form 408 specifications for extra work performed on a force account basis. The provisions of this subsection shall not be deemed to limit any other rights which the contractor has under its contract with the owner or otherwise.

**@182.2. Violations; penalties; injunction; effect on civil remedies**

**(a)** Any person violating any of the provisions of this act, except clause (1) of section 2, shall, upon conviction in a summary proceeding, be sentenced to pay a fine of not less than two thousand five hundred dollars (\$2,500) nor more than twenty-five thousand dollars (\$25,000) or undergo imprisonment for not more than ninety days, or both. A violation of clause (1) of section 2 shall be a civil offense punishable by a fine of not more than five hundred dollars (\$500) per day for each day of the offense. The Attorney General of the Commonwealth or any district attorney or magistrate may enforce the provisions of this act in any court of competent jurisdiction. The Department of Labor and Industry, in consultation with the Attorney General, may also enforce the provisions of this act in any court of competent jurisdiction. A facility owner may petition any court of competent jurisdiction to enjoin any excavation or demolition work conducted in violation of this act. This act does not affect any civil remedies for personal injury or property damage except as otherwise specifically provided for in this act.

**(b)** Fines shall be determined according to the following schedule:

**(1)** Where damages or violations have not exceeded three thousand dollars (\$3,000), the civil penalty shall not exceed three thousand dollars (\$3,000).

**(2)** Where violations result in property damage of more than three thousand dollars (\$3,000), a civil penalty of not more than five thousand dollars (\$5,000).

**(3)** For violations which result in personal injury or death, a civil penalty not to exceed twenty-five thousand dollars (\$25,000).

**(c)** The following factors shall be considered in determining the civil penalty to be assessed:

**(1)** The degree of the party's compliance with the statute prior to date of the violation.

**(2)** The amount of damage caused.

**(3)** The degree of threat to the public safety and inconvenience caused.

**(4)** The party's plans and procedures to insure future compliance with statutes and regulations.

**(d)** All fines recovered under this section shall be payable to the Attorney General, district attorney, magistrate or the Department of Labor and Industry, whichever brought the action. To the extent that the expenses incurred by the Department of Labor and Industry in enforcing this act exceed the fines collected by the Department of Labor and Industry under this section, the Department of Labor and Industry may assess a charge for the remaining reasonable expenses from a One Call System pursuant to a written agreement between the parties.

# Overhead Power Lines

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**Note:** All laws cited here are those in effect at the time of publication. Current statutes should always be reviewed. You are responsible for compliance with all laws in effect at the time you perform the work.

See “**Important Notice**” on inside front cover.





**IMPORTANT**

**A**ccidental contact with overhead electric lines also occurs periodically. Again, substantial damage, serious injury or possibly death may result from such incidents. The State legislatures of New York, New Jersey and Pennsylvania have enacted certain laws to make it safer to work near overhead power lines.

## Notify the Power Company Before Starting Work

Before you start work around or near overhead high voltage lines, **it is your responsibility to ensure that O&R receives a Notification Letter from you at least 5 working days before the job commences.** If the Notification Letter is sent by regular postal mail, you must allow for ample delivery time to ensure it is received by O&R prior to the 5 working day deadline.

**Please note that the Contractor should contact O&R before work actually begins to ensure that all necessary precautionary actions have been completed at the job site near the high voltage lines.**

The contractor's Notification Letter must include the following information:

- Contact name
- Phone number
- Fax number
- Work location (include nearest cross streets)
- Description of work
- Property owner
- Mailing address
- Cell phone number
- e-Mail address
- Nearest pole number
- Schedule (start date, duration, etc.)

All correspondence for Orange & Rockland, Rockland Electric Company or Pike County Light & Power Co. should be addressed to:

**Orange and Rockland Utilities, Inc.  
Customer Assistance Department  
390 West Route 59  
Spring Valley, NY 10977**

As an option, **the Notification Letter may be submitted to O&R by Fax.** The Fax number is **845-577-3587**. Mark the cover sheet to the attention of a Customer Assistance supervisor.

Or, the information required in **the Notification Letter may be submitted online** by going to **[www.oru.com/customerservice/contactus/](http://www.oru.com/customerservice/contactus/)**. Enter the necessary information on the form and click Submit.

**If you have questions**, you may speak with a Customer Assistance supervisor by calling toll-free:

**1-877-434-4100**

## New York State Code

Subchapter A. The Industrial Code  
Part 57. High Voltage Proximity

### Section 57.1 Title and citation.

Within and for the purposes of the Department of Labor, this Part (rule) may be known as Industrial Code Rule No. 57, relating to hazards to untrained persons working or moving materials or equipment in proximity to high-voltage power lines. It may be cited as Code Rule 57 High Voltage Proximity as an alternative and without prejudice to its designation and citation established by the Secretary of State.

### Section 57.2 Purpose and intent of Part (rule).

(a) Legislative findings. The Legislature has found that untrained persons working or moving materials or equipment in proximity to high-voltage power lines are endangered in the absence of suitable precautions, and that the quality of electrical service is likewise endangered by the absence of such precautions.

