9HM Hudson C. Court Administration Bldg.

...meeting,

Dispatch 8-17-72

Air Pollution Order Faces Landfill Unit

Hudson Superor Court Judge Theodore I. Botter signed an order yesterday directing Municipal Sanitary Landfill Authority, Harrison av., Kearny, to show cause on Sept. 14 why it should not be penalized for air pollution.

Deputy Atty. Gen. Michael J. Gross obtained the order. According to the complaint filed, the defendant was ordered on July 17, 1969, to cease polluting the air. Subsequently the defendant paid a $200 penalty for open air burning of refuse on Apr. 19, 1972. Now, the N. J. Department of Environmental Protection alleges the defendant committed another offense, Apr. 11 of this year, burning refuse in the open. The state seeks a $2,500 penalty this time.

CAA000001

HUDSON REGIONAL HEALTH COMMISSION

313 Harrison Avenue
Harrison, New Jersey 07029

REPORT OF FIELD INVESTIGATION

DATE 11-20-79 TIME 11:10-11:30 FILE#

REFERENCE TO CHAPTER

FULL BUSINESS NAME Keegan Landfill

Location Kearny, N.J.
(No. / Street / Municipality)

Mailing Address
(No. / Street / Post Office / Zip Code)

Person(s) interviewed _____ Title _____

_____ Title _____

Comments _____

Report Requested by _____ Title _____

Purpose of investigation Follow up to check status of landfill fire.

Observations No smoke was observed. Fire seems to be totally extinguished. While leaving the site we observed 3 drums each about 30 gallon capacity. The contents are unknown. The drums are all partially full. Labels indicate that materials of a hazardous or explosive nature may be contained within, though it cannot presently be determined whether these labels are applicable to the contents. No further action necessary on the fire.

Conclusions A further investigation of the materials in the drums will be made.

Recommendations _____

CAA000003

Investigated by Milton R. MacDonald, G. Garetano

D

REPORT OF INSPECTION

Date: Dec., 3, 1981
Time: 10:00 PM
Site: Bergen Ave. Landfill

An inspection of the underground fires on the above site was conducted by Health Officer Grosvenor, Deputy Chief Cody, Assistant Superintendant DPW Gaglio and myself on the above date.

Three areas were observed venting smoke, indicating underground fires are present.

Past history has indicated the possibility of hazardous materials being present in the area, increasing the seriousness of this problem.

All present agreed that the only means to illiminate this problem was with a trained buldozer operator opening the areas up and smoking the fires. Galgio stated that the town does not have the proper equipment to handle this problem, Cody stated that water is useless in putting-out underground fires. He went on to say the areas were not presently accessable to fire department equipment. (New roads in the landfill would have to be installed)

It was decided to persue outside help, with the mayors consent to have this problem abated, at not cost to the town if at all possible.

Following this meeting, I met with Mayor Hill on Friday afternoon, December 4, 1981. He gave his approval to looking for voluntary help from outside groups.

Department of Environmental protection hazardous waste management was next contacted. I spoke with George Weiss, who indicated that if it can be documented that chemical waste is located on this site, aid might be forthcoming. Despite two or three follow-ups, DEP has been unable to give any positive statement except to say they may be interested.

Spoke with Turco on December 27, 1981, he said he would be unable to aid us as man and equipment will not be in the area for the next month or two.

Submitted by:

John P. Sarnas

CAA000006

ATTACHMENT D

D

REPORT OF INSPECTION

Date: Dec., 3, 1981
Time: 10:00 PM
Site: Bergen Ave. Landfill

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Submitted by:

John P. Sarnas

ATTACHMENT D

Kearny, DEP confer on dump controversy

By DONNA LEUSNER

Kearny officials, opposing a state order to open another landfill in the garbage-choked meadowlands, pleaded their case before state authorities yesterday in Trenton.

Although the 20 officials who gathered for a roundtable discussion with members of the state Department of Environmental Protection (DEP) got no concrete answers, Kearny representatives called the information exchange "productive."

Kearny is seeking to have rescinded a Jan. 19 order from the state to open temporary landfills in Newark and Kearny by July 1 to handle a combined total of 3,500 tons daily of Essex County garbage.

DEP Commissioner Jerry English directed the Hackensack Meadowlands Development Commission (HMDC) and Essex County to find a site to accommodate the garbage until Essex County opens a recycling plant in 1985.

* * *

The town, arguing that another landfill will discourage proposed industrial development in the region and create a health hazard, has vowed to fight the order in court.

Kearny Mayor Henry Hill said the region slated for a third landfill is the "gateway to a revitalized economy for Kearny, generating industrial development worth millions of dollars and creating thousands of jobs."

E. Robert Hakim, chairman of the Kearny Industrial Commission, urged English to rescind the dumping order, claiming Kearny has made its contribution to the state over the past 60 years by taking garbage.

"I can't imagine creating thousands of jobs and industrial development amid a sea of garbage," said Hakim. "If they (the state) rescind the directive, Kearny will be happy."

* * *

Margaret Hallaway, who has been fighting open dumping in Kearny for 12 years, also called the meeting profitable because "now the state knows how drastic the situation is and how hard we must work to keep the garbage out of Kearny."

Sen. Frank E. Rodgers (D-Hudson) demanded an answer from English after the hourlong meeting on whether the state would seek other sites outside of Hudson and Essex counties to place the garbage.

DEP assistant commissioner George Tyler also called the meeting productive. "We heard the legitimate concerns expressed by the people of Kearny and will take these into consideration, as we have since the public has been offering them to us."

CAA000007

Kearny
Department of Public Health
and Environmental Protection

BOARD MEETS
THIRD WEDNESDAY OF EACH MONTH
AT HEALTH CENTER
645 KEARNY AVENUE
KEARNY, N.J. 07032

997-0600

COMMISSIONERS, BOARD OF HEALTH:
PETER MALNATI, PRESIDENT
VICTOR RUDOMANSKI, M.D., VICE PRESIDENT
LEONARD VAN ORDEN, SECRETARY
VINCENT MARTONE
RAYMOND MCGAUGHAN
JOHN MCNAMARA
LILLIAN CARDOZA

EDWARD GROSVENOR
HEALTH OFFICER

19

7

REPORT ON FIRES - OLD KEAGAN LANDFILL

An underground fire was observed on the above landfill at 12:30PM on Tuesday December 4, 1984. An on-site inspection showed one venting hole approximately 1/2 mile inside landfill north of Bergen Avenue. The Town Engineer's office was called to help identify property ownership. This is very difficult due to no physical or identifiable sites in the surrounding area. The area was eventually identified as belonging to the Town of Kearny. Another visual inspection was made on Wednesday 12/5/84 at 1:00 PM smoke was seen venting from approximately nine different areas. Health officer was informed at 2:00 PM and made observation of problem accompained by Richard Ferraioli of the Kearny Water Department. Councilman McLaughlin, Board of Health liaison and Councilman McIntyre, DPW committeemen were informed of the situation at the same time. Approval was sought to use Town equipment to estinguish these underground fires.

4:00 PM 12/5/84, the site was viewed by John Sarnas, Ed Grosvenor and Councilman McIntyre.Due to the nature of the problem, Town equipment was deemed unsuitable to use on these fires. A tract vehicle was the only suitable piece of equipment which the Town does not have. The Town front end loader has tires which would most likely sink in the soft terraine.

MSLA equipment and expertice were available and the Health Department made contact to have the work done immediately.

10:00 AM Thursday 12/6/84 D-8 dozer arrives on Landfill, water truck not needed. 1:00PM work done on first big vent. Will take two full days to extinguish fifteen sited vents.

Friday call Eugene Siciliano of MSLA. Cold and wind are disipating smoke before it leaves the weeds making siting difficult if not impossible. 1:00PM dozer leaving, told to return for two small vents on North side. Put out at 3:00 PM.

Call to Siciliano, I told him that it was difficult to view vents due to weather and though it appears all is out, I will return on Monday for final inspection.

Monday 9:30AM 12/10/84 no smoke from vents, however large pile of debris had been set on fire over the weekend by someone burning wire. View site with deputy chief Cody, Kearny Fire Department, he said no truck could reach site, all he has is a two gallon portable pump.

Spoke with Gaglio, DPW who said front end loader has a flat and won't be available till the afternoon. I said that was sufficient.

2:00PM Dennis Burke on front end loader begins to seperate pile of smoldering debris, as he is working open flames are erupting. Fire Department responds to my call and is unable to do anything. Eugene Siciliano stops after siting smoke and said he could handle fire in two hours with his equipment at no charge. Front end loader with rubber tires going thru hot spots, not advisable.

Tuesday, December 11, 1984, 7:30 MSLA equipment begins to put fire out.

Job completed at 10:15AM.

(8)

HUDSON REGIONAL HEALTH COMMISSION

Let's Protect Our Earth

~~318~~ 215 HARRISON AVE. HARRISON, N.J. 07029

TELEPHONE: (201) 485-7001-2

BAYONNE
JERSEY CITY
HOBOKEN
WEEHAWKEN
WEST NEW YORK
GUTTENBERG
NORTH BERGEN
SECAUCUS
KEARNY
HARRISON
EAST NEWARK
UNION CITY

TOWN OF KEARNY

LANDFILL FIRE LOG:

May 14, 1987	Complaints #138, 139 and 143 investigated and determined to be smoke and odor from former Keegan Landfill underground fire.
May 18, 1987	Violation order sent to the Town of Kearny Counsil and Mayor
May 27, 1987	Complaint #162
May 29, 1987	Town Engineer, Joe Naglia will obtain contractor
June 1, 1987	Complaints from DEP Metro #266, 273, 274, Complainant , Dawn MacDonald Barry Sutherland of Mr. Naglia's office assigned to obtain estimates from contractors
June 3, 1987	Conti Contractors need until 6/8/87 to develop Health and Safety Progrqm for workers involved in putting fire out and seeking insurance coverage
June 17, 1987	Mr. Sutherland has three quotations and is waiting to present them at 6/23/87 council meeting
June 24, 1987	Council will be making decision tonight. Mr. Ferraiuolo plans to attend.

(Fire approximately one acre)

CAA000010

TIERRA-D-000380

(9)

Kearny
Department of Public Health and Environmental Protection

BOARD MEETS
THIRD WEDNESDAY OF EACH MONTH
AT HEALTH CENTER
645 KEARNY AVENUE
KEARNY, N.J. 07032

997-0600

EDWARD GROSVEN
HEALTH OFFICER

COMMISSIONERS
KEARNY BOARD OF HEALTH

JO-ANN CARRATURA, President
VICTOR RUDOMANSKI, M.D., Vice President
PETER CICCHINO
CHESTER KOZLIK
GORDON FOWLIE
ROBERT KERWIN
JAMES CONNORS

July 21, 1987

Honorable Henry J. Hill &
Members of the Town Council
Kearny, New Jersey 07032

Dear Mayor & Council Members:

As of the afternoon of July 9, 1987 there were no visual signs of underground smoldering at the Keegan Site as observed by Mayor Hill and this writer.

In a communication from the Department of Environmental Protection to Mayor Hill, dated July 2, 1987, they were pleased that Kearny took immediate steps to put out the fires. They also recommended that the town take steps to properly close the dump. One recommendation is to cover the entire site with twenty-four (24") inches of clean fill which would cost the town millions of dollars.

We can possibly avoid the spending of millions by taking short term remedial action which includes the following:

1.) Cover with clean fill the area that was on fire.

2.) Build roads to make all areas of the dump more accessible to fire fighting equipment.

3.) Secure the main entrance area and have area patrolled regularly.

