



AMERICAN HAZARD CONTROL CONSULTANTS, INC.

SAFETY • HEALTH • INDUSTRIAL HYGIENE • ENVIRONMENTAL • ACCIDENTS

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GEORGE B. STANTON, JR.  
P.E., C.S.P., C.I.H., F.R.S.H.

Borough of Paramus  
Jockish Square  
Paramus, New Jersey 07652

September 19, 1994

Cedar Park Subdivision  
Proposed Borough Park

Att: John Hopper, Health Officer

Dear Mr. Hopper:

Introduction

You have sought my professional opinion concerning the proposed park as part of the proposed Cedar Hill Park Subdivision now under consideration by Borough agencies. The Borough of Paramus would take title to this park.

The project site comprises three areas, as follows:

The 129 houses to be built on approximately 42 acres (43 per cent of the 98-acre tract), the first part. The houses would be built on those areas not classified as floodplain or as wetlands, generally the eastern and the northwesterly sections.

The proposed park would be the second part. It would be constructed generally in the area formerly used as a dump, still containing the wastes dumped there, and classified as filled floodplain. The dump is unattended now and is believed to have been unattended for many years in the past.

The remaining land, a large part of the total site, would remain undeveloped because it has been classified as floodplain and/or wetlands. No information has been provided about the commitment of resources by the future owner of this part of the tract to its maintenance as floodplain and/or as wetlands.

My professional opinion is based on the existing condition of the tract and the uses proposed for it as described in the attachments to your letter of August 25, 1994 to me; a review of that letter and attachments; phone conferences with you, and on my professional knowledge and experience.

## The Proposed Park

### Use

The proposed park would be used for play fields and for parking for both the proposed park and for the adjacent Reid Park which now lacks adequate parking. For this reason, it is anticipated that a large per cent of the proposed park would be paved.

It is anticipated that residents would use the park for play after school and when school is out of session, and for organized sports on evenings and weekends.

### Character

The *surface* of the proposed park would change from the present scrub growth and relatively barren areas to developed park lands and paved parking. *Beneath the surface* would be the existing dump, consisting of relatively permanent solid waste and slowly decomposing organic waste. The dump extends several feet below the existing surface to the former floodplain; that is, to what was a wet or swampy area before waste was placed there as fill. Native soil and rock lie *below the former floodplain*.

### Water flows

*Surface* water flows from the northerly side of the dump towards Soldier Brook to the south. *Sub-surface* water, down to and somewhat below the former floodplain, is expected to flow similarly. *Below the former floodplain*, the directions of the underground water flows are expected to vary from one level to another, and not to follow those above it.

### Soil and water quality

*Surface* soil and water quality would be affected by materials already there, by rain water, and by runoff from the cemetery to the north. They should be similar in composition to the surface soils and waters in other, similar parts of Paramus.

*Sub-surface* soil and water, down to and somewhat below the former floodplain, are expected to be contaminated by the wastes in the landfill. These wastes are expected to contain materials listed by the NJDEP or by the USEPA as hazardous in soil or ground water, even though such materials were not supposed to be disposed of in this unattended dump.

Soil and water *below the former floodplain* would be contaminated partly by contaminants in the soil and water above and partly by contaminants brought from off-site by underground water flows.

## Discussion

### Hazardous chemicals

Some have said that no hazardous materials can be expected to be present on this site, a former dump. Experience shows that just the opposite can be expected to be found here. At the same time, reasonable precautions can be taken to protect the public health and safety from exposure to these materials.

### Exposure of the public

*Hydrogen sulfide* gas can be expected to be found here, one result of the natural processes of decaying organic materials. In the existing and the proposed parks, exposure likely will be low. The exposure of people who enter the undeveloped floodplain and wetlands would be somewhat higher. The actual values can be determined by tests of the air in the proposed park and the other areas of the tract.

Exposure to *other chemicals*, the result of industrial, commercial, and household dumping here, can be determined by tests of the soil and water in the three zones described above. That is, surface, sub-surface down to and just below the floodplain, and below the floodplain.