(b) Purpose and intent. It is the purpose and intent of this Part (rule) to reduce the risks to untrained persons working or moving materials or equipment in proximity to high-voltage power lines, and to help insure the quality of electrical service by requiring compliance by said persons with certain procedures that will insure reasonable protection to said persons and to the high-voltage power lines in proximity to work locations or where materials or equipment are moved.

### Section 57.3 Application.

(a) This Part (rule) shall apply throughout the State of New York to any employer, any agent of an employer who supervises employees, self-employed individuals, independent contractors having no employees and homeowners, subject to the exceptions set forth in subdivision (b) of this section.

(b) The provisions of this Part (rule) shall not apply to:

- (1) the construction, reconstruction, operations, and maintenance of overhead electrical conductors and their supporting structures and associated equipment by authorized and qualified electrical workers;
- (2) the authorized and qualified employees of any person engaged in the construction, reconstruction, operation, and maintenance of overhead electrical circuits or conductors and

their supporting structures and associated equipment of rail transportation systems or electrical generating, transmission, distribution, and communication systems; and

(3) motor vehicle transportation across or along a public road or highway where the combined vehicle and load is not at such time in excess of 13  $\frac{1}{2}$  feet high and 13 feet wide.

**Note:** The exception set forth in paragraph (b)(2) of this section, when applied to railway systems, shall be construed as permitting operation of standard rail equipment, which is normally used in the transportation of freight or passengers or both and the operation of relief trains, or other equipment in emergencies, or in maintenance of way service, within dangerous proximity of any high-voltage conductor of such railway system. Normal repair or construction operations within dangerous proximity of any high-voltage conductor shall be prohibited under this Part unless performed by properly qualified and authorized persons or employees under the direct supervision of an authorized person familiar with the hazards involved, unless there has been compliance with the safety provisions set forth in this Part.

### Section 57.4 Definitions.

As used in or in connection with this Part (rule) the following terms shall mean:

(a) High-voltage lines. Electrical conductors installed aboveground and having a voltage differential in excess of 600 volts between any pair of conductors or between any conductor and ground. In the case of alternating current, the voltage shall be measured in R.M.S. value. All high-voltage lines shall be considered as energized high-voltage lines until assurance has been given that they are otherwise by qualified representatives of the owners or persons in charge of such lines.

**Exception:** This definition shall not include approved armored cable used to supply power to portable equipment and insulated power cables enclosed in approved metallic raceways.

(b) Dangerous proximity. As defined in Labor Law, section 202-h, dangerous proximity shall be the distance within 10 feet of high-voltage lines, or within such greater distances as are set forth in the 1990 edition of the regulations of the United States Occupational Safety and Health Administration (29 CFR parts 1910 and 1926), the New York Industrial Code (12 NYCRR Part 23) and the National Electrical Safety Code, 1990 edition, published by the American National



Standards Institute, 11 West 42nd Street, New York, NY 10036.

(c) R.M.S. value. The greatest effective difference of potential between any two conductors of the circuit concerned.

(d) Prohibited activity. The operation, erection, transportation, handling, or storage of any tools, machinery, equipment, supplies, material or apparatus, or the moving of any building, if in the course of such operation, erection, transportation, handling, storage or moving of such objects it is possible to come within dangerous proximity of a high-voltage line.

#### **Section 57.5 Precautionary action.**

No individual covered by the provisions of this Part (rule) shall engage in, or require a person employed by him/her to engage in any prohibited activity unless precautionary action has been taken to protect against the danger from contact with a high-voltage line, either by de-energizing such high-voltage line and grounding it where necessary, or by other effective methods or devices which have been approved in advance for the particular case and for the particular location by the owner or persons in charge of such high-voltage lines.

#### **Section 57.6 Employee information.**

(a) Before allowing any employee to engage in prohibited activity, employers subject to the provisions of this Part (rule) shall:

- (1) advise such employee of the dangers inherent in the operation, erection, transportation, handling, storage or moving of any tools, machinery, equipment, supplies, materials, apparatus or building in dangerous proximity to high-voltage lines;
- (2) highlight precautions which are to be taken prior to or in conjunction with engaging in such prohibited activity;
- (3) encourage employees to communicate with and advise employers or their supervising agents of conditions which would involve precautionary action by the employer as required under section 57.5 of this Part (rule).

(b) The information required under paragraphs (a)(1) and (3) of this section shall be provided to the employee in writing and shall be clear, concise and easily understood. Such written information shall contain the location and phone number where the employer or his/her supervising agent may be reached for the purpose of reporting conditions which would

involve precautionary action.

(c) The information required under paragraph (a)(2) of this section shall be provided to the employee verbally or in writing and shall be related to the specific circumstances of the prohibited activity involved.

#### **Section 57.7 High-voltage line proximity procedure.**

(a) At any site where any person or equipment may possibly come within dangerous proximity of a high-voltage line, such approach shall not be made until the following procedure has been complied with:

(1) The employer, contractor or other person making such approach or who is responsible for such activity, shall promptly notify the owner or person in charge of such high-voltage line in writing at least five normal work days before such approach is to be made. If the notification is made by regular mail, three extra days notice shall be given.