A letter from the Town Engineer with our plan for remedial action would be submitted to John Castner, Chief, Bureau of Sanitary Landfill Closure, Division of Solid Waste Management, CN-414, Trenton, New Jersey 08625.

The town should also have the dirt portion of Bergen Avenue's perimeter free of all debris indiscriminately dumped, and signs posted to halt dumping and trespassing on the old dump (see enclosed report).

The Health Department also respectfully recommends that the town sell or lease the property for development. If there are no possibilities, we ought to apply for funding for recreational purposes to the H.M.D.C., Hudson County, State of New Jersey and the Federal Government, who have all had input into the following:

1.) Over fifty (50) years of garbage dumping in Kearny.

2.) Issuing permits to conduct hazardous waste facilities in the Town of Kearny.

3.) Storing 10,000 to 12,000 drums of radicactive solid and debris in Kearny.

4.) In the near future, construction of a 1,000 inmate jail in Kearny.

5.) Contruction of at least a 1,500 ton a day resource recovery unit in Kearny.

6.) And finally, we will probably be host community for the toxic ash from one or more resource recovery plants.

If we do nothing at all, we will probably continue to have underground fires errupt annually creating a public health nuisance for our residents, and, more seriously, we will have the hazardous conditions that could permit serious injury to anyone falling into a burning cavity. Years ago we had one boy lose his legs and another crippled from falling into a burning cavity.

The Kearny Department of Public Health strongly recommends that the Mayor and Council consider our recommendations or develop a plan to remove the potential nuisance and hazard at the Keegan Dump Site.

Sincerely,

Edward Grosvenor

Edward Grosvenor,
Health Officer

EG:el
CC: A. Cavalier
R. Robertson
R. MacMillan

(10)

Kearny
Department of Public Health and Environmental Protection

BOARD MEETS
THIRD WEDNESDAY OF EACH MONTH
AT HEALTH CENTER
646 KEARNY AVENUE
KEARNY, N.J. 07032

997-0600

EDWARD GROSVENOR
HEALTH OFFICER

COMMISSIONERS
KEARNY BOARD OF HEALTH

JO-ANN CARRATURA, President
VICTOR RUDOMANSKI, M.D., Vice President
PETER CICCHINO
CHESTER KOZLIK
GORDON FOWLIE
ROBERT KERWIN
JAMES CONNORS

July 23, 1987

Honorable Henry J. Hill &
Members of the Town Council
Town Hall
Kearny, New Jersey 07032

Honorable Mayor & Council:

It has been brought to our attention that the foot of Bergen Avenue, south of the railroad trestle, has become an illegal dumping area for a few irresponsible violators. Most of this dumping involves washers, dryers, furniture and other various debris.

To improve access of emergency equipment and abate a nuisance along the roadway, this area should be cleaned and debris removed as it presently poses a fire hazard and an unslightly nuisance.

By way of a letter to Town Engineer Neglia, we have requested that town property be delineated before removal begins so town properties can be cleaned.

Once town property on Bergen Avenue is properly cleared, we can begin to have private property in the area properly cleaned and fenced as required by law.

Very truly yours,

John P. Sarnas,
Assistant Health Officer

JPS:el

CAA000012

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SOLID WASTE MANAGEMENT
CN 414, Trenton, N.J. 08625

Michael F. DeBonis
Acting Director

August 25, 1987

Mr. John P. Sarnas
Assistant Health Officer
Kearny Department of Health and
Environmental Protection
645 Kearny Avenue
Kearny, New Jersey 07032

Re: Keagan Landfill, Kearny, Hudson County

Dear Mr. Sarnas:

This correspondence serves as a follow-up to your letter of July 30, 1987 and Christina Gerke's letter of August 10, 1987. On August 11, 1987, I met with Mr. Barry Sutherland and Mr. John Edwards, of my staff, to discuss plans for the Keagan Landfill.

It is our understanding that Neglia Engineering Associates will submit a plan to regrade and cover the recently disrupted area of the landfill with twenty four (24) inches of final cover. Among its other attributes, the cover will eliminate ignition sources and should prevent future fires. Although no formal disruption permit or review fee will be necessary, this Division will issue an "authorization to proceed" once a plan has been received and reviewed. Additionally, we will want a copy of a soil erosion and sediment control plan that has been sent to the appropriate district for proper certification.

Eng. fees

All landfills, regardless of age, are subject to a determination as to whether the site should be monitored under the New Jersey Pollutant Discharge Elimination System (NJPDES) permitting program. As such, we will be referring this site to them for such a determination.

Permit Fees!

There has also been mention that it may be prudent for the town to prearrange agreements with contractors to have contingency plans established for the purpose

→ retainer fees

CAA000013

of fighting fires at the landfill. Having authorization in advance, to hire a contractor, would greatly expedite the process of putting out a fire.

I trust this will satisfy your present concerns. However, should you have further questions, kindly contact Mr. Edwards at (609) 984-5851.

Sincerely,

John A. Castner

John A. Castner, Chief
Sanitary Landfill Closure

JTE/smw

c: E. Londres

DEQ-062
1/88

CAA000014

HUDSON REGIONAL HEALTH COMMISSION
215 Harrison Avenue
Harrison, N.J. 07029

(201) 485-7001-2

FIELD INVESTIGATION ASSIGNMENT REPORT

PLANT ID #	INSPECTOR ASSIGNED
HRHC #	

DATE ASSIGNED	STATS
	VOS
DATE COMPLETED	Oth
5/3/89	ReIns
	ER

COMPANY NAME Keegan Landfill - Roselli Landfill area

LOCATION NJ Turnpike Exit 15W - Kearny

CONTACT: TEL.#:

TYPE OF ASSIGNMENT
☐ Complaint ☐ APEDS
☐ Order Followup
☐ Other (by code)
Other

WEATHER
SKY
TEMP
WIND

COMPLAINANT NAME PHONE #

COMPLAINANT ADDRESS

DATE RECEIVED TIME RECEIVED RECORDED BY

ASSIGNMENT

PLANT CONTACT

TITLE

ARRIVAL TIME AT PLANT

TOTAL ASSIGNMENT TIME

STACKS INSPECTED TEMPS

TOTAL SOURCES INSPECTED

DEQ-012 COMPLETED FOR SUBCHAPTERS

SUBCHAPTER	# INSP
OTHER	

TYPE SAMPLE COLLECTED

OF SAMPLES COLLECTED

COMMENTS (by code)

COMPLAINT | TYPE | NUMBER

Time/Date at Complainant /

Verified: ☐ Yes ☐ No

Give details below

VIOLATION FOLLOWUP INSPECTION

Violation Log #

Order Dated

Subchapter Violated

Compliance Achieved ☐ Yes ☐ No

Give details below

DETAILS OF INSPECTION

10:30 a.m. Mike Beard called "Town of Kearny wants a determination of property lines where underground fires are located and order from DEP to put fires out."

Reminded him of 7/2/87 letter from the Division of Solid Waste Management suggesting proper closure requirements

10:50 a.m.: Advised Metro Office of request received

11:15 a.m.: Advised Solid Waste Division of the underground fires and the request from the Town of Kearny

Pat Ferraro - 1-609-426-0791

12:00 - 1:00 a.m.: Inspected area - undergrounf fires heaviest in the RT 280 turnpike entrance areas off ~~Harrison Avenue.~~

~~11:45: Pat Ferraro advised that they would send out a~~ "shot gun" type letter to all property owners of record

2:00: R. Ferraiuolo, HRHC and E. Grosvenor, H.O. Kearny ~~advised.~~

~~5/4/89: Pat Ferraro SW, waiting for ownership list from HMDC~~

MUNICIPAL CODE

SECTION	#	FEE AMT
7.9A		300
9.8		30
		120
9.9		120*
10.2		60
		150
TOTAL		

MUNICIPAL VIOLATIONS

*MAX.

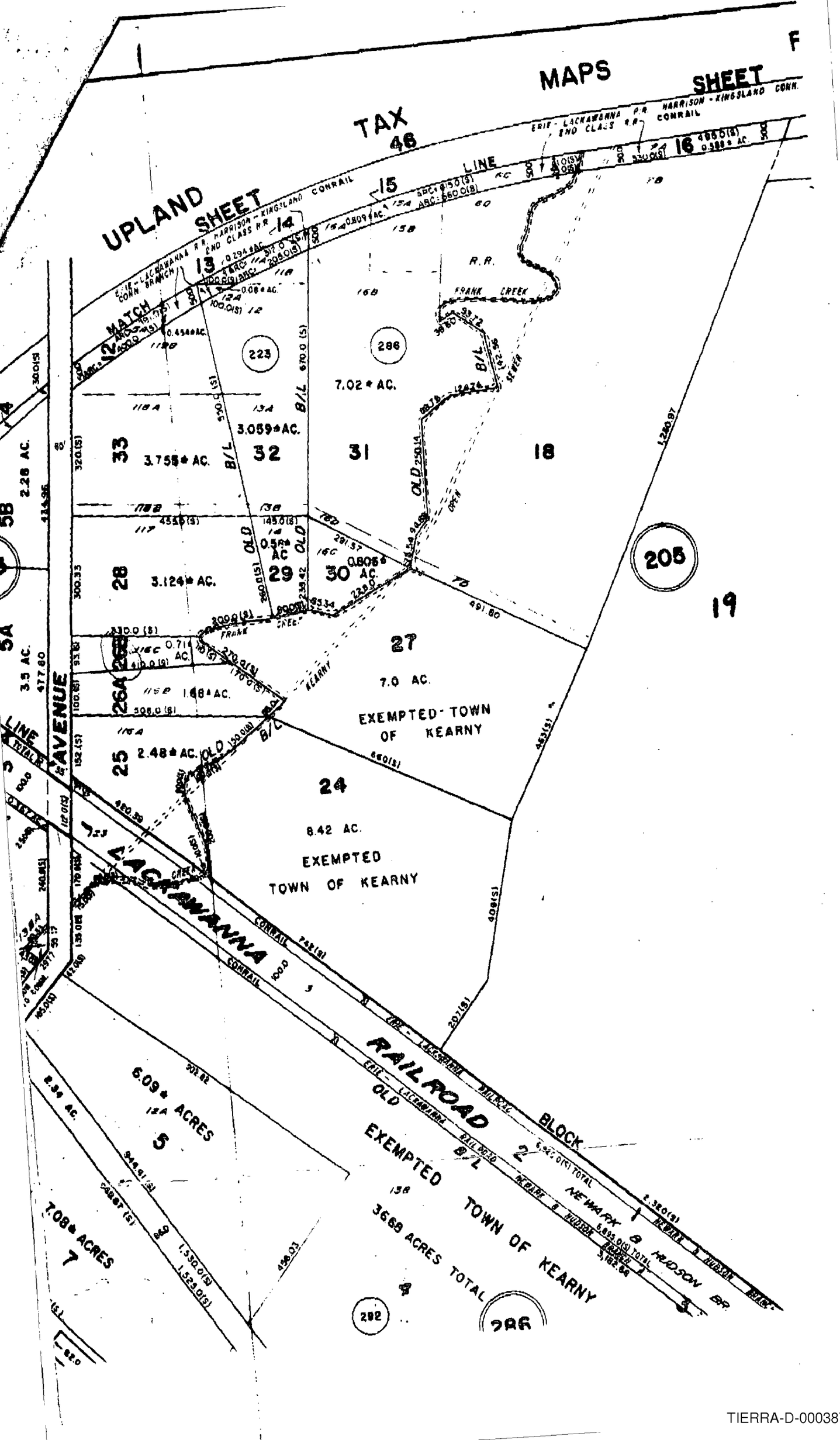
INSPECTOR'S SIGNATURE

TITLE:

SUPERVISOR'S REVIEW

INITIALS: DATE:

SEE ATTACHED FOR ADDITIONAL INFORMATION: ☐ YES ☐ NO



TIERRA-D-000387

LEVEL 1 - 10 OF 10 STORIES

15.