The tests of these three zones, at various depths and over the area of the proposed park, should be comply with the requirements of the NJ Industrial Site Recovery Act (ISRA), the successor to ECRA, and of the USEPA for the intended uses of the proposed park as set by the Paramus Board of Shade Tree and Parks Commissioners.

If contaminants are found in concentrations exceeding the ISRA or EPA standards for this or an equivalent use, appropriate remediation can then be considered. Even if no contaminants are found, the tests will be highly valuable, if only to establish that fact and to serve as a baseline.

Others may say that testing of the soil, alone, is sufficient. This is not so. It is accepted environmental practice to test both soil and water. One reason is that testing the water identifies the chemicals being transported out of the soil into the ground water and, sooner or later, to the surface waters and the air.

### Protection of the public

The public will be protected by the cover of vegetation and pavement that will result from constructing the proposed park. In addition, the public will be protected by the limited uses, both in time and character, to which the park will be put.

Natural processes continuing over many years are expected to lower the concentration of, and the public's exposure to, the hazardous chemicals expected to be found here.

#### Protection of the Borough

Residents in New Jersey are concerned about chemicals in wastes and their possible health effects. Because the proposed park will be sited on a former dump, citizens who develop health problems believed to be related to chemical exposures may make a claim against the Borough for injuries alleged to be the result of exposures in the proposed park.

#### **Conclusions**

The proposed park likely is contaminated with hazardous wastes, a result of the dumping on this site.

The extent to which these wastes exist can be determined by testing the soil and the ground water in the three zones identified above: surface, sub-surface down to and just below the floodplain, and below the floodplain over the area of the proposed park.

The need for remediation if any, can be determined from the results of these tests, considering both the nature and the concentration of the contaminants, and the use to which the park will be put.

The air in the proposed park and the floodplain and wetlands likely is contaminated with low levels of hydrogen sulfide gas.

The Borough can expect to receive a claim(s) for injuries alleged to be related to chemical exposures in the proposed park.

#### **Opinion and Recommendation**

In my professional opinion, the following actions should be taken before the Borough takes title to the proposed park:

1. Tests of soil and water, as described above, should be taken, as would be required by NJ ISRA and USEPA, and compared with these agencies' standards for this use.
2. Tests of the air for hydrogen sulfide gas, as described above, should be taken and compared with environmental standards for this use.
3. Remediation of soil and water contamination, if any, should be undertaken before the proposed park is put to use.
4. The Borough should protect itself as an entity and its officials individually from the costs of possible claims. The

Borough of Paramus Cedar Park Subdivision - Proposed Park September 19, 1994

protection could be an indemnification bond, environmental liability insurance, or otherwise. The Borough Attorney and its insurance agent should be consulted.

Please feel free to call me if you have any questions.

Respectfully submitted,  
American Hazard Control Consultants, Inc.



George B. Stanton, Jr.  
PE, CSP, CIH, FRSH  
Chemical Engineer, Borough of Paramus

cc: William J. Lynn, Chief Fire Inspector



BOROUGH OF PARAMUS  
JOCKISH SQUARE  
PARAMUS, NEW JERSEY 07652  
201 265-2100

BOARD OF HEALTH

August 25, 1994

Mr. George B. Stanton, Jr., President  
American Hazard Control Consultants, Inc.  
PO Box 231  
Caldwell, NJ 07007

Re: Cedar Park Subdivision

Dear Mr. Stanton:

This is to confirm our recent telephone conversation regarding the above subdivision.

Soldier Hill Developers, Inc., proposes to develop portions of their property for one family dwellings. Another portion of their property, which will not be disturbed as part of the proposed development, was, at one time, a dumping ground for household waste. This area was inspected by you in October of 1984, at which time you reported to Borough officials your recommendations if the property were to be developed. A copy of your request is enclosed.