**Exception:** In any emergency situation involving imminent danger to the life, health or safety of any person, the person responsible for such activity is not required to comply with this provision.

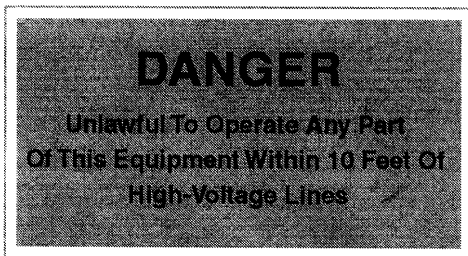
(2) Within three normal working days following the receipt of such written notice, the owner or person in charge of the high-voltage line shall respond to the person making such approach or who is responsible for such activity of the procedure to be followed prior to performing any work in dangerous proximity to such high-voltage line.

(3) The owner or person responsible for the high-voltage line shall perform all necessary precautionary actions to be taken to protect against the danger from contact with such high-voltage line, either by de-energizing such high-voltage line and grounding it where necessary, or by approving in advance other effective methods or devices for the particular cases and for the particular locations.

(4) The employer, contractor or other person responsible for the activity within dangerous proximity of such high-voltage line shall be responsible for all costs incurred in connection with such precautionary action including determining what precautionary measures are necessary and preparations for implementing them whether or not such precautionary measures are actually implemented.

**Section 57.8 Warning signs.**

(a) The owner, agent, lessee, bailee, user, or employer responsible for the operations of equipment capable of coming within dangerous proximity of a high-voltage line in the course of its operation, shall post and maintain in plain view of the operator on each piece of such equipment, an approved durable warning sign legible at a distance of 12 feet. Every such warning sign shall bear the following legend in black letters on a yellow background:



(b) All posted warning signs shall specify the actual distance by which the term "dangerous proximity" is defined for the particular case and location to which this Part (rule) applies.

(c) Additional warning signs shall be placed on various parts of the equipment and at the work site providing similar warnings to others in the vicinity of the high-voltage lines.

(d) If for any reason and for any time period, the operator of the equipment is unable to assess visually the clearance of the equipment from overhead high-voltage lines, a second person shall be designated to observe the clearance and provide timely warning to the equipment operator.

**Section 57.9 Civil penalty.**

Any person violating any of the provisions of this section shall be liable for a penalty of not less than \$100 nor more than \$1,000 to be collected in a civil action by a summary proceeding. Any violation of this section by an officer, agent or employee shall be a violation by the employer if such employer had knowledge of and actual control over the cause of such violation. Where the violation is of a continuing nature, each day during which it continues shall constitute an additional, separate and distinct offense.

**Section 57.10 Severability.**

If any provision of this Part (rule) or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this Part (rule) which can be given effect without the invalid provisions or applications and to this end the provisions of this Part (rule) are declared to be severable.



**“Look up,  
down, around and out.  
for your safety!”**

## New Jersey Administrative Code

Title 12. Department of Labor  
Chapter 186. High Voltage Lines

### 12:186-1.1 Purpose

The purpose of this chapter is to provide reasonable precautions to be taken in proximity to high voltage lines in order to prevent accidents.

### 12:186-1.2 Scope

(a) The provisions of the Act and this chapter shall not be applicable to the construction, reconstruction, operations and maintenance of overhead electrical conductors and their supporting structures and associated equipment by authorized and qualified electrical workers.

(b) The provisions of this Act and this chapter shall not be applicable to authorized and qualified employees of any person engaged in the construction, reconstruction, operation and maintenance of overhead electrical circuits or conductors and their supporting structures and associated equipment of:

1. Rail transportation systems; or
2. Electrical generating, transmission, distribution and communication systems.

(c) When applied to railway systems, the exceptions in (a) and (b) above shall be construed as permitting operation of standard rail equipment normally used in the transport of passengers or freight, or both, and the operation of relief trains, or other equipment in emergencies, or in maintenance of way service, at a distance of less than 10 feet from any high voltage conductor of such railway system.

(d) The Act and this chapter shall prohibit normal repair or construction operations at a distance of less than 10 feet from any high voltage conductor by other than properly qualified and authorized persons or employees under the direct supervision of an authorized person who is familiar with the hazards involved in such activities, unless there has been compliance with all of the applicable safety and warning provisions of the Act as embodied in this chapter.

(e) The Act and this chapter shall not be applicable to motor vehicle transportation across or along a public road or highway where such transportation is subject to the requirements of

Title 39, Motor Vehicles and Traffic Regulations of the Revised Statutes, nor to motor vehicle transportation subject to the requirements of N.J.S.A. 27:12B-1 et seq., which govern operations of the New Jersey Highway Authority and N.J.S.A. 27:23-1 et seq., which govern operation of the New Jersey Turnpike Authority.

### 12:186-1.3 Validity

Should any section, paragraph, sentence or word of this chapter be declared for any reason to be invalid, such decisions shall not affect the remaining portion of this chapter.