The Record

February 13, 1992; THURSDAY

SECTION: NEWS; 5 Star, ALSO IN, 4 Star, 3 Star, 2 Star, 1 Star; Pg. B01

LENGTH: 348 words

HEADLINE: HMDC PROPOSES REGIONAL TRASH SITE

BYLINE: John Mooney, Record Staff Writer

BODY:

The Hackensack Meadowlands Development Commission has proposed a regional waste-disposal center in Kearny, a project that officials said could result in long-term savings in North Jersey's trash costs.

The project, expected to cost more than $ 20 million, would include construction of the disposal center at the former Keegan landfill on Bergen Avenue and the permanent capping of the rest of the landfill, which stopped accepting trash more than a decade ago. The new center would accept non-hazardous industrial and construction waste for burial.

The proposal still needs the HMDC's final approval and the approval of the state Department of Environmental Protection and Energy.

A spokesman for the HMDC, which oversees the land use of 20,000 acres in Bergen and Hudson counties, said the agency hopes to have the facility in operation in 1993 or 1994. Wastes to be accepted include cement, plasterboard, and metal.

Larry J. McClure, executive director of the Bergen County Utilities Authority, said the proposed center, coupled with the HMDC's plans for a regional compost facility in North Arlington, could mean good news for communities facing escalating trash disposal costs.

A key part of the savings would be a reduction in out-of-state hauling of trash, a costly and politically sensitive practice, McClure said.

"I certainly think it's a cost-saver and even goes beyond the cost-saving issue," McClure said Wednesday. "If we are going to be serious about staying in-state, this becomes very critical."

Officials said the projected savings are still uncertain.

The commission may seek a private contractor to build and run the center, with the cost hinging on the contractors bids, HMDC spokesman Robert Grant said.

The bulk of the project would be funded through revenue from the HMDC's solid-waste baler-transfer station in North Arlington.

The HMDC has yet to file its application with the DEPE. A public hearing on the plan is scheduled for Wednesday at 7:30 p.m. at Kearny High School.

LANGUAGE: English

LOAD-DATE: April 28, 1995

HUDSON REGIONAL HEALTH COMMISSION

215 HARRISON AVE, HARRISON, NEW JERSEY 07029
TEL. 201-485-7001 FAX 201-485-1251

INVESTIGATION

H.R.H.C. CASE# 92-4-7-K4 D.E.P. CASE#_____

REC'D FROM: K.F.D. DATE: 4/7/92 TIME: 3:45

INVESTIGATOR CR DATE: 4/7/92 TIME ARRIVED: 4:00 DEPARTURE 4:45 PM

LOCATION: Keegan Landfill PROPERTY OWNER:_____

ADDRESS: Foot of Bergen Ave MAILING ADDRESS:_____

Kearny, N.J.

LOCATION PHONE#_____ OWNERS PHONE#_____

BLOCK_____ LOT_____ RESPONSIBLE PARTY_____

NATURE OF COMPLAINT: large area of recent rubbish found ADDRESS_____

PHONE#_____

PHOTOGRAPHS TAKEN: ✓ SAMPLE#_____

FINDINGS: Request from Deputy Fire Chief Bart Devine for response after a large area of track was found indicating the possibility of recent illegal dumping.

Inspection disclosed track site the size of about one acre surrounded by a rim of soil which appears to have been done with a bulldozer. Track may have been exposed by bulldozer or illegally dumped. (Photographs taken)

Surface brush fire was completely extinguished although evidence of underground fire was observed.

Supervisor Signature

Investigator Signature

CAA000018

Office Use Only

File_____Comp._____Log

LEVEL 1 - 7 OF 10 STORIES

17.

The Record

May 28, 1992; THURSDAY

SECTION: NEWS; 3 Star
ALSO IN 2 Star B, 1 Star Late, 1 Star Early; Pg. C03

LENGTH: 380 words

HEADLINE: KEARNY DUMP OK'D AS BULK WASTE SITE

BYLINE: John Mooney, Record Staff Writer

DATELINE: LYNDHURST

BODY:

In the face of community opposition, the Hackensack Meadowlands Development Commission on Wednesday narrowly approved the use of a 100-acre Kearny landfill as a regional disposal site for bulk waste.

Following the HMDC's 3-2 vote and months of debate, the proposal now goes to the state Department of Environmental Protection and Energy for final approval.

The project would start with a permanent closing of the defunct Keegan landfill off Bergen Avenue and construction of the new trash operation on top of the sealed dump.

The site would serve North Jersey, accepting construction debris and other bulk waste, including materials like brick and concrete that cannot be burned or recycled. Officials said it would save disposal costs for communities that now must have the trash trucked out-of-state.

On Wednesday, the HMDC stressed the environmental benefit of the plan, saying the landfill in its current state has polluted nearby marshes since it stopped accepting trash a decade ago.

"The commission's position has been pretty clear," said HMDC spokesman Robert Grant. "This is an opportunity to properly close the property and keep pollution out of the Kearny Marsh, and to do that, we need a source of funds."

The price tag for the project, which also includes the closing of a second Kearny landfill, will be more than $ 100 million, and will be funded by the new operation's tipping fees, said Thomas Marturano, the HMDC's solid waste director.

"The whole idea is to do this without any tax dollars," he said.

But in public hearings, dozens of Kearny residents have vehemently opposed the plan, saying the township no longer wants the region's trash or the hundreds of trucks a day that carry it.

A commercial complex was proposed for the site but would now be lost, the developer and officials have said.

"We are going to take all legal actions we can to fight this," said Kearny Mayor Kenneth Lindenfelser, alluding to a planned lawsuit and continued opposition before the state.

The HMDC would buy the landfill from Kearny, relieving the town of all legal liability, officials said. In addition, the commission says it will pay Kearny $ 2 million for playing host to the center.

LANGUAGE: English

LOAD-DATE: October 9, 1995

LEVEL 1 - 6 OF 10 STORIES

18.

The Record

December 8, 1992; TUESDAY

SECTION: NEWS; 3 Star
ALSO IN 2 Star B, 1 Star Late, 1 Star Early; Pg. B01

LENGTH: 738 words

HEADLINE: N.J. GIVES FIRST OK FOR REVIVAL OF DUMP;
HMDC SEES $ 500M SAVING

BYLINE: DAVID VOREACOS, Record Staff Writer

BODY:
A plan to develop an inactive Kearny dump into a regional landfill and recycling center for non-burnable waste has received preliminary approval from state regulators.

The Hackensack Meadowlands Development Commission estimates that the landfill could save North Jersey counties $ 500 million in disposal costs over the next two decades.

The HMDC's plans for the **Keegan landfill** drew stiff opposition from Kearny residents early this year. They opposed any new landfill activities and the truck traffic that goes with them. The dump lies in an industrial area near Route 280, the New Jersey Turnpike, and the Hackensack River.

The Kearny Council later "unequivocally" opposed the project and favored commercial development there instead.

The landfill would take 1,500 tons of bulk waste that is currently shipped out of state each day. It also would recycle 300 tons of construction debris daily.

The HMDC would first have to close the Keegan landfill, which is leaching into nearby marshes a substantial flow of pollution from its 100 acres. That cleanup is projected to cost more than $ 60 million over two decades. The new landfill would be atop the Keegan dump.

The state Department of Environmental Protection and Energy approved the concept last week but questioned the HMDC's financial analysis and said the HMDC would need permits based on far more detailed information.

"The HMDC proposal... represents significant positive benefits locally and to the state," DEPE Commissioner Scott Weiner wrote. "At the local level, existing sources of pollution would be remediated."

Weiner said that the recycling facility would further New Jersey's goals of recycling 60 percent of its waste. It would also help the state dispose of all of its waste within its own borders at a time when landfills are closing.

"This facility can be a cornerstone to solving the state's deficiencies in disposal capacity, thereby greatly reducing our dependence on out-of-state landfills," he wrote in a nine-page opinion.

However, Weiner questioned the HMDC's projection that it would charge $ 75 per ton to dump at the new landfill, a rate that he said "does not appear to be sufficient to cover all of the facility's costs."

Beyond spending more than $ 60 million in the next 20 years on sealing and maintaining the Keegan landfill, the HMDC wants to spend more than $ 60 million to close and maintain another Kearny dump known as the 1-D Landfill. It also wants to buy and protect 320 acres of marsh around the Keegan landfill.

To finance the project, the HMDC would issue bonds that would probably be repaid through funds generated by tipping fees, said spokesman Bob Grant. Officials estimate it would be two years before the facility could be opened, and that it could operate for at least a decade.

Weiner's opinion does not address the 1-D Landfill plan, but does note some of the environmental hazards at Keegan, which has not accepted trash for 20 years but remains uncovered.

The HMDC has estimated that the landfill, most of which is owned by Kearny, discharges 65 million gallons of tainted water annually into the Kearny freshwaster marsh and **Frank's Creek**, which drains into Newark Bay.

Underground fires, fed by methane, plague the site, which is full of hazardous materials. A 1989 report prepared for the U.S. Environmental Protection Agency found the presence of mercury, lead, chromium, and polychlorinated biphenyls (PCBs) on the site.

However, the dump remains accessible, and people continue to hunt and fish there, according to the HMDC. The HMDC is charged with promoting development, environmental protection, and waste management in a 32-mile district.

Under its plans, the HMDC would install an underground system that would collect the escaping leachate and ultimately pipe it to a sewage plant.

Though opposed in Kearny, the HMDC's plans are backed by the Bergen County Utilities Authority, which could lower its garbage costs by using the Kearny facility.

"At some point, we have to come to grips with being sincere about in-state self-sufficiency with waste," said BCUA Executive Director Larry J. McClure.

McClure said he also hopes that the Kearny facility would cover new waste with chemically stabilized sludge produced at the BCUA's sewage plant.

LANGUAGE: English

LOAD-DATE: October 7, 1995

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Journal photo by Scott Lituchy

Workers from Cali Safe Environmental Service, of Kearny, move dirt and extinguish underground fires at the old Keegan dump in Kearny.

Kearny appoints task force to investigate landfill fires

By Gabriel Ondetti
Journal staff writer

KEARNY — As a private contractor works to snuff out subterranean fires scattered across the old Keegan landfill, town officials are mulling ways to end a chronic surface fire hazard at the site.

Officials are unsure whether the underground blazes are the result or the cause of a number of surface fires that have erupted at the dump over the last two weeks, beginning with a two-alarm blaze on July 18.

Keegan has been the site of numerous fires in the past and, on Monday, the Town Council formed a task force to try to put an end to the problem.

While some residents complained about smoke drifting from the landfill last week, the smoke had largely dissipated by Wednesday afternoon. Health officials who monitored the situation said levels of potentially toxic gases never approached dangerous levels in residential areas.

"We really haven't found any serious levels of any of those compounds," said Bob Ferraiuolo, director of the Hudson Regional Health Commission.

Town firefighters responded to brush fires at Keegan on July 18, 20 and 29 and to a report of an underground blaze on July 25. Both the July 18 and 29 fires went to two alarms.

The lack of fire hydrants at the dump, located at the foot of Bergen Avenue, prevented firefighters from doing much more than waiting for the fire to burn out and trying to control its expansion, said Deputy Fire Chief Leo Balatsos.