As part of the application, the developer is proposing to deed a portion of their land to the Borough for use as a park. A portion of the land to be deeded to the Borough is where the former dump is located.

In our most recent memorandum to the Planning Board, we have recommended that environmental testing of soil and groundwater be conducted to determine the extent of contamination, if any. As I mentioned, your input is solicited by the Borough, to recommend the parameters of testing to be conducted.

I am enclosing, for your review, the following documents:

1. Your report dated October 30, 1984 entitled "Proposed Townhouses on Soldier Hill Rd".
2. Environmental Impact Statement for Proposed Cedar Park Subdivision dated May 11, 1989.

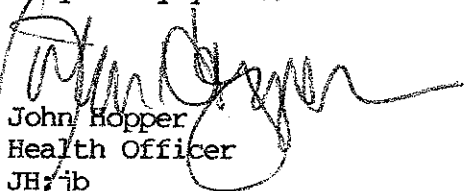
Mr. George B. Stanton, Jr., President  
August 25, 1994  
Page 2

3. Subsurface Investigation for Cedar Park Realty Residential Development dated July 10, 1989.
4. Memo from the Board of Health to the Planning Board dated August 8, 1994.
5. Memo from the Board of Health to the Planning Board dated August 23, 1994.

Your comments and input on this matter will be most appreciated. I will be away on vacation from August 29th through September 9th. If you have any questions in the meantime, please feel free to contact Mr. John Foster, Borough Engineer at 265-2100.

Thank you for your assistance with this application.

Very truly yours,



John Hopper  
Health Officer  
JH:jb

Enclosures

cc: Board

Mayor C. Gennarelli  
John P. Foster, PE, PP  
William R. Conery

**ENVIRONMENTAL IMPACT STATEMENT**

**For The Proposed**

**CEDAR PARK SUBDIVISION**

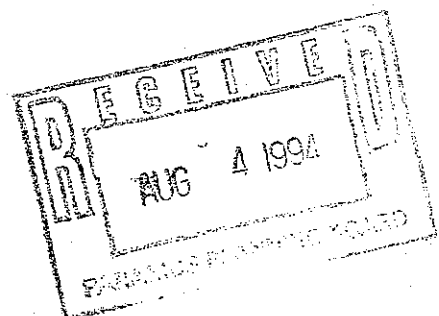
**Paramus Borough  
Bergen County, New Jersey**