### 12:186-2.1 Definitions

The following words and terms, when used in this chapter, shall have the following meaning unless the context clearly indicates otherwise.

"Act" means the High Voltage Proximity Act, N.J.S.A. 34:6-47.1 et seq.

"Commissioner" means the Commissioner of Labor or his or her duly authorized designee.

"Department" means the New Jersey Department of Labor.

"Division" means the Division of Workplace Standards in the New Jersey Department of Labor, CN 054, Trenton, New Jersey 08625-0054.

"High voltage lines" means electrical conductors installed above ground and having a voltage differential in excess of 750 volts between any pair of conductors or between any conductor and the ground. In the case of alternating current, the voltage shall be measured in R.M.S. value. This definition shall not include approved armored cable used to supply power to portable equipment and insulated power cables enclosed in approved metallic raceways.

"Shall" means a mandatory requirement.

"Trained spotter" means an employee, designated by the employer, with employer documented training in the requirements of the New Jersey High Voltage Proximity Act and related rules, OSHA regulations for working in proximity to high voltage lines, and other task specific training as determined necessary by the employer to assist in the safe operation of a crane. The spotter shall not perform any other duties while acting as the spotter.

### 12:186-3.1 Violations; generally

(a) A violation of the Act shall occur when an employer or supervising agent of an employer shall require or permit an employee to participate in the operation, erection, transportation, handling, or storage of any tools, machinery, equipment, supplies, materials, or apparatus or

**Ann**

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**From:** Bruce  
**Sent:** Monday, March 13, 2006 5:13 PM  
**To:** MaureenS  
**Cc:** Ann; Bruce  
**Subject:** Hyenga Lake - "NEW" Atzl SWPPP drawing

We have a "new" copy of the project SWPPP plan (as a Drawing Sheet document) provided in the LJA Drainage Report (that is on my desk presently, via Ann). It appears nearly identical to the "OLD" DRW. No. 36 that we have had bouncing around for awhile.

The new plan is in the LJA Drainage Report as Drawing No. IV-2.

And so, all old references to a LJA Drawing No. 36, should be probably replaced by reference to:

Appendix D, Drawing IV-2

Chio

**Tim Miller Associates, Inc.**

Planning • Landscape Design • Traffic • Wetlands & Ecology  
Hydrogeology • Economics • Project Management • Permitting

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10 North Street, Cold Spring, N.Y. 10516  
845.265.4400 voice 845.265.4418 fax  
url: [www.timmillerassociates.com](http://www.timmillerassociates.com)  
email: [www.bfriedmann@timmillerassociates.com](mailto:www.bfriedmann@timmillerassociates.com)

the moving of any building, if in the course of such operation, erection, transportation, handling, storage or moving it is possible:

**1.** For such tools, machinery, equipment, supplies, materials, apparatus or building, to come within 10 feet of a high voltage line; or

**2.** To participate in any activity which would cause the employee to come within 10 feet of a high voltage line, unless:

**i.** Precautionary action has been taken to protect against the danger from contact with high voltage line(s), by promptly notifying the owner or person in charge of the high voltage line(s), and to de-energize such high voltage line(s) and ground it where necessary;

**ii.** By using other effective methods or devices which have been approved in advance by the Commissioner for the particular case and for the particular location. Requests for permission to use such other methods or devices should be addressed in writing to the Division for consideration thereof; or

**iii.** For the purposes of this section related to the High Voltage Proximity Act, N.J.S.A. 34:6-47 et seq. the utilization of a trained spotter or spotters for crane operations as appropriate, and the proper grounding of the crane, shall be considered to be an effective method, pre-approved by the Commissioner, to meet the requirements of the Act. Any contractor, employer, or supervising agent of a contractor or employer taking such action shall be deemed to be in compliance with the consultation requirements of the Act and this chapter. All other requirements of the Act and this chapter shall remain in effect.

**(b)** No person shall operate, erect, transport, handle or store any tools, machinery, equipment, supplies, materials, or apparatus, or move any building, if in the course of such operation, erection, transportation, handling, storage or moving it is possible:

**1.** For such tools, machinery, equipment, supplies, materials, apparatus or building to come within 10 feet of a high voltage line, unless:

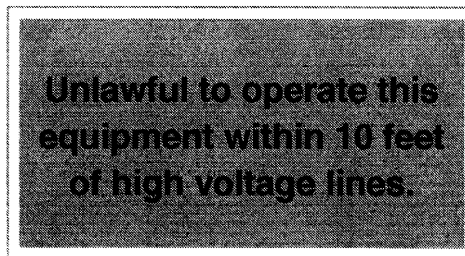
**i.** Precautionary action has been taken to protect against the danger from contact with high voltage line(s), by promptly notifying the owner or person in charge of the high voltage line(s), and to de-energize such high voltage line(s) and ground it where necessary;

**ii.** By using other effective methods or devices

which have been approved in advance by the Commissioner for the particular case and for the particular location. Requests for permission to use such other methods or devices should be addressed in writing to the Division for consideration thereof; or

**iii.** For the purposes of this section related to the High Voltage Proximity Act, N.J.S.A. 34:6-47 et seq., the utilization of a trained spotter or spotters for crane operations as appropriate, and the proper grounding of the crane, shall be considered to be an effective method, pre-approved by the Commissioner, to meet the requirements of the Act. Any contractor, employer, or supervising agent of a contractor or employer, taking such action shall be deemed to be in compliance with the consultation requirements of the Act and this chapter. All other requirements of the Act and this chapter shall remain in effect.