"We let burn what we couldn't reach," Balatsos said.

Cali Safe & Environmental Services Inc. was brought in last Friday to try to put out what Balatsos called "deep-seated spot fires." This week, they continued to dig up underground fires and flood them with water pumped from natural sources in the Meadowlands.

Company President John Cali said it would take three to four weeks to ensure the fires are fully extinguished. About 80 percent of the landfill's surface area will have to be turned over and saturated with water, he said.

Ferrioula, who visited Keegan Wednesday, predicted that the smoke problem would be essentially eliminated by today. Cali officials, however, did not return calls for comment.

Keegan has not been used for dumping for several years. When the dump was built, more than four decades ago, contemporary guidelines had not been developed for safe waste disposal, said Mike Beard, the town's chief sanitary inspector. "It's not a landfill, it's a dump," Beard said.

Items such as asbestos, tires and household waste were all piled together, instead of being separated as they are now, thus increasing the potential for underground fire, he said.

Balatsos said he suspected youths riding motorbikes over the landfill may have set off the latest round of blazes, but he was not sure.

Councilwoman Barbara Thompson, a member of the task force formed Monday, said the group was "investigating different options" about how to address the fire hazard at Keegan. Meanwhile, the council has approved an emergency appropriation of up to $250,000 to pay for Cali's services.

The Hackensack Meadowlands Development Commission approved a plan last year to seal Keegan and operate a new dump on top of it. That plan, however, has not been put into effect.

CDM Camp Dresser & McKee

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Report

Hackensack Meadowlands Development Commission

Preliminary Environmental and Health Impact Statement for the Materials Handling Complex at the Former Keegan Landfill

Kearny, New Jersey

June 1995

CAA000024

CDM Camp Dresser & McKee

environmental services

Raritan Plaza 1, Raritan Center
Edison, New Jersey 08818
Tel: 908 225-7000 Fax: 908 225-7851

June 6, 1995

Mr. Thomas R. Marturano, Chief Engineer
Hackensack Meadowlands Development Commission
One DeKorte Park Plaza
Lyndhurst, NJ 07071-3799

Subject: Final PEHIS for Materials Handling Complex
at the former Keegan Landfill

Dear Mr. Marturano:

Attached please find Camp Dresser & McKee's Final PEHIS for the proposed Materials Handling Complex at the former Keegan Landfill. This report is structured per NJDEP's Solid and Hazardous Waste Management Regulations for preparation of a PEHIS, at NJAC 7:26-2.9(f).

It has been a pleasure assisting HMDC on this project. We would like to express our appreciation to you and the HMDC staff, especially Chris Dour, Ed Konsevick and Ken Scarlatelli, for providing invaluable information and input during the course of the project. Please contact me if I can be of further assistance.

Sincerely,

CAMP DRESSER & McKEE

William E. Cesanek, AICP, P.P.
Project Manager

cc: H. Boucher, CDM
A. Capuzzi, CDM

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Executive Summary

The Hackensack Meadowlands Development Commission (HMDC) proposes to construct and operate a Materials Handling Complex in Kearny, Hudson County, New Jersey. This facility will consist of a non-processible materials landfill and a construction/demolition recycling facility on the site of the former Keegan Landfill. The former Keegan Landfill is located on land which is primarily owned by the Town of Kearny. This Preliminary Environmental and Health Impact Statement (PEHIS) addresses the landfill portion of the project.

Key to the development of this non-processible landfill is the long-term environmental remediation of the former landfill operation on the site. Therefore, background information about the former landfill operation is an important component of this PEHIS.

HMDC has designated certain blocks and lots for this facility which cover a total of 421 acres. HMDC solid waste landfilling operations, however, will be limited to the approximately 110 acre former Keegan Landfill tract. The remainder of the site includes the Kearny Freshwater Marsh. The Kearny Freshwater Marsh will benefit directly by the remediation of the former landfill through construction of a perimeter leachate collection system, a confining cutoff wall and wetlands mitigation. Leachate will be prevented from discharging to the surrounding area by the perimeter collection system. Controlling existing leachate discharges to surrounding marshes will positively impact the local environment by improving water quality and wildlife habitat. In addition, excess revenues from the proposed facility will be used to close the currently inactive MSLA 1-D Landfill. Similar environmental benefits will be realized as a result of the closure of MSLA 1-D.

The Town of Kearny, as the majority property owner of the Keegan site, will experience positive economic and fiscal effects as a result of benefits from both the remediation and operation of the proposed landfill. Specifically, HMDC will assume all closure and post-closure liability for the site. These costs have been estimated by HMDC to exceed $60 million. In addition, the Town will realize a minimum of $2 million per year in host community benefits. Further, the financial liability that HMDC would assume for the closure and post-closure at the abandoned MSLA 1-D landfill will be approximately the same as that for the Keegan site.

The marsh will also be part of the reuse plan for the landfill at post-closure. The landfill will be vegetated at post-closure to provide habitat compatible with uplands adjacent to the wetlands.

The Keegan Landfill operated from the late 1940s until 1972. During that time, the site accepted a variety of wastes including municipal, industrial, construction, and demolition debris. These operations predated environmental regulations, and thus there were no measures taken to control the spread of pollutants into the environment. Soon after HMDC was created by the New Jersey Legislature in 1969, it began to limit the expansion of all landfills in the Hackensack Meadowlands District. This included the expansion of the Keegan Landfill farther into the surrounding Kearny Freshwater Marsh.

A 1989 study for the United States Environmental Protection Agency by the NUS Corporation Superfund Division indicated that the Keegan site was ranked medium priority for cleanup. NUS recommended that the site be fenced to prevent access and that at least two feet of clean fill be placed over the entire site. To date, none of these recommendations have been implemented. The site has had numerous underground fires over the years(one fire resulted in the closure of a nearby New Jersey Turnpike toll plaza), and significant efforts were required by the Town Fire Department and contractors hired by the Town to extinguish these fires.

In the twenty years since the landfill ceased operating virtually no remedial work has been performed primarily because of the prohibitive cost involved. In order to raise the money to perform the environmental improvements, HMDC is proposing that a non-processible materials landfill be operated on top of the former Keegan Landfill, an arrangement commonly referred to as a "piggy back" landfill. In conjunction with the landfill operations, HMDC will undertake a massive remediation of the site. The remediation will include extensive on-site geotechnical data collection. This will form the basis for the design of a perimeter cutoff wall and leachate collection system. The key features of the design will be a soil-bentonite (clay) cutoff wall that will encircle the site and be "keyed" into the existing underlying clay soils. The leachate collection system, which consists of a perforated pipe and gravel trench (essentially a french drain), will be located inside the cutoff wall and a minimum of two feet below the level of the Kearny Marsh. This design insures that the head of water is always higher outside of the cutoff wall than the inside. The state-of-the-art design is known as an "in-flow landfill". This design has been widely used in landfills throughout the world, including three sites in the Meadowlands. A new force main will be built to convey leachate from the facility to the 1-A Landfill east of the site. Another new force main from the 1-A Landfill to the Kearny South Pump Station will permit the leachate to be sent to the Passaic Valley Sewerage Commissioners (PVSC) facility for treatment through the Kearny Municipal Utility Authority (KMUA) sewerage system.

Additional perimeter improvements will be constructed that include runoff control, sedimentation basins to prevent the discharge of stormwater-borne sediments into the Kearny Freshwater Marsh, and controlled outfalls at strategic locations around the site.

The non-processible materials that are proposed to be accepted at the landfill are wastes that are now mostly being transferred out of state. It is anticipated that this facility would be available to 5 or 6 counties in Northern New Jersey. The non-processible wastes are not recyclable, and cannot be burned at a resource recovery facility. Included in this waste category are sheetrock, non-recyclable plastics, industrial and commercial residuals, treated lumber, asbestos, etc. No putrescible (household) wastes will be accepted.

Based on current regulations, the site will accept waste only from New Jersey sources. All wastes would be covered on an interim basis in accordance with applicable regulations, and a final cover will be spread over the entire site at closure.

In 1995, HMDC, in conjunction with CDM, conducted an environmental data collection program at the former Keegan Landfill site. This included noise and water quality sampling. Based on data collected at the site for this PEHIS, the assessment characterized the significant beneficial and adverse impacts to the following environments: physical/chemical, biological/ecological,

cultural and socioeconomic. This analysis identified potential groundwater, surface water quality, wetlands, traffic, visual and recreational impacts both positive and negative. Beneficial impacts are expected for the site and surrounding environment, including the Kearny Marsh, due to remedial measures designed to improve water quality. Traffic impacts will be minimized by the use of Harrison Avenue for site access. The 100 foot elevation of the landfill at completion will have a minor adverse impact on the visual aesthetics of the area. Because of the large buffer areas and physical distance of separation, adjacent recreational facilities will receive only minor impacts from noise and fugitive dust emissions.

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Section 1
Site Description and Site Design

The proposed non-processible landfill consists of 110 acres of a 421-acre tract located on Bergen Avenue in the Town of Kearny in Hudson County, New Jersey (Figure 1-1). The landfill is proposed for Block 205, Lots 18, 19, 24, 27, 28, 29, 30, 31, 32, and 33. The current site conditions are shown on Figure 1-2 in relation to these block and lots. In addition to the landfill, HMDC also proposes to include a construction/demolition debris recycling operation on a portion of the site adjacent to Bergen Avenue.

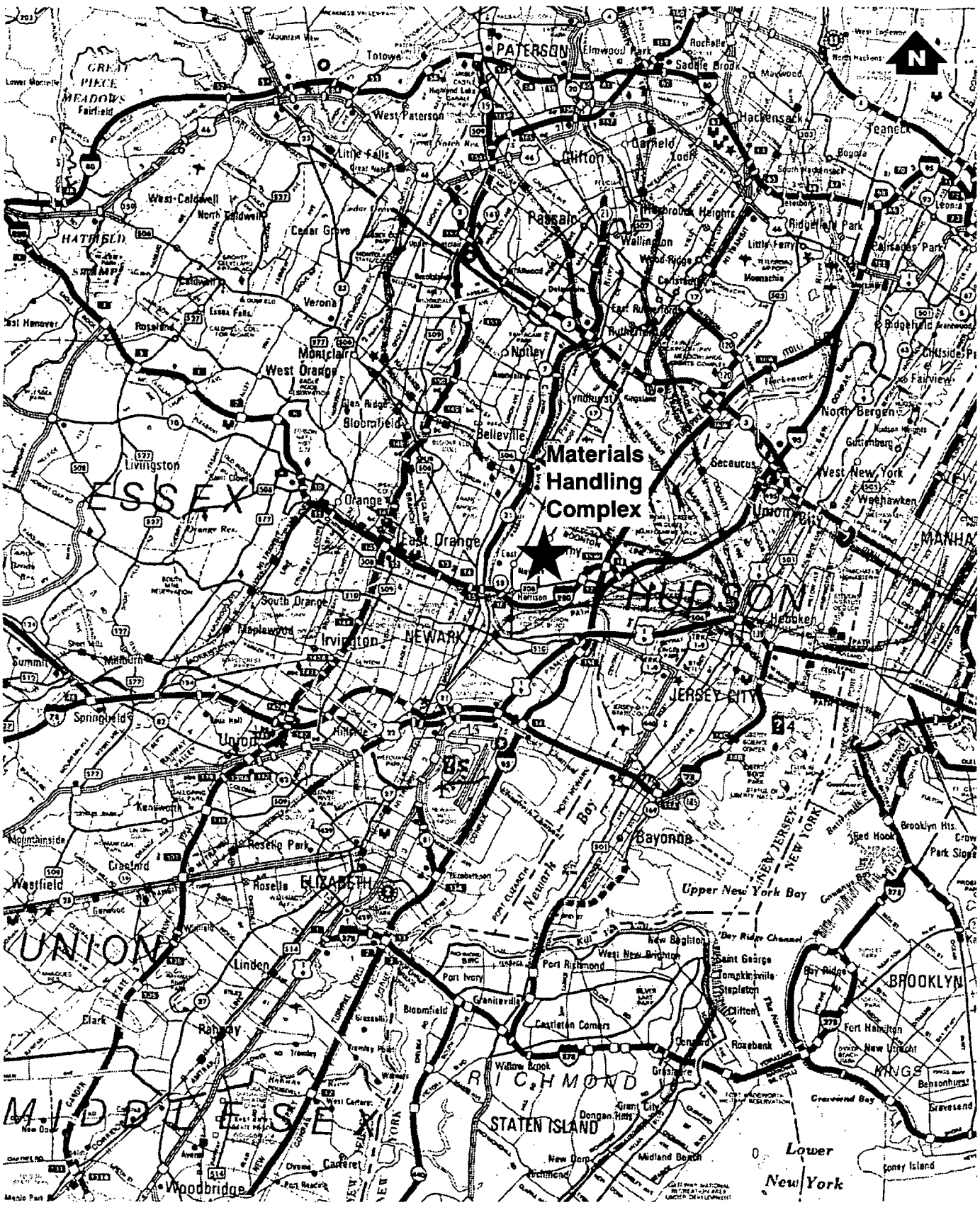
On December 2, 1992, the New Jersey Department of Environmental Protection (NJDEP) certified the amendment to the Hackensack Meadowlands Development Commission (HMDC) Solid Waste Management Plan that provides for the siting of this facility. At that time, NJDEP stated that "This proposed facility represents a significant initiative in reducing the state's dependence on out-of-state landfills and in remediating previously closed landfills."