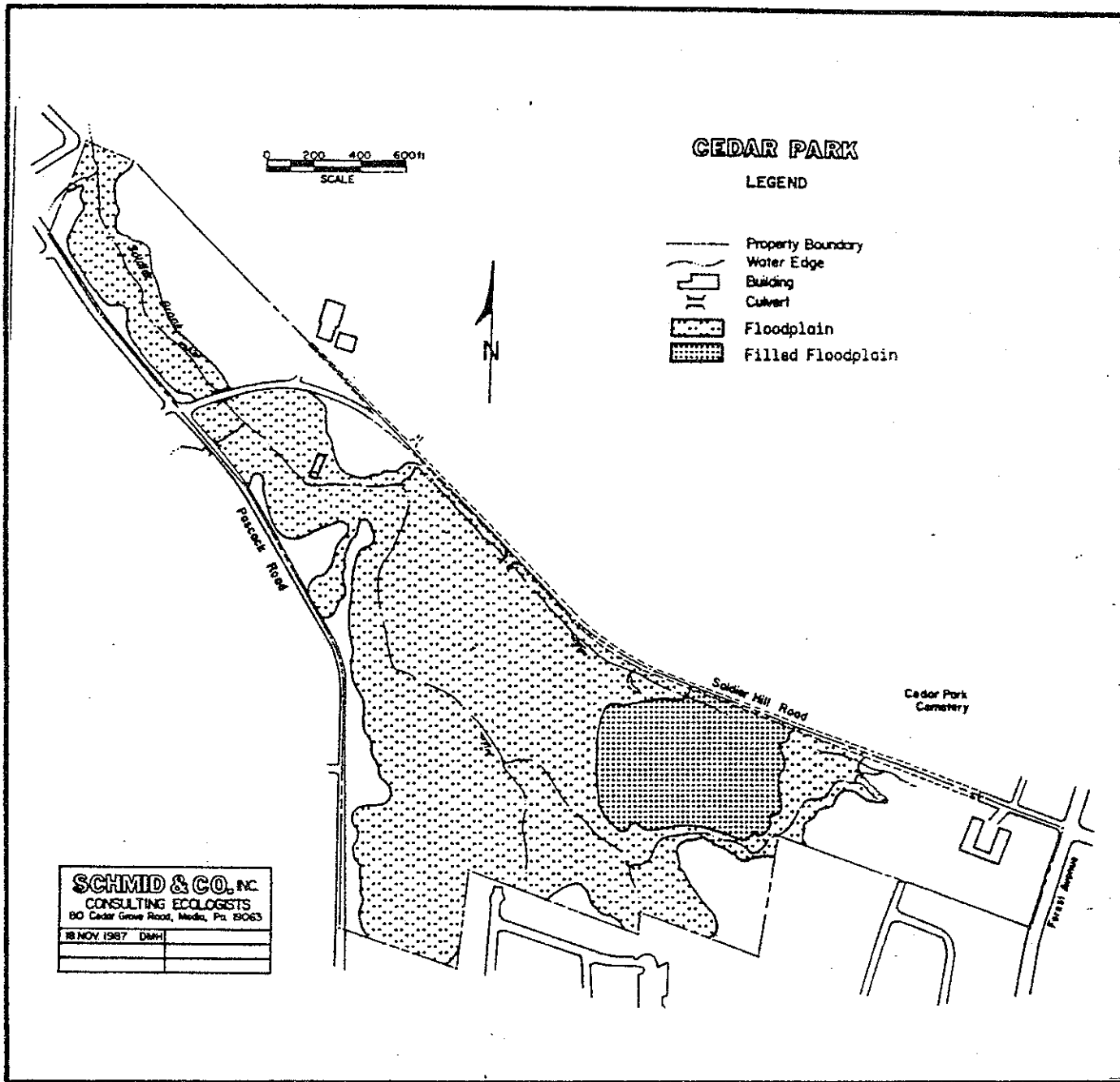
**Prepared for:** Cedar Park Realty  
P.O. Box 329  
Westwood, New Jersey 07675

**For submission to:** Borough of Paramus  
Planning Board  
Jockish Square  
Paramus, New Jersey 07652

**Prepared by:** Schmid & Company Inc., Consulting Ecologists  
80 Cedar Grove Road  
Media, Pennsylvania 19063

11 May 1989





**Figure 5** Floodplains on the Cedar Park subdivision in Paramus Borough, Bergen County, New Jersey. (The Chester Partnership 1985d).

measures such as the use of crushed stone will be followed in accordance with the approved soil erosion and sediment control plan to minimize the sediment and resulting dust conveyed by vehicles onto local roads during construction.

Future use of the site is not expected to involve a significant increase in noise nor decrease in air quality. Any such changes, however, primarily will be attributed to traffic generated by the proposed residential uses. A traffic study is being conducted by the project engineers for the Cedar Park subdivision.

Aside from vehicles, there are no generators of significant noise or air pollutants proposed at the project site. Site uses will consist exclusively of new residences.

#### 6a) VEGETATION AND WETLANDS: EXISTING CONDITIONS

##### VEGETATION

Vegetation and land cover on the Cedar Park site were reported and mapped by Schmid & Company (1987). Mapping was based on a vertical, black and white, aerial photograph taken on 19 March 1987, and enlarged to a scale of 1:2,400 (1"=200'). Field investigations were conducted during both spring (April and May) and autumn (September and October) 1987.