**(c)** In no case shall the required 10-foot clearance be provided by moving or displacing any conductor, except where the conductor is relocated temporarily pursuant to arrangements made with the owner or person in charge of the high voltage line.



**12:186-3.2 Warning sign requirement**

**(a)** It shall be a violation of the Act if an owner, agent, lessee, bailer, user or employer who is responsible for the operation of equipment capable of coming in contact with a high voltage line in the course of its operation, fails to post and maintain, in plain view of the operator on each piece of such equipment, a durable warning sign which shall be legible at a distance of 12 feet and which shall read: "Unlawful to operate this equipment within 10 feet of high voltage lines." Regarding the posting of warning signs, "equipment" includes, but is not limited to, any crane, fire apparatus, loaders, haulage vehicles, manlifts, crawlers, backhoes, derricks, and any other equipment that may be physically or remotely operated that is capable of coming in contact with high voltage lines.

(b) The owner, agent, lessee, bailee, user or employer responsible for the operation of equipment shall also provide such warning signs prominently displayed at the work site in those areas adjacent to high voltage lines with which equipment could come in contact in the course of work activities.

(c) The requirement that warning signs be posted shall not apply to railway equipment operating on a railway right-of-way in relation to high voltage conductors of such railway system under conditions set forth in N.J.A.C. 12:186-1.7.

#### **12:186-4.1 Notification to power company/responsibility for safeguards**

(a) Whenever any activity is to be performed which requires precautionary action under N.J.A.C. 12:186-3, the employer, contractor or other person responsible for the activity shall:

1. Promptly notify the owner or person in charge of the high voltage line of the intended activity; and
2. Fully comply with and be responsible for the cost and completion of the precautionary action required under N.J.A.C. 12:186-3 before proceeding with such activity.

#### **12:186-5.1 Penalties**

(a) Any person violating any of the provisions of the Act shall be liable to a penalty of not less than \$500.00 nor more than \$5,000 for each cited violation.

(b) Any violation of the Act by an officer, agent or employee shall also be deemed to be a violation by the employer if the employer had knowledge of or actual control over the cause of such violation.

(c) Where the violation is of a continuing nature, each day during which it continues shall constitute an additional, separate and distinct offense.

(d) The Commissioner, at his or her discretion, may compromise and settle any claim for a penalty imposed under the Act in such amount as he or she deems to be appropriate and equitable under all of the circumstances, including, but not limited to:

1. The past record of compliance with the provisions of the Act by the alleged violator;
2. The degree of cooperation afforded to the Commissioner's representatives by the alleged violator in securing compliance with the provisions of the Act;

3. Whether the cited violation was willful in nature; and

4. Whether the cited violation resulted in injury or bodily harm.

#### **12:186-5.2 Hearings**

(a) No penalty shall be levied pursuant to N.J.A.C. 12:186-5.1 unless the alleged violator is first provided with:

1. Notification of the violation;
2. The amount of the penalty to be imposed; and
3. An opportunity to request a formal hearing.

(b) A request for a formal hearing shall be made in writing and received within 21 calendar days following receipt of the notice of violation.

(c) All hearings shall be conducted pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1.

(d) If a hearing is not requested, the notice of violation shall become the final order upon expiration of the 21 day period following the receipt thereof.

(e) The alleged violator may request the initiation of a settlement conference at the time that the request for a formal hearing is made. If a settlement conference is requested, or the Department determines that a settlement conference would be useful, the settlement conference shall be scheduled and conducted by the Department within 30 days of the receipt of the request for a formal hearing.

(f) If a settlement is not agreed upon or no settlement conference is scheduled, a request for formal hearing shall be transmitted to the Office of Administrative Law (OAL).

(g) Payment of the penalty shall be due when a final agency determination is issued or when a notification becomes a final decision because no appeal has been filed.

(h) All payments shall be made payable to the Department of Labor in the form a certified check or money order, or such other form as the Department deems suitable.

(i) Upon entry of the final order, the penalty imposed may be recovered with costs in a summary proceeding commenced by the Commissioner pursuant to the Penalty Enforcement Law, N.J.S.A. 2A:58-1 et seq.

## Purdon's Pennsylvania Consolidated Statutes Annotated

Title 43. Labor

Chapter 1. Equipment And Place Of Employment

High-voltage Lines

### § 26-1. Definitions

As used in this act:

**"Department"** means the Department of Labor and Industry.

**"High-voltage lines"** means electrical conducting lines, wires or cables having a voltage differential in excess of 750 volts between any pair of conductors or between any conductor and ground.