On October 30, 1993, NJDEP approved a subsequent certification to HMDC's Solid Waste Management Plan that addressed then Governor Florio's Task Force Recommendations on solid waste. This required that HMDC specifically address efforts towards regionalization. The cornerstone of these regionalization efforts is HMDC Materials Handling Complex, which consists of the non-processible landfill and the construction/demolition debris recycling facility at the former Keegan Landfill. The NJDEP further stated that "...HMDC can and should play an active role in addressing the regional solid waste management needs of the northeastern counties of the State."

1.1 Site History

It is believed that the first landfill operations on the Keegan site were in the 1940's. However, the majority of the landfilling activities occurred in the 1960's and until 1972 when the site was closed to operations. The site was operated by the Municipal Sanitary Landfill Authority (a private company) as the MSLA 1-B Landfill, under a lease agreement with the Town of Kearny. This lease agreement basically permitted MSLA to landfill all of the Meadowlands area under the control of the Town with no environmental improvements and no financial assurances.

Because the landfill ceased operations prior to the State Solid Waste Management Act, the operator/owner was not required to construct environmental improvements. Consequently, leachate is being discharged from the site at a estimated rate of 65 million gallons per year based on rainfall data, site acreage, etc. This leachate enters either Kearny Freshwater Marsh, or Frank's Creek which bisects the site and flows south to Newark Bay. Frank's Creek has often been described as an open sewer that varies in color and odor. Earlier reports by the NUS Corporation indicated chromium contamination of the Creek, which would account for a yellow staining of the water. Leachate seeps are also evident along the banks of the Creek and the perimeter of the site.



CDM Camp Dresser & McKee

Figure 1-1
Site Location Map
HMDC Materials Handling Complex - PEHIS

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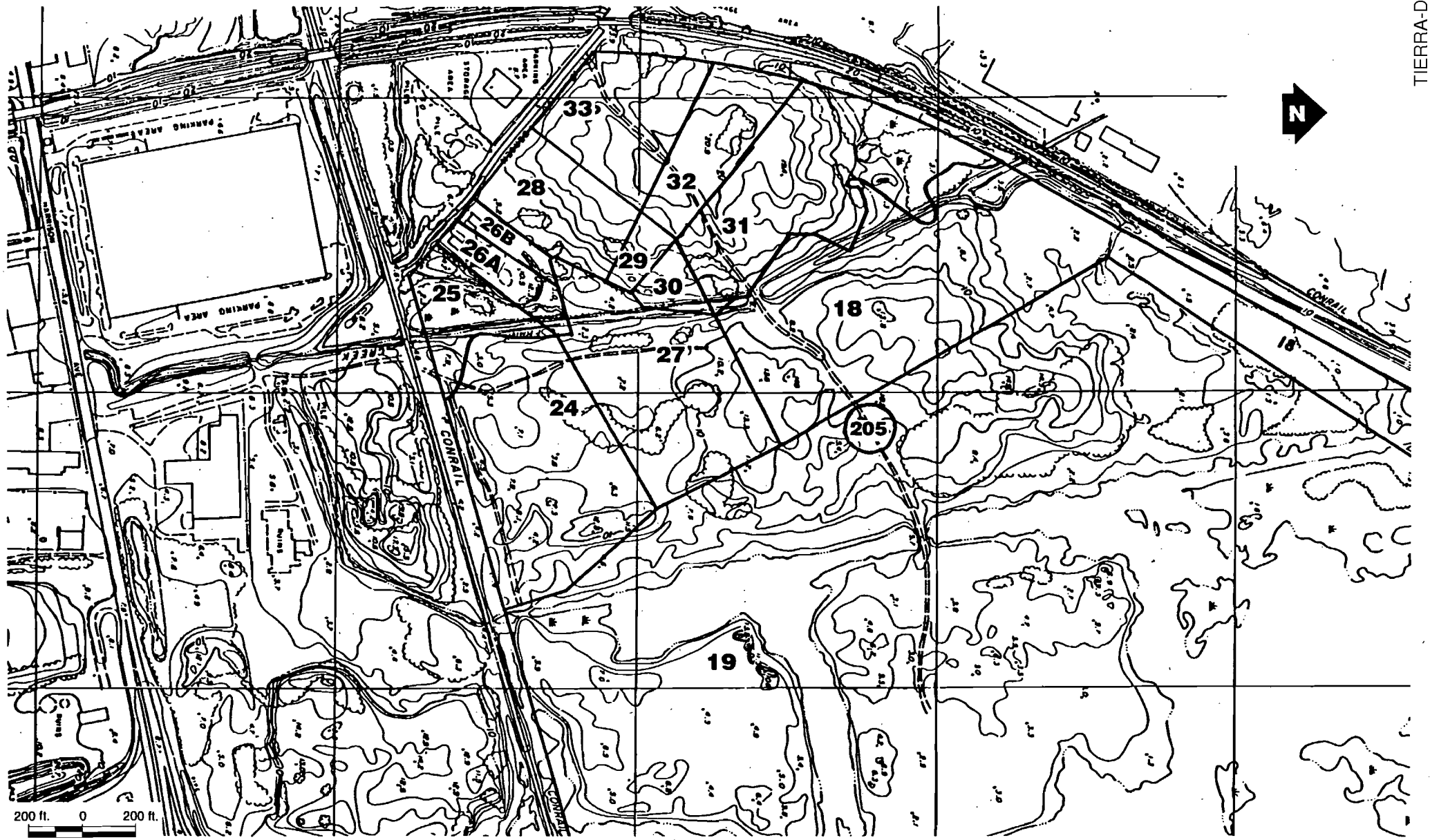

Block 205, Lots 18, 19, 24, 27, 28, 29, 30, 31, 32 and 33

Figure 1-2
Facility Block and Lots
HMDC Materials Handling Complex - PEHIS

CDM Camp Dresser & McKee

Further, the site has been plagued with underground fires several times a year since the site ceased operations. This resulted in the closure of a nearby turnpike toll plaza during one event. More recently, the Town spent a considerable amount of money covering a large area with soil to stop an underground fire.

A September 29, 1989 report prepared by the NUS Corporation/Superfund Division for the United State Environmental Protection Agency indicated the presence of mercury, lead, chromium, polychlorinated biphenols (PCB's) and several semi-volatile compounds in various sediment samples. Mercury, lead, and chromium were also detected in surface water samples collected in Frank's Creek at that time.

Also noted in the NUS report was that a member of the Kearny Police Department had worked as a truck driver for DuPont Chemical in Newark in the 1960's. He reported that every morning, at least one truck with approximately forty 30-gallon drums went to the Keegan Landfill. These wastes included chromate and bichromate slurry, pigment wastes, and other organic wastes. However, during follow-up site investigations by NUS, no drums were found.

The NUS summary report concluded that the site poses a potential threat of contamination to surface waters. Even 20 years after the waste disposal occurred, downstream water and sediment samples indicate concentrations of chromium significantly greater than upstream samples. NUS also indicated that there was potential for direct contact with hazardous substances on the site, and they recommended that the site be fenced and covered. However, no site controls were put in place by the Town. At many times of the year, people are seen either hunting or fishing on the site. Further, there is significant evidence of illegal dumping throughout the site.

A July 2, 1987 letter from NJDEP to the Town of Kearny required the preparation of a landfill closure plan. At a minimum, this plan was to include the application of 24 inches of final cover, proper grading, slope stabilization, and seeding, and development of provisions for groundwater monitoring. Fire access roads were also to be constructed. Periodic patrols and/or fences were also to be put in place. None of these requirements have been implemented.

1.2 Ownership

The majority of the site is owned by the Town of Kearny (384 acres), with the remainder of the site in private ownership. Hudson Meadows Urban Development Corporation also has a leasehold interest on all of the Kearny-owned land, as well as having direct ownership of about 34 acres. The total area that HMDC has previously designated by Block and Lot is 421 acres. Of that amount, 110 acres are proposed for landfilling. The remaining acreage is the Freshwater Marsh, which will ultimately be incorporated into the reuse of the site as a passive wildlife refuge.