Scientific and common names of plants observed on the site, along with notations as to their wetland indicator status, are presented in Table 4. Nearly 150 species of plants were identified on the project site, of which 22% were introduced. None of the observed plants is considered endangered or threatened in the nation or the state.

A large proportion of the Cedar Park site is forested, the majority of which is maple-gum swamp forest within the floodplain of Soldier Brook. A smaller expanse of mixed deciduous forest bounds the swamp forest along its upland margins. An old garbage dump, located in the northcentral section of the project site, is presently covered principally by scrub vegetation. There also are areas of barren land and suburban land on the site. The locations of these cover types are shown in Figure 8, and the characteristics of each type are summarized in the following paragraphs.

**Swamp Forest (Wf).** A maple-gum swamp forest of nonuniform age covers 41 acres (42%) of the project site. All of this vegetation type is within the floodplain of Soldier Brook. The characteristic structure of this vegetation type includes a tree canopy at 30 to 40 feet with typical trunks of 3 to 18 inches dbh (diameter at breast height). The principal tree species are red maple and black gum. Other common tree species identified include pin oak, silver maple, river birch, weeping willow, slippery elm, persimmon, sycamore, and big toothed aspen.

The shrub layer in the swamp forest is 3 to 12 feet tall. Gray dogwood, red osier dogwood, and southern arrowwood are the most abundant species in this layer.