### § 26-2. Prohibited activity

No employer or supervising agent of an employer shall require or permit an employee to, and no employee shall participate in the erection, maintenance, repair, construction or installation, whether or not such work is for emergency purposes, of high-voltage lines having a voltage differential in excess of nominally 13,200 volts between any pair of conductors or in excess of nominally 7,600 volts between any conductor and ground, unless any and all such conductors are de-energized before such work is commenced, or unless such work is performed on any energized conductor or equipment through approved hot stick methods which do not include handling such high-voltage lines with gloves or bare handed method.

### § 26-3. Warning sign required

The owner, agent, lessee, bailee, user, or employer responsible for the operations of equipment shall provide such warning signs on equipment or at the work site as may be required by regulations promulgated hereunder. The requirement that warning signs be posted shall not apply to railway equipment operating on railway right-of-way in relation to high-voltage conductors of such railway system under conditions for which exemption is granted under section 7.

### § 26-4. Notification to power company and responsibility for safeguards

Whenever activity is to be performed requiring precautionary action under section 2, [FN1] the employer, contractor or other person responsible for the activity shall promptly notify the owner or person in charge of the high-voltage line of the intended activity and shall fully comply with and shall be responsible for the cost and for the completion of the precautionary action required under section 2 before proceeding with such activity.

### § 26-5. Enforcement

The department shall administer and enforce the provisions of this act and is hereby empowered to prescribe and promulgate rules and regulations consistent herewith.

### § 26-6. Penalties

Any person violating any of the provisions of this act shall be liable to a penalty of \$300 in a summary proceeding. Any violation of the act by an officer, agent or employee shall also be a violation of the act by his employer if such employer had knowledge of and actual control over the cause of such violation. Where the violation is of a continuing nature each day during which it continues, shall constitute an additional, separate and distinct offense.

### § 26-7. Exceptions

This act shall not be construed as abrogating any existing collective bargaining agreement.

## Pennsylvania Code

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Title 34. Labor And Industry

Part I. Department Of Labor And Industry

Chapter 25. Lifting And Carrying Apparatus

Subchapter B. Cranes, Booms And Hoists

General Requirements For All Cranes

34 Pa. Code @ 25.42

### @ 25.42. Electrical equipment.

**(a)** Guarding current-carrying parts. All exposed current-carrying parts except conductors, connected to circuits above 300 volts to ground, shall be isolated, insulated or guarded. Exposed parts less than 300 volts shall be suitably insulated or guarded to prevent possible accidental contact. Exposed metallic parts of conduit armored cable as malding shall be permanently grounded. Current-carrying parts of electrical equipment such as controllers, motors, transformers, automatic cut-outs, circuit breakers, switches and other like devices shall be guarded either by locating them so as to be inaccessible to the operator or routine maintenance personnel, or by enclosing these devices in cabinets, casings, or shields of permanently grounded metal or of substantial insulating material.

**(b)** Suddenly moving parts. All parts of electrical equipment, such as fuses and the handles and arc chutes of circuit breakers, shall be isolated or guarded that the possibility of persons being stuck or burned is reduced to a minimum.

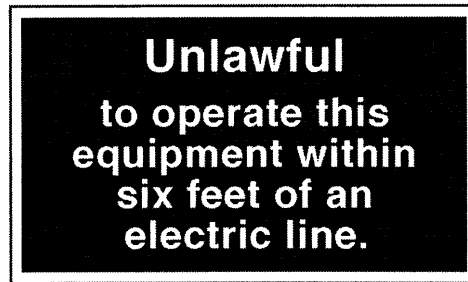
**(c)** Noncurrent-carrying parts. All exposed noncurrent-carrying metal parts of electrical equipment shall be permanently grounded. A grounded connection through well bonded track rails will be considered satisfactory.

**(d)** Operations near electric lines. No one shall operate a crane or hoist so that any part thereof, including the load, is within 6 feet of an electric line, unless either adequate mechanical barriers have been erected or the line has been de-energized.

**(e)** Warning signs. Warning signs shall be provided as follows:

**(1)** The owner, lessee or employer responsible for the operation of any crane or hoist shall post and maintain a durable warning sign, legible at 12 feet by the operator in his normal operating position.

**(2)** The following is a facsimile of the warning sign:



**(3)** The warning sign shall consist of white lettering on a red background with at least a  $\frac{1}{4}$  inch wide white border. The minimum overall dimensions of the sign shall be 10 inches horizontally and 6 inches vertically. Lettering shall follow the horizontal dimensions. The word "unlawful" shall stand alone at the top with letters at least 1 inch in height. The remaining wording shall be printed and spaced on four lines with lettering  $\frac{5}{8}$  inch in height.

**(f)** Exception. Subsections (d) and (e) may not apply to the following:

**(1)** The owner or lessee of overhead electric lines and equipment and his authorized representatives.

**(2)** Overhead traveling cranes.

**(g)** Disconnecting source of energy. Readily accessible means shall be provided whereby all conductors and equipment located in cranes can be completely disconnected from the source of energy at a point as close as possible to the main current collectors.