1.3 Site Design

The proposed landfill would be created above the existing Keegan Landfill. The preliminary site plan shown on Figure 1-3 shows post closure topography, the proposed access route and the location of on site facilities. The goal is to remediate the old landfill, thereby containing and controlling the existing pollutants from the site, while providing a much needed non-processible

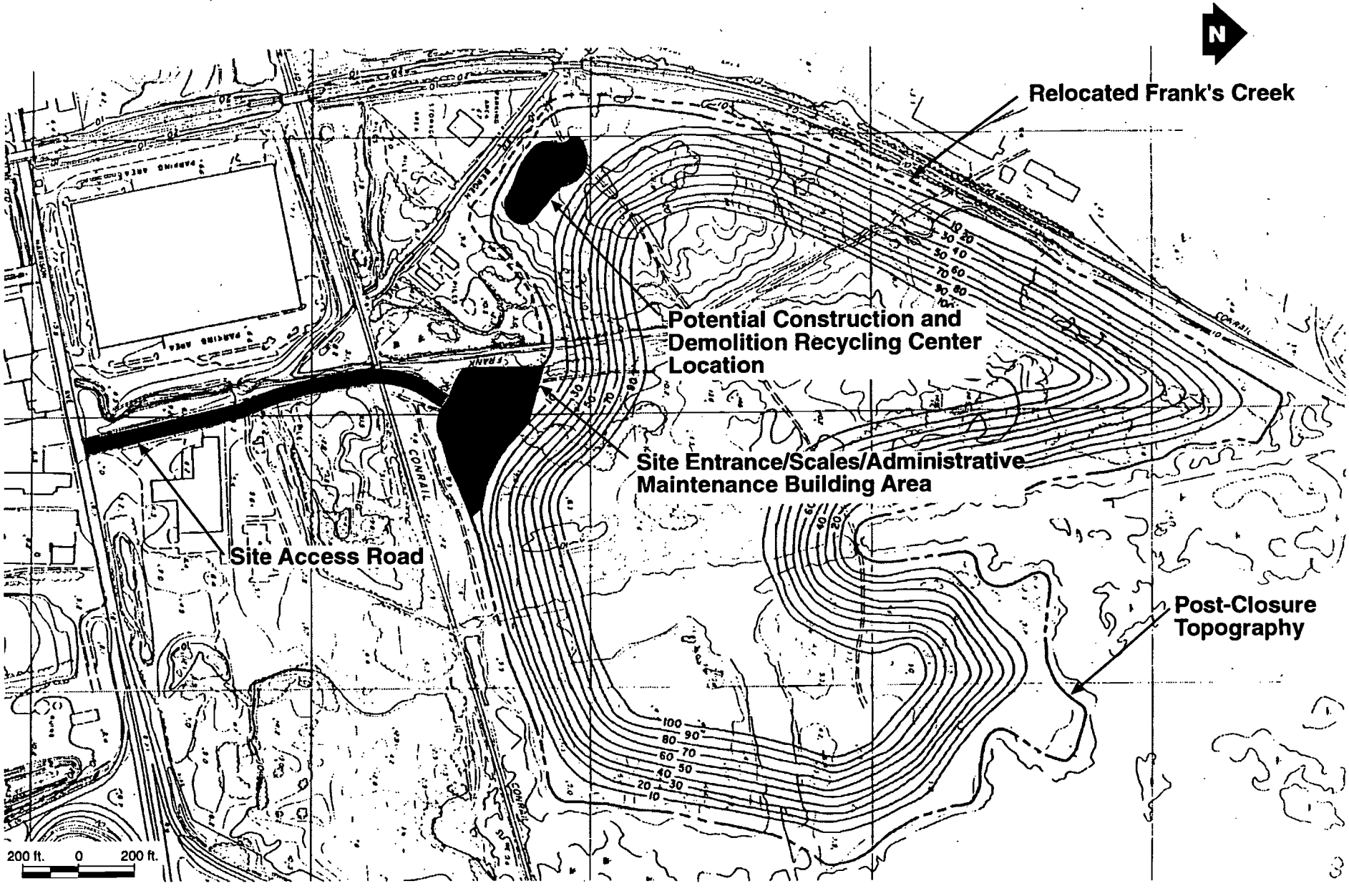

Figure 1-3
Preliminary Facility Design
HMDC Materials Handling Complex - PEHIS

CDM Camp Dresser & McKee

TIERRA-D-000412

materials landfill for the region. The funds for closure and post-closure will be generated through the tipping fees collected during the operation of the landfill. In addition, HMDC has proposed that surplus funds collected from the tipping fees be used to provide for the closure of the MSLA 1-D Landfill (See Figure 2-1). The MSLA 1-D site, also owned by the Town of Kearny, generates a significant amount of leachate. Within the limits of the MSLA 1-D site, there is an encapsulation (clay-lined "vault") that contains solid waste saturated with waste oil from the former Diamond Head Oil cleanup for New Jersey Route 280. This material was placed by the NJDOT in the site in the late-1970's. This site poses a serious environmental threat to the area and a major economic impact to the Town of Kearny if the Town were required to fund the remediation.

The former Keegan landfill operation occurred on approximately 110 acres along the western boundary of the Kearny Freshwater Marsh. The remediation of the site, and preparation for the proposed landfill operations will include a perimeter soil-bentonite cutoff wall that will hydraulically isolate the landfill from the Marsh. As with the other cutoff walls constructed by HMDC in the District, it is expected that the wall will be about 3 feet thick, have a permeability of less than 1 x 10-7 cm/sec, and extend into a confining in-situ clay layer beneath the landfill. A new force main will convey leachate to the 1-A Landfill east of the site. A second force main to be built from the 1-A Landfill to the South Kearny Pump Station will permit leachate flow to the PVSC Wastewater treatment plant.

Perimeter stormwater runoff controls would include retention/siltation basins, controlled outfalls with tide gates, piezometers to monitor the hydraulic gradient on either side of the cutoff wall, and a maintenance access road.

Access to the site will be from an improved paved road south of the landfill to Harrison Avenue. Currently, access to the site is from unimproved portions of Bergen Avenue. Access to the landfill from the west along the Bergen Avenue entrance will be closed. The portion of Bergen Avenue, from Harrison Avenue to the landfill, will be improved to Town specifications. This newly paved road will provide the only access to the site. Once on the property, vehicles will be directed to a scale house where the waste will be weighed and screened to determine waste origin and waste type. From there, waste will be directed onto the landfill according to the waste type.

For example, asbestos-containing waste will be directed from the scale house to a separate disposal location. A separate asbestos disposal area will be identified because there are specific operational requirements for asbestos disposal, including more aggressive cover operations than regular landfilling. All asbestos waste deliveries are scheduled at least 10 days in advance and are approved by the site engineer. Copies of the paperwork are forwarded by the generator to federal and state offices.

The remainder of the acceptable wastes will be directed to the main working face for disposal. Bulky materials will be limited in size to allow for better compaction. Any unacceptable wastes that are dumped at the working face will be segregated and removed by the hauler, or through controlled measures. No liquid wastes will be accepted. Permitted waste types, per NJDEP definitions, will include:

- Type 13 - Bulky Wastes;
- Type 27 - Non-Hazardous Industrial Wastes (non-recyclable wastes including contaminated soils).

These materials will be covered in accordance with the regulations at the end of the day. Areas that will not have additional fill for more than 24 hours will be covered by one (1) foot of cover material. Further, areas that will not receive additional solid waste for more than six (6) months will have 24 inches of cover material applied.

Site security will include guards during non-operational hours, as well as fencing and control points, such as gates, where needed. The landfill will operate six days per week, holidays and Sundays excluded. Hours will be from 6:00 a.m. to 4:30 p.m. Monday through Friday, and 6:00 a.m. to 3:00 p.m. on Saturdays.

The closure of the site will include additional soil placed above areas that have reached final elevation. Sufficient soil will be applied to establish a vegetative cover to control erosion and improve site aesthetics. Because this landfill will not accept putrescible waste, it is not anticipated that a landfill gas recovery program will be required.

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Section 2
Environmental Inventory

In Section 2, environmental data is presented for the proposed landfill site and for the general area one mile from the site boundary. The environmental inventory serves as a point of reference from which to evaluate the environmental impact of the proposed facility. The information is based on site visits, previous studies conducted for the subject property and the Hackensack Meadowlands District (District), data provided by government agencies and results from field sampling.

This PEHIS focuses on both localized site specific issues and more generalized regional environmental impacts. The environmental inventory consists of the following four categories and their respective parameters:

I. Physical/Chemical: geology, soils, subsurface hydrology, water bodies, tributaries, additional water bodies, topography, climate, ambient air quality, and ambient acoustical conditions

II. Biological/Ecological: plants, mammals, birds, reptiles and amphibians, fish, endangered, threatened or rare plant or animal species, unique, critical, or unusual habitat, site visit description, and ecosystem evaluation methodologies

III. Cultural: recreational activities, aesthetics, areas of historical and archeological importance

IV. Socioeconomic: transportation facilities, sewage facilities, stormwater management systems, water supply, energy supply, demography, property values, public services, community and residential dwellings

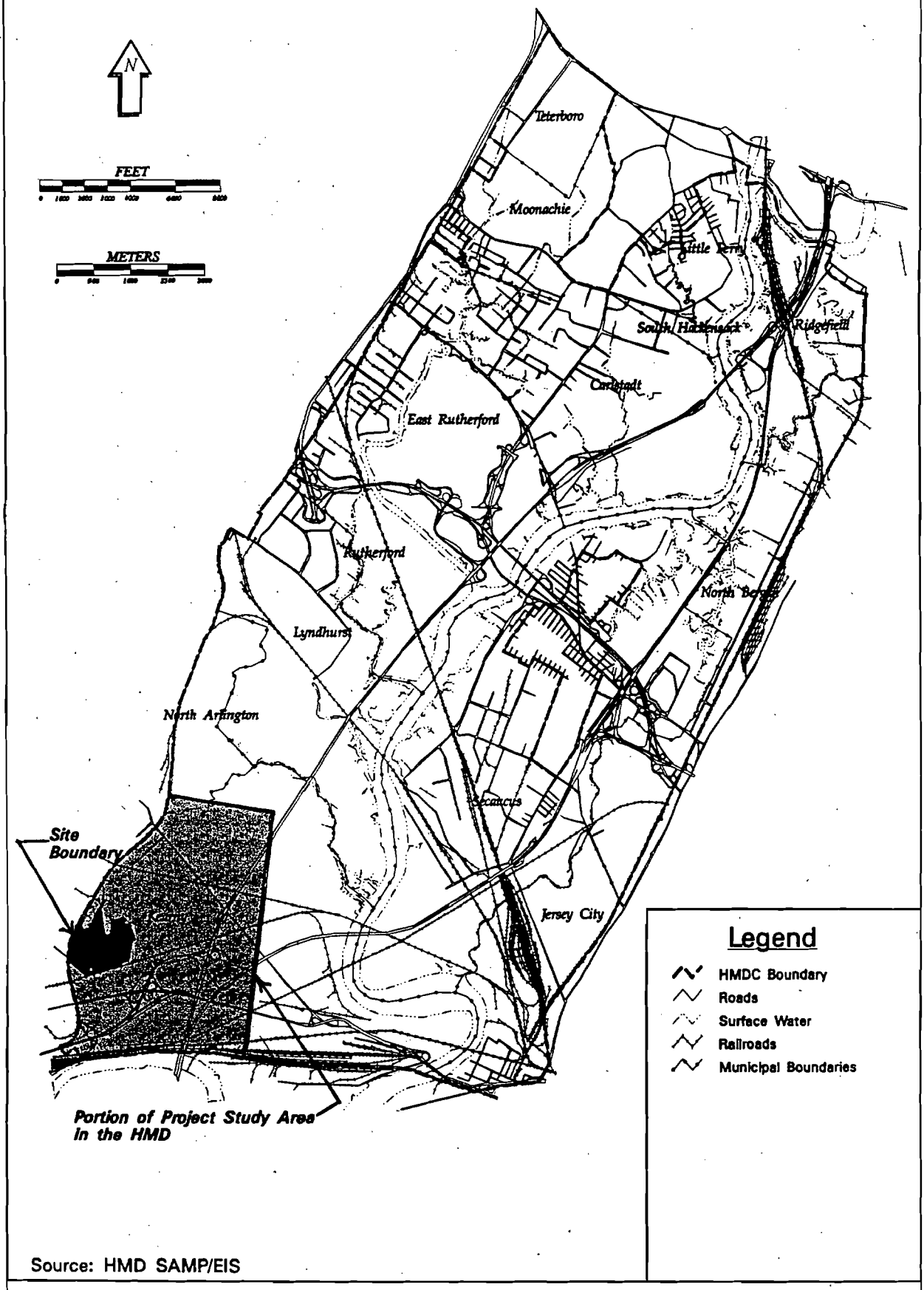
A primary project study area has been defined in order to guide the description of the existing conditions and the investigation of impacts resulting from the proposed project. The study area encompasses the region in which significant environmental impacts occur for most parameters; however, its borders have been adjusted slightly to correspond to well-established physical boundaries. These boundaries enclose the area within approximately a one mile radius of the boundaries of the proposed project site. HMDC has identified the location of the facility as the site of the former Keegan Landfill, comprising a total of 421 acres. The project study area and project site boundary is shown in Figure 2-1. Figure 2-2 locates the project study area and the site within the District.