The herbaceous layer on the swamp forest floor is relatively open and

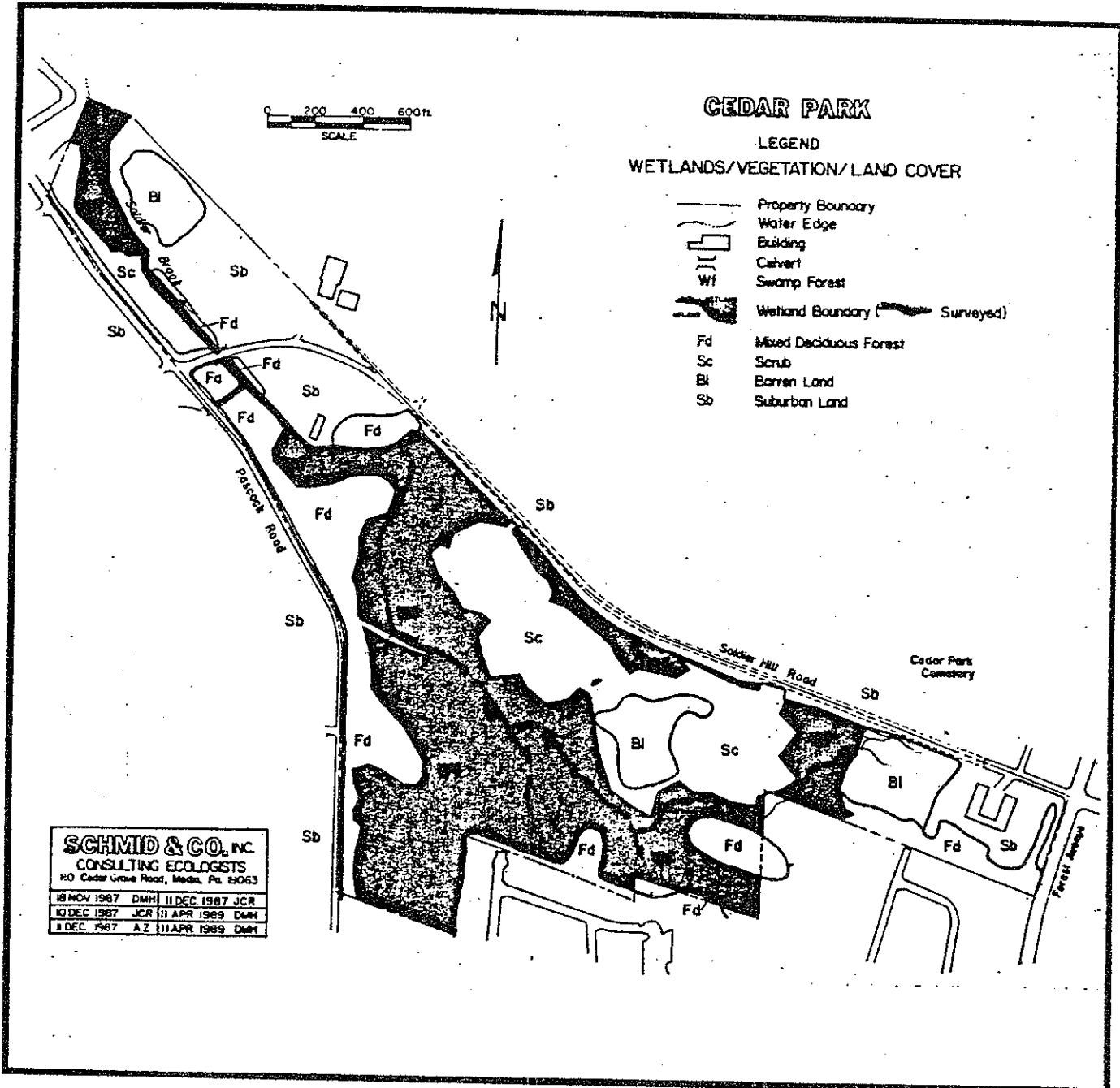


Figure 8 Wetlands, vegetation, and land cover types on the Cedar Park subdivision in Paramus Borough, Bergen County, New Jersey. Types are described in the text. Highlighted areas are regulated wetlands confirmed by the Corps of Engineers.

of Engineers accepts jurisdiction was formally confirmed by the New York District. The boundaries of Corps-jurisdiction wetlands at the site were flagged in the field and surveyed, as highlighted on Figure 8.

The vegetation and topography were examined first to identify the wetlands. The maple-gum swamp forest consisted overwhelmingly of facultative hydrophytic plants. There were relatively few species of obligate hydrophytes, but royal fern, skunk cabbage, tussock sedge, and false nettle were characteristic herbs in this forest. Swamp azalea also was observed here; the individuals of upland plants such as maple leaved viburnum and white wood aster were few and far between, principally growing on localized hummocks. Soil and hydrologic indicators corroborated the wetness suggested by the plant cover, with standing water on the surface over much of this forest during several seasons.

In the remaining vegetation types upland species were much more abundant. Obligate hydrophytes were virtually absent except in ditches and ponds. Facultative hydrophytes were common, but the general composition of the vegetation (as detailed previously) was quite different from that of the swamp forest. Soil and hydrologic indicators, like the plant cover, did not suggest wetland conditions.

Considerable attention was given to the scrub and barren areas in the center of the site. Historically, this area was a bog and swamp forest. Most of this central area now appears no longer to be capable of supporting a prevalence of hydrophytic plants.

#### 6b) VEGETATION AND WETLANDS: IMPACT ASSESSMENT

The proposed Cedar Park subdivision involves approximately 42 acres of the 98 acres which comprise the tract. Proposed residential uses include the 129 houses and the lots associated with each, plus driveways, internal roadways, and widening of Soldier Hill Road. The remaining 56 acres, primarily in the central section of the site, are not proposed for development.

Most of the proposed development will occur in areas that currently are barren, scrubland, or suburban land. Of the 42 acres, about 6 acres are wetlands situated within (and primarily in the back sections of) proposed new lots. No fill for structures or driveways is proposed within delineated wetlands.

Several structures are proposed for construction close to the wetland limit. The houses proposed on 11 lots are within 25 feet of the wetland boundary, and structures on 17 other lots are proposed for construction more than 25 feet but within 50 feet of the wetland limit. Where construction is to occur within close proximity to wetlands, special care should be taken to avoid their disturbance or destruction. By virtue of prior Corps of Engineers approvals, the Cedar Park subdivision is exempt from the New Jersey Freshwater Wetlands Protection Act of 1987.