**(h)** Electrical circuits. The electrical circuit for electric magnets shall be maintained in good condition. Means for taking up the slack cable shall be provided.

**(i)** Fuses. All fuses shall be of the enclosed arcless type.



# Steps to take in an

Accidents sometimes happen, despite all precautions. Should one occur, call us immediately and follow the instructions on these two pages.

## For Overhead Accidents

- **Objects in Contact with Energized Lines Are Hazardous**

Enough electricity to be lethal can flow through any conducting material that touches energized lines—even wood, plastic or rope. When construction equipment touches electric lines, all metal parts become electrified and extremely dangerous. Electric lines, and items in contact with them, should only be handled by trained personnel using tools and equipment specially designed for this purpose.

- **If Broken Electric Lines Fall on Communication Lines, Fences, other Metal Objects**

All these objects may become electrically charged and dangerous. Keep everyone away from them. Even “dead” lines can become re-energized suddenly and without warning.

- **If Equipment Becomes Energized, Take These Immediate Actions**

Keep people away from the effected equipment, but caution equipment operators not to leave their energized machines. If possible, the operator should wait until contact between equipment and “live” wires is broken. If he must leap clear, make sure he jumps entirely free, so that no part of his body contacts the machine and the ground at the same time.

- **Aiding People in Contact with Electricity**

Do not touch any person who is in contact with electricity. If the victim is cleared from contact and not breathing, give artificial respiration immediately. Seconds count!

- **Call Us**

Call us for help at **1-877-434-4100**. While help is on the way, keep everyone clear of fallen wires and energized equipment or objects. Remember “dead” lines can become energized without warning.

**Natural Gas Emergency: 1-800-533-5325**

**All Other Emergencies: 1-877-434-4100**

# EMERGENCY

## For Underground Accidents

- **If You Pull a Gas Line**

If you pull a line with power equipment, gas may leak into buildings around the job. Send someone to check surrounding houses. If a gas smell is detected, get the people out right away and call **1-800-533-5325** to report the gas leak emergency.

- **Escaping Gas Needs Special Handling**

Never backfill over broken, pulled or leaking pipes. Call us to make repairs. Evacuate home-dwellers and all building occupants who may be affected.

- **Escaping Gas Can Burn**

Any open flame or power equipment can ignite escaping gas. If you smell gas, put out all open flames, shut off all power equipment and forbid smoking. If gas is blowing about, divert traffic from the area immediately.

- **Do Not Turn Gas Valves**

Gas valves are part of an interconnected system and are complicated. They should be operated only by utility technicians qualified to handle them.

- **If Valves Are Closed Accidentally**

Leave them alone until our personnel can check them and correct the condition.

- **If You Hit an Underground Electric Line**

The result can be electric shock to your people — possibly a fire and power outages in the neighborhood. Call us for help immediately at **1-877-434-4100**.

**DO NOT TRY TO MAKE ANY REPAIRS YOURSELF.**

**Natural Gas Emergency: 1-800-533-5325**

**All Other Emergencies: 1-877-434-4100**






**EMERGENCY PHONE NUMBERS**

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**Natural Gas Emergency:  
1-800-533-5325**