The analysis of the environmental impacts of the preferred alternative is presented in Section 3 of the Preliminary Environmental and Health Impact Statement.

Source: USGS 7.5 minute Quadrangle maps:
Orange, Weehawken, Elizabeth and Jersey City

CDM Camp Dresser & McKee

Figure 2-1
Project Study Area
HMDC Materials Handling Complex - PEHIS



Source: HMD SAMP/EIS

Figure 2-2
Site Location within
Hackensack Meadowlands District

2.1 Physical/Chemical Environment

2.1.1 Geology

The site of the proposed facility is situated in a glacially eroded trough formed during the late Wisconsonian glaciation (Agron, 1980). The Hackensack Valley is part of the Newark Basin of the Newark Supergroup. The part of the Newark Basin in the Meadowlands, formerly considered part of the Brunswick Formation, has been redefined by Olsen as the Passaic Formation. The Passaic Formation consists chiefly of red siltstones and sandstones and conglomerates, and dates from the Carmian Sinemurian (Late Triassic) age (Olsen, 1980). The Passaic Formation reaches a maximum thickness of 6,000 meters. The Newark Basin trends from southwest to northeast across New Jersey from Mercer County to Bergen County at a width of 20 to 30 miles.

The results of a recent study of the subsurface conditions within the site boundary done by Melick-Tully and Associates, Inc. are presented below (Melick, 1987).

"**Subsurface Conditions:** The subsurface conditions encountered in the explorations performed for this preliminary study were relatively uniform, and consisted of the following generalized strata in order of increasing depth:

1) Fill consisting primarily of trash containing wood, glass, newspapers, rags, organic materials and other refuse was encountered at each of the sites. However, several of the test pits performed also encountered fill materials consisting of silty sands and sandy silts containing varying amounts of wood, concrete fragments, bricks and other demolition debris. The fill materials encountered in the explorations were found to vary from 8 to more than 17 feet in thickness.

2) Dark brown peat was encountered beneath the surficial fill materials in the majority of the explorations. This material was soft and compressible and varied from approximately 1 to 4 feet in thickness, where encountered.

   Dark gray and black organic silt was encountered in the previously performed test borings and in several of the test pits. This material was soft in consistency and reportedly extended to depths of up to 23 feet below the ground surface in the test borings previously performed by others.

3) Gray sandy silt and silty sand was generally encountered beneath the organic soils and ranged from 7.5 to 36 feet in thickness. This material was generally firm in consistency.

4) Gray and red-brown varved silt and clay with occasional layers of fine sand and silt was encountered below the silty/sandy soils of Stratum 3. The varved soils varied from very soft to stiff in consistency and ranged from 34 to 100 feet in thickness.

5) Dense to very dense clayey silt containing varying amounts of sand and gravel was encountered underlying the varved silts and clays. This material is locally referred to as "Glacial Till" and varied from 7 to 25 feet in thickness.

6) Red-brown shale bedrock was encountered beneath the glacial till soils. The surface of the shale was encountered in the borings performed for this preliminary study at depths ranging from approximately 90 to 150 feet below the existing surface grades. The available geologic mapping, and boring information from several other nearby projects, suggest that a subsurface valley may transect the site. As a result, depths to bedrock may be erratic over relatively short horizontal distances and may be as great as 200 to 250 feet below the ground surface in portions of the property."

2.1.2 Soils

Soil associations, as defined by the Soil Conservation Service (SCS), are landscapes that have distinctive proportional patterns of soils. SCS classifies the entire HMDC District as a single soil association—a tidal marsh having "low-lying organic and sometimes flooded soils along waterways." These soils are the result of 10,000 years or more of glacial action and the resultant erosion and deposition.

Soil series are soils that share substantially the same profile: the major soil horizons are similar in thickness, arrangement, and other important characteristics. Soil series are divided into "phases," which vary as to slope, surface layer texture, and other characteristics that affect the prospective use of the land. Soil phases are usually, but not always, equivalent to the mapping units, which are the soil areas shown on soil survey maps.

Kearny Marsh

The characteristic soil series in the Kearny Marsh include Udorthents Ub, Uc and Ud, which are all found on low-lying marine and estuarine deposits. Individual soil units are irregular in shape. Included in mapped areas are poorly draining mineral soils: sulfaquents and sulfihemists. Slopes for the soil types listed in Table 2-1 range from 0 to 5 feet.

The soil descriptions in Table 2-1 are drawn from the SCS Soil Survey of Bergen County (SCS 1989). The companion soils maps are the basis for the soil distribution analysis. The Hudson County section of the District was not surveyed by the SCS, but judging from aerial photography, the distribution of the predominant udorthent, urban land and tidal marsh soils in the Hudson County portion of the District is comparable to that of the Bergen County portion.

Former Keegan Landfill

The SCS issued a General Soils Map for Essex and Hudson Counties in June 1993 based on the statewide mapping. The characteristic soil series for this site include Urban Land; Boonton and Weathersfield. These soils are described as gently sloping to very steep, well drained and moderately well drained, very deep and deep gravelly loams formed in acid, reddish sandstone, shale, basalt and conglomerate glacial till over shale and basalt bedrock. These soils occur on upland glacial till plains and ridges. The discussion of the subsurface conditions in Section 2.1.1 provides additional information on the site soil conditions.

Table 2-1

Soil Series in the Hackensack Meadowlands District

Series Name	Size of Units	Composition	Current Use	Location in District
Ub - Udorthents, Organic Substratum	5 - 195 acres	Filled and smoothed or otherwise extensively distrubed to a depth of 3 feet or more. Fill material consists of relatively clean stone boulders and soil.	Supports railroads and unpaved service roads.	Small number of areas found along river banks and in drainage areas along raodways subject to daily tidal flooding
Uc - Udorthents, (Ud) - Urban Land Complex	5 - 310 acres	50% Ub, 36% Urban Land, 15% other soils. Clean fill to variable depths, smoothed and partially paved. Also included are very poorly drained Carlisle and Adrian units. Subject to daily flooding	Uses have been for residential, commercial and low-load paved surfaces	Largest areas are in the Turnpike meadow south of the Meadowlands Sports Complex. Other smaller sites found along the banks of Berry's Creek Canal.
Ud - Udorthents, Refuse Substratum	5 - 410 acres	Has been, or is being filled to a depth of 3 feet or more. Fill material generally consists of solid waste, refuse, and other non-soils. Limited amounts of soil material may have been added or incorporated with the dominant fill. Presumed to have been deep, poorly drained soils in low-lying areas.	Used for refuse disposal sites.	Many large tracts located in the southwest portion of the District. Comprises approximately 15 percent of the District.
Ue - Udorthents, Wet Substratum	5 - 180 acres	Extensively disturbed or filled areas to a depth of 3 feet. Fill material is generally clean fill of soil material with variable amounts of stone.	--	Occurs on upland estuarine deposits and flood plains. Buffer area around Teterboro Airport and other scattered recreational sites in the northern portion of the District
Uf - Udorthents, (Ue) - Urban Land Complex	5 - 20 acres	Shares characteristics of the other udorthents	--	Only appears on the runway at Teterboro Airport
Ur - Urban Land	5 - 750 acres	Nearly level or gently sloping. Typically cut or filled and covered with impervious surfaces (e.g., buildings, pavement) for over 85 percent of area. Identification of soils is not feasible because of the degree of alteration or obstruction by urban works.	Urban uses.	Covers roughly 35 percent of the District. Tracts around Carlstadt, with relatively recent construction, comprise the largest single Ur concentration. Remaining Ur is distributed along major roadway corridors and along the rim of wetland areas.
Tidal Marsh	--	Very poorly drained, having silty or mucky flats that are associated with estuarine systems, bays and coastal rivers. Low river velocity limits sediment-bearing capacity to predominantly fine-grained alluvial materials (clay and silt), which is trapped in dense marsh water during slack water. Together with detritus from marsh vegetation, captured material presently covers the tidal marshes to thicknesses ranging from 4 to 20 feet. Associated with microtopography, (0 to 2 percent slope and elevations of 0 to 5 feet mean sea level). Soils are almost continuously saturated and generally high in organic content.	--	From northern extent on the west bank and Losen Slote to the large Kearny marshes, the tidal marsh soil series dominates the District landscape. Covers almost half of the District. Much of the Hackensack shore forms an almost uninterrupted swath across the District. Only isolated areas are small tracts that surround Teterboro Airport.

Source: SCS Soil Survey of Bergen County

(tab2-1)

2.1.3 Hazardous Wastes

During the time the landfill operated from the 1940s to 1972, State and Federal regulations did not prohibit the disposal of hazardous wastes at a municipal landfill. Additionally, because the former Keegan Landfill ceased operations in 1972 prior to the State Solid Waste Management Act, the operator/owner was not required to construct environmental improvements to limit leachate production. Based on rainfall data, site acreage, depth of waste, type and depth of soil cover, etc. it is estimated that 65 million gallons per year of leachate is being discharged from the site and enters either Kearny Freshwater Marsh, or Frank's Creek which bisects the site and flows south to Newark Bay. For these reasons the United States Environmental Protection Agency (EPA) believed that not only was the subsurface soil contaminated by hazardous wastes but also surface water bodies were impacted by the leachate produced by the landfill. Consequently in 1989 the EPA contracted NUS Corporation (Superfund Division) to prepare a site inspection report on the former Keegan Landfill (NUS, 1989). The following narrative summarizes the results of this investigation:

> On April 25, 1989, NUS Corporation Region 2 FIT personnel collected seven surface water samples, six sediment samples at the Keegan Landfill Site. These samples were collected to detect the presence or absence of Target Compound List (TCL) substances, and the potential for these compounds to migrate off site. Results of this sampling indicate the presence of mercury, lead, chromium polychlorinated biphenyls (PCBs), and several semivolatile compounds in various sediment samples. Several inorganic compounds, including mercury, lead, and chromium, were detected in water samples collected in Frank Creek.

Sample results for the surface water and sediment samples are listed below in Table 2-2. Figure 2-3 shows the location of each sample.

The report's waste source description included chromate and bichromate slurry, pigment wastes, and other organic wastes, abandoned automobiles, appliances, and furniture, municipal putrescible waste and construction debris (still being disposed at the site).

Also noted in the NUS report was that a member of the Kearny Police Department had worked as a truck driver for DuPont Chemical in Newark in the 1960s. He reported that every morning, at least one truck with approximately forty 30-gallon drums went to the Keegan Landfill. These wastes included chromate and bichromate slurry, pigment wastes, and other organic wastes.