The installation of utility lines will cause minor temporary disturbance to site wetlands. Three stormwater outfalls are proposed within wetlands, and each will entail an estimated maximum of 200 square feet of total fill or

#### 4) Water Resources

No impact to local groundwaters onsite or offsite is expected. The project will be served by public water supplies for its potable needs and thus will not utilize on-site wells. The site is not within an important aquifer recharge area. The clayey and mucky soils generally associated with the wetlands on this site are relatively impermeable, and water will tend to run off into the adjacent streams in the future as at present.

Internal surface water drainage patterns on the site will be altered to accommodate the proposed development. No net increase in flooding potential along Soldier Brook is expected. Approval from NJDEP will be secured for any work within 100-year floodplain areas. Excess stormwater will be collected onsite and discharged at numerous outlets to the undeveloped central sections of the site. Stormwater detention will be accomplished by reliance on the natural "bowl" shape created by the low areas along and adjacent to Soldier Brook.

An approved Soil Erosion and Sediment Control Plan will be implemented to assure minimal impacts to the waterways during and after construction activities. As a result of such measures, the quality of water will be maintained.

#### 5) Air Quality and Noise

Although there likely will be localized increases in noise and dust as a result of construction activities, their extent and nature will be temporary and short-term. All construction will be conducted in an approved manner in accordance with applicable state, county, and Borough building and performance standards.

There are no significant sources of noise or air pollution proposed for the project site. No long-term air quality or noise effects are anticipated.

#### 6) Vegetation and Wetlands

The construction of the proposed project will require the disturbance or clearing of approximately 11 acres of forest vegetation from the site. Most of the subdivision is proposed in areas that presently are suburban land, scrubland, or barren land. About 25% of the existing upland forest and virtually all of the wetland forest will remain undeveloped. The wetland drainage throughout the central section of the site will not be effectively altered, and a viable wetland community will remain.

Three of the 11 proposed stormwater outlets will require the construction of headwalls in wetland areas. The area needed to install each of the three structures is approximately 200 square feet. The structures represent permanent, although insignificant, overall disturbance to site wetlands.

The proposed widening of Soldier Hill Road along the northern boundary and at the crossing of Soldier Brook will require less than 0.2 acre of total fill in wetland. This amount also is insignificant. Previous plans for the site, associated with an estimated 0.5 acre wetland fill for this widening



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P.E., C.S.P., C.I.H., F.R.S.H.

Honorable Joseph Coniglio  
Fire Commissioner  
Borough of Paramus  
Borough Hall  
Jockish Square  
Paramus, N. J. 07652

October 30, 1984

Proposed Townhouses  
On  
Soldier Hill Road

My dear Commissioner Coniglio:

Townhouses have been proposed on a site South of  
Soldier Hill Road. Part of the site, used as a dump,  
may contain hazardous chemicals. For this reason, you  
requested the Chemical Engineer to make a preliminary  
review of this site and to prepare a report.

The report contains conclusions about possible hazard-  
ous chemicals on this site and makes two recommenda-  
tions to the Borough's officials for their considera-  
tion and action.

Respectfully submitted,  
American Hazard Control Consultants, Inc.

George B. Stanton, Jr.  
PE, CSP, CIH, FRSH  
President  
Paramus Borough Chemical Engineer

Enclosure: Report:

cc with report:

William Lynn, Chief Fire Inspector

✓ John Hopper, Health Officer



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GEORGE B. STANTON  
P.E., C.S.P., C.I.H., F.I.

PROPOSED TOWNHOUSES

ON

SOLDIER HILL ROAD

Prepared for

BOROUGH OF PARAMUS

Honorable Joseph Coniglio

Fire Commissioner

Borough Hall

Jockish Square

Paramus, NJ 07652

AMERICAN HAZARD CONTROL  
CONSULTANTS, INC.

by George B. Stanton,  
PE, CSP, CIH, FRSH  
President

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Consultants, Inc., 1984

October 30,

## Section 1

## INTRODUCTION

A town house development has been proposed in the Borough of Paramus, to be located adjacent to Cedar Park Cemetery. At the request of the Honorable Joseph Coniglio, Fire Commissioner, this area was reviewed for possible chemical and waste hazards.