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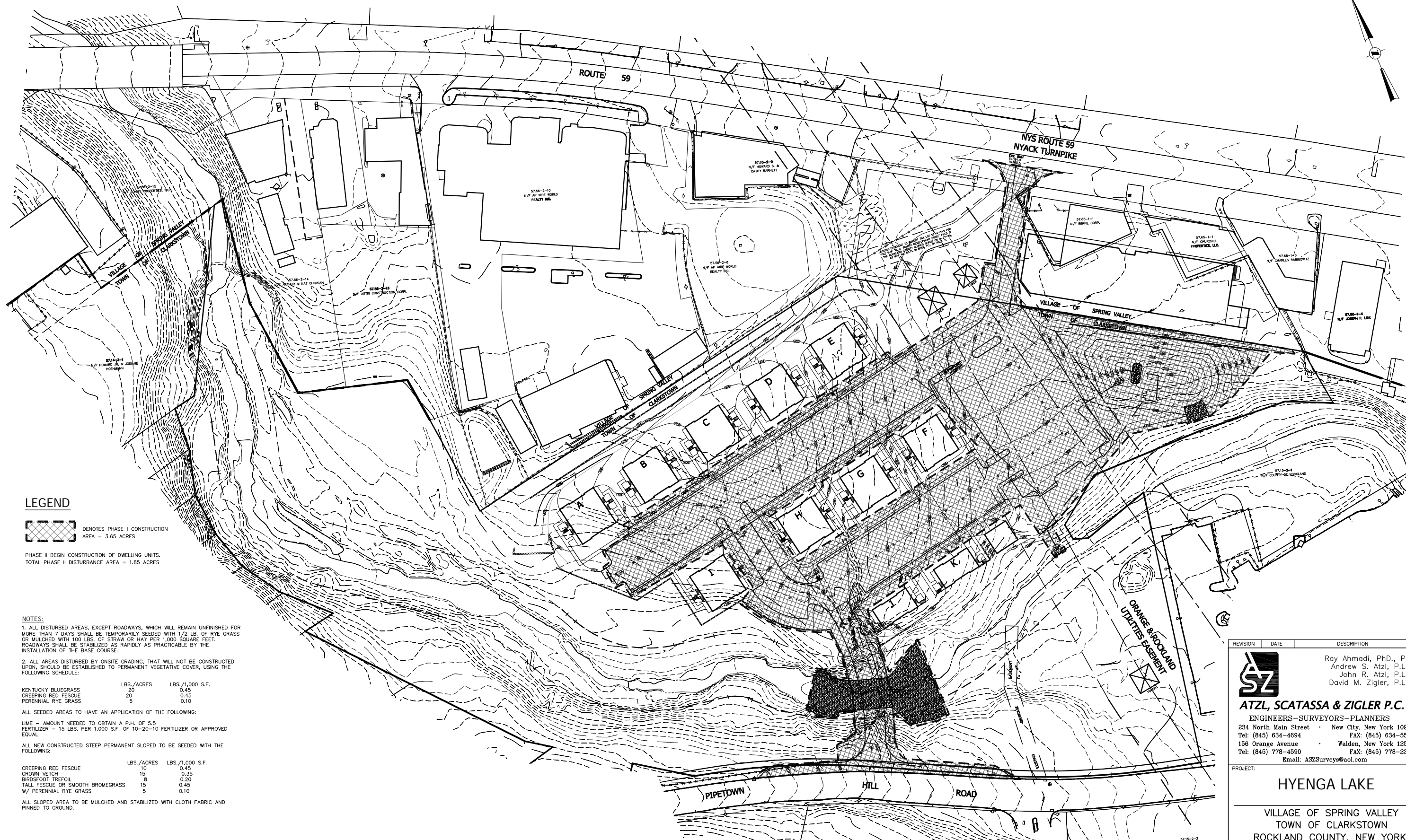
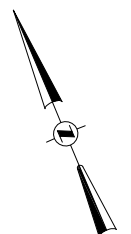
**All Other Emergencies:  
1-877-434-4100**




Appendix S

Preliminary Construction  
Phasing Plan





**LEGEND**

 DENOTES PHASE I CONSTRUCTION  
AREA = 3.65 ACRES

PHASE II BEGIN CONSTRUCTION OF DWELLING UNITS.  
TOTAL PHASE II DISTURBANCE AREA = 1.85 ACRES

**NOTES:**  
1. ALL DISTURBED AREAS, EXCEPT ROADWAYS, WHICH WILL REMAIN UNFINISHED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY SEEDED WITH 1/2 LB. OF RYE GRASS OR MULCHED WITH 100 LBS. OF STRAW OR HAY PER 1,000 SQUARE FEET. ROADWAYS SHALL BE STABILIZED AS RAPIDLY AS PRACTICABLE BY THE INSTALLATION OF THE BASE COURSE.  
2. ALL AREAS DISTURBED BY ONSITE GRADING, THAT WILL NOT BE CONSTRUCTED UPON, SHOULD BE ESTABLISHED TO PERMANENT VEGETATIVE COVER, USING THE FOLLOWING SCHEDULE:

	LBS./ACRES	LBS./1,000 S.F.
KENTUCKY BLUEGRASS	20	0.45
CREeping RED FESCUE	20	0.45
PERENNIAL RYE GRASS	5	0.10

ALL SEEDED AREAS TO HAVE AN APPLICATION OF THE FOLLOWING:

LIME - AMOUNT NEEDED TO OBTAIN A P.H. OF 5.5  
FERTILIZER - 15 LBS. PER 1,000 S.F. OF 10-20-10 FERTILIZER OR APPROVED EQUAL

ALL NEW CONSTRUCTED STEEP PERMANENT SLOPED TO BE SEEDED WITH THE FOLLOWING:

	LBS./ACRES	LBS./1,000 S.F.
CREeping RED FESCUE	10	0.45
CROWN VETCH	15	0.35
BIRDFOOT TREFOL	8	0.20
TALL FESCUE OR SMOOTH BROMEGRASS	15	0.45
W/ PERENNIAL RYE GRASS	5	0.10

ALL SLOPED AREA TO BE MULCHED AND STABILIZED WITH CLOTH FABRIC AND PINNED TO GROUND.

REVISION	DATE	DESCRIPTION



**ATZ, SCATASSA & ZIGLER P.C.**

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Email: ASZSurveys@aol.com

PROJECT:  
**HYENGA LAKE**

VILLAGE OF SPRING VALLEY  
TOWN OF CLARKSTOWN  
ROCKLAND COUNTY, NEW YORK

TITLE:  
**PRELIMINARY  
CONSTRUCTION PHASING PLAN**

DRAWN BY: ASA	CHECKED BY: JRA
DATE: APRIL 4, 2007	SCALE: 1 IN. = 50 FT.
PROJECT NO: 930	DRAWING NO: 13