The Chemical Engineer visited the site on October 25, 1984, in the company of Chief Fire Inspector William Lynn and Health Officer John Hopper, who together provided much of the information contained in this report.

This report, prepared at the Commissioner's request, consists of the following sections:

Introduction

The Area

The Dump

Discussion

Conclusions

Recommendations

## Section 2

## THE AREA

The proposed town house location is bounded to the South by Soldier Hill Road, an unpaved street between Forest Avenue and Pascack Road. The site elevation is several feet less than that of the latter two streets. The property is said to occupy about 100 acres.

The area is wooded with a stream running through it. Part of it is meadow, part swamp, and part of it is a dump.

The property was identified as being in Block 7703 and parts, possibly, in Blocks 7201 and 7704 of the Borough's tax map.

## Section 3

## THE DUMP

## 3.1 Location

The dump is close to the cemetery's maintenance yard off Forest Avenue, on the South side of Soldier Hill Road. It appears to be situated on Lot 1 of Block 7201 and Lot 3 of Block 7703.

## 3.2 Contents

The dump contains tires, washing machines, mattresses, lumber, and other construction, household, and commercial waste. The dump also contains organic materials such as leaves, grass clippings, tree branches, and similar garden waste. From time to time, layers of earth were deposited on top of layers of waste. Industrial waste was not supposed to be deposited here.

Several years ago, garbage was deposited here during a garbage workers strike. The garbage was said to have been completely removed after the strike was over.

Most of what is exposed today is earth, with large tree branches extending above, and some recent dumping of small quantities of garden and household wastes.

## 3.3 Operation

The dump was and is unattended. It was said to be closed.

## Section 4

## POSSIBLE CHEMICAL AND WASTE HAZARDS

4.1 Hydrogen Sulfide

Decaying organic matter releases this toxic gas. It is especially dangerous to breathe because it fatigues the sense of smell within a few seconds, so that the characteristic odor of rotten eggs disappears. The exposed person believes the gas no longer is present when, in fact, he or she continues to breathe it.

4.2 Chemicals In Industrial Waste

Many chemicals in industrial waste are classified as hazardous by the U. S. Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection (NJDEP). EPA and NJDEP regulations have set up "cradle-to-the-grave" controls on hazardous waste, including a manifest system to identify the waste from the time it leaves the place where it was generated to its final destination.

In the years before these controls were instituted, indiscriminate dumping of hazardous wastes occurred on unattended sites, as is now well-known. This has come to be called "midnight dumping."

4.3 Chemicals In Household And Commercial Waste

Hazardous chemicals are commonly used in home and garden maintenance products. These chemicals are also used for similar purposes in businesses and other commercial establishments.

The residues of these chemicals are found in household and commercial waste.

## Section 5

## DISCUSSION

A short walk over the surface of a dump or landfill cannot reveal what is buried there. Based on the information provided, hydrogen sulfide, produced by decaying organic materials, is expected to be found here.

Based on knowledge of waste and waste disposal practices, hazardous wastes may be found buried here.

The proposed Passaic County Technical and Vocational High School's satellite school on the former Wanaque landfill is a current example of the problems associated with construction on this type of site.

## Section 6

## CONCLUSIONS

In my professional opinion,

1. The proposed town house development site is expected to produce hydrogen sulfide gas.
2. Hazardous wastes may be found buried here.

## Section 7

## RECOMMENDATIONS

In my professional opinion,

1. The Borough of Paramus should require a comprehensive sub-surface survey of the dump. Such surveys include test borings, analysis of core samples, and sampling and analysis of underground and ground water. The survey should be conducted and interpreted by a specialist in the field.
2. This survey should be required before planning begins.