The NUS summary report concluded that the site poses a potential threat of contamination to surface waters. Downsteam water samples indicated concentrations of chromium significantly greater than upstream samples. The same could be said for the sediment samples taken along the creek. NUS also indicated that there was the potential for direct contact with hazardous substances on the site, and they recommended that the site be fenced and covered. However, no site controls were put in place. A July 2, 1987 letter from NJDEP to the Town of Kearny required the preparation of a landfill closure plan. At a minimum, this plan was to include the application of 24 inches of final cover, proper grading, slope

Table 2-2
Summary of Analyses for Sediment Samples and Surface Water Samples Taken at the Former Keegan Landfill (April 25, 1989)

Parameter/Unit	Sediment Sample			
	Sed 1	Sed 4	Sed 5	Sed 6
Phenanthrene ug/kg			5,300	4,800
Fluoranthene ug/kg			15,000	4,700
Pyrene ug/kg			9,600	3,500
Benzo (a) anthracene ug/kg			6,900	2,000
Chrysene ug/kg			7,300	2,400
Benzo(b)fluoranthene ug/kg			5,800	2,300
Benzo(k)fluoranthene ug/kg			3,700	1,100
Indeno (1,2,3-cd) pyrene ug/kg			3,200	1,600
Benzo(a)pyrene ug/kg			4,400	2,000
Benzo(g,h,i)perylene ug/kg			2,700	2,000
Aroclor - 1254 ug/kg	2,600 E		1,400E	4,200 E
Aroclor - 1260 ug/kg	2,400 E		1,600 E	
Mercury mg/kg	0.7	2.6	8.7	2.3
Lead mg/kg	305	1,020	1,180	479
Chromium mg/kg	13.3	93.6	114	116
	Surface Water Sample			
Parameter/Unit	SW-5	SW-6, SW-7		
Aluminum ug/L	2170 E	444 E, 467 E		
Barium ug/L	445	211, 212		
Chromium ug/L	21.6 E	4.6*, 4.2*		
Copper ug/L	95.2 E			
Iron ug/L	11,900	2550, 2630		
Lead ug/L	159	43.9, 42.8		
Manganese ug/L	484	224,220		
Mercury ug/L	.1.2			
Zinc ug/L	339	45.4, 47.7		

Source: (NUS, 1989)
* - estimated value, compound present below CRDL, but above IDL.
E - estimated value
blank space - compound analyzed for but not detected

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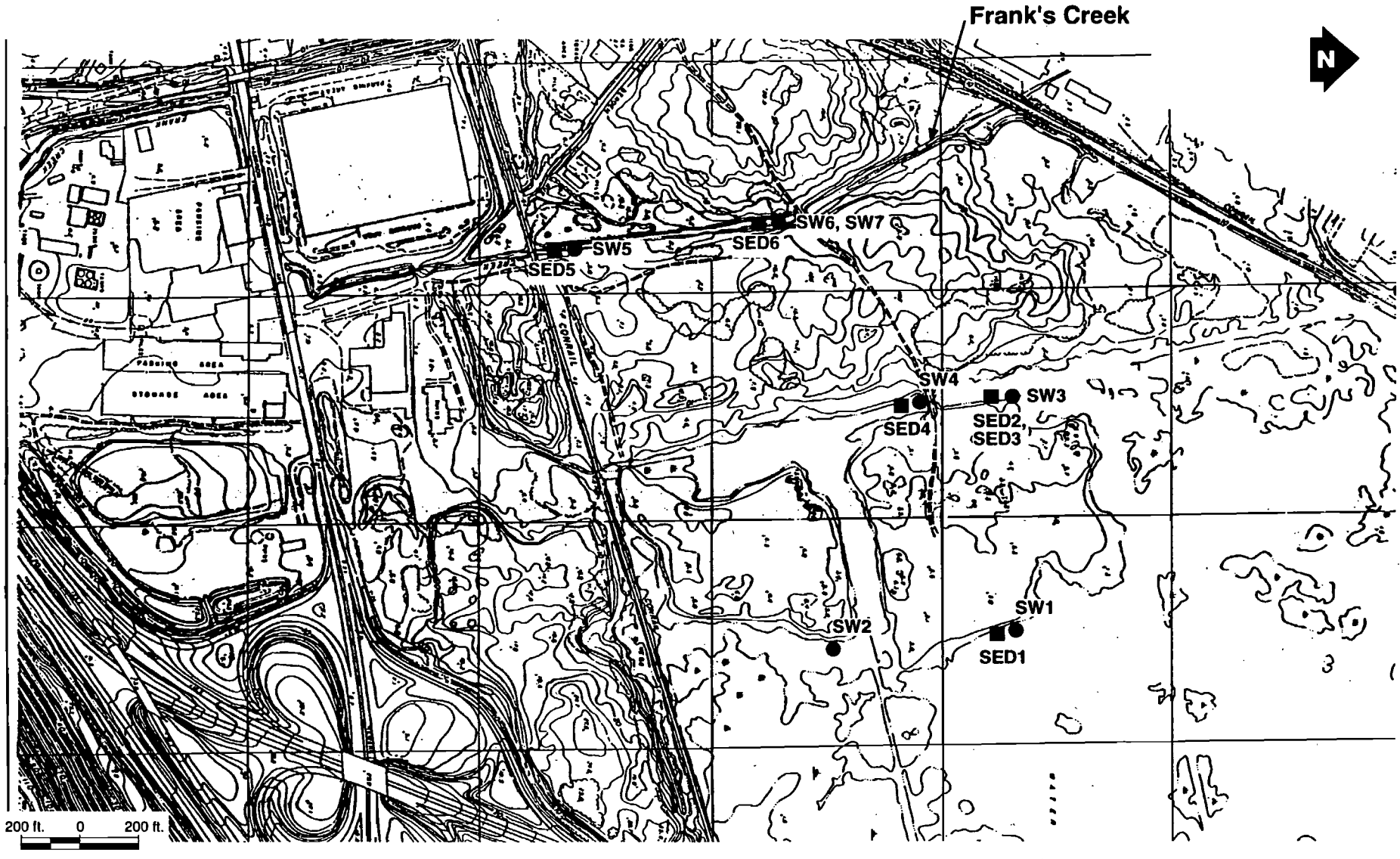

Source: Revised from (NUS, 1989)

Figure 2-3
USEPA Site Inspection Sample Locations
HMDC Materials Handling Complex - PEHIS

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stabilization, and seeding, and development of provisions for groundwater monitoring. Fire access roads were also to be constructed. Periodic patrols and/or fences were also to be put in place. None of these requirements have been implemented.

2.1.4 Groundwater Resources

2.1.4.1 Subsurface Hydrology

Groundwater quantity and quality data is presented in this section for the aquifers located beneath the site. Information on the aquifers includes depth to groundwater, flow direction existing uses and future supply capabilities.

A site inspection report of the former Keegan Landfill was prepared by NUS Corporation under contract with the U.S. Environmental Protection Agency (NUS, 1989). Their investigation included the following discussion of the subsurface hydrology at the site.

> "The Passaic Formation is the most important bedrock aquifer in the basin. The water table in this area is assumed to be at or near the ground surface. Groundwater in the Passaic Formation occurs in a network of interconnected openings formed along joints fractures, and solution channels. Groundwater flow in the area is likely to be southeast toward the Hackensack River. Unconsolidated deposits overlying the Passaic Formation consists of till, varved silt and clay, alluvium, sand, and gravel. Small quantities of groundwater are stored in the till which overlies the bedrock.

Groundwater from the Passaic Formation in the lower part of the basin is hard to very hard and highly mineralized. In the vicinity of the site the water quality in both the Brunswick and unconsolidated deposits is influenced by the water quality of the Hackensack River and Newark Bay. The surface groundwater quality in the lower area is influenced by the disposal of large quantities of sewage and industrial wastes in the Hackensack Meadows. Pollution from local industry, sewage, and urban area runoff prevents wellhead groundwater recharge and reduces water quality. In addition to the summer brackish flow up from Newark Bay, it is believed that highly influential hydraulic subsurface connections exist between the Brunswick Formation and Newark Bay. As a consequence of heavy pumping, high chloride water has been induced deep into the aquifer along the strike of the beds. High concentrations of chloride make the water in the lower Hackensack River unsuitable for municipal and industrial processes, although it is usable for cooling purposes.

Well drilling in the Hackensack Meadowlands is limited by the above constraints and yields only small to moderate supplies of groundwater. The District is primarily in a groundwater discharge area (groundwater is generally discharging to the Hackensack River and the Atlantic Ocean). In discharge areas, groundwater travels for longer periods and greater distances, is higher in dissolved solids, and tends to be in chemical equilibrium with adjacent rocks. In the Meadowlands, the groundwater in the Passaic Formation is highly mineralized. Chemical quality is affected by induced recharge of poor quality surface water from the Hackensack River and Newark Bay.

Acute groundwater problems exist in the District. The Oradell Dam has effectively cut off the headwaters and source of the Hackensack from its lower reaches thus limiting the fresh water in the lower reaches. Weakened flow rate in the lower valley has exposed the groundwater system to salt water intrusions from Newark Bay. Dredging of canals has further exposed permeable materials, which can lead to additional leaching of the brackish river water into the groundwater.

There is no potable water collected from groundwater in the area. The town of Kearny and Harrison draw their drinking water from the Wanaque Reservoir, located in northern Passaic County. There are 10 industrial wells and one recreational well within 3 miles of the site, the nearest being approximately 0.7 mile southwest of the site. This well and nine others withdraw water from the Passaic Formation. One well located 1.5 miles southeast of the site withdraws water from the stratified glacial drift. The recreational well is operated by the Essex County Parks Department, which is used to replenish water in a pond in Branch Brook Park located approximately 2.7 miles northwest of the site. This well information is summarized in Table 2-3.

2.1.5 Surface Water Resources

2.1.5.1 On-Site Water Bodies

This section provides detailed water quality and quantity data for water bodies which abut the site, exist on site, or drain onto or off the site. These include: Frank's Creek, unnamed creek, and Kearny Marsh. In addition, it identifies all existing classifications, designated uses and limitations of the water bodies. Frank's Creek, with a length of 1.25 miles, covers a 400-acre area across the former Keegan Landfill. Frank's Creek flows south of the site into the Passaic River, approximately 1 stream mile from the site. Since the creeks flow into the Newark portion of the Passaic River, (confluence with Second River to mouth), they receive the same water classification as SE3. According to the Water Quality Standards NJAC 7:9B, SE3 water body has the following designated uses:

1. Secondary contact recreation;
2. Maintenance and migration of fish populations;
3. Migration of diadromous fish;
4. Maintenance of wildlife; and
5. Any other reasonable uses

Water quality samples for the Kearny Marsh and the upstream and downstream portion of Frank's Creek and the unnamed creek were taken on March 7 and March 15, 1995 by HMDC personnel.

Samples were analyzed for dissolved oxygen (DO) biochemical oxygen demand (BOD), total organic carbon (TOC), total suspended solids (TSS) and temperature. Figure 2-4 shows the location of the samples and the analytical results in relation to the on site surface water bodies.

Table 2-3
Groundwater Usage Within 3 Miles of Keegan Landfill
Kearny, New Jersey

Name	Distance from Site (Miles)	Direction from Site	Well Depth (ft)	Aquifer	Use
American Ref. Company	1.5	SE	35	Stratified drift	Industrial
V.H. Swenson Co., Inc.	0.75	N	400	Passaic Formation	Industrial
Ronson Metals Corp.	1.75	S	300	Passaic Formation	Industrial
Ronson Metals Corp.	2.0	S	165	Passaic Formation	Industrial
Public Service Electric	2.0	SW	216	Passaic Formation	Industrial
New Jersey Bell Telephone	2.25	SW	215	Passaic Formation	Industrial
Grand Union Company	2.7	N	300	Passaic Formation	Industrial
International Minerals and Chemicals	2.0	NNW	400	Passaic Formation	Industrial
Honeycomb Plastics Corp.	0.7	SW	500	Passaic Formation	Industrial
Honeycomb Plastics Corp.	0.7	SW	700	Passaic Formation	Industrial
Essex County Parks	2.7	NW	450	Passaic Formation	Recreation

Source - Site Inspection Report, NUS Corporation

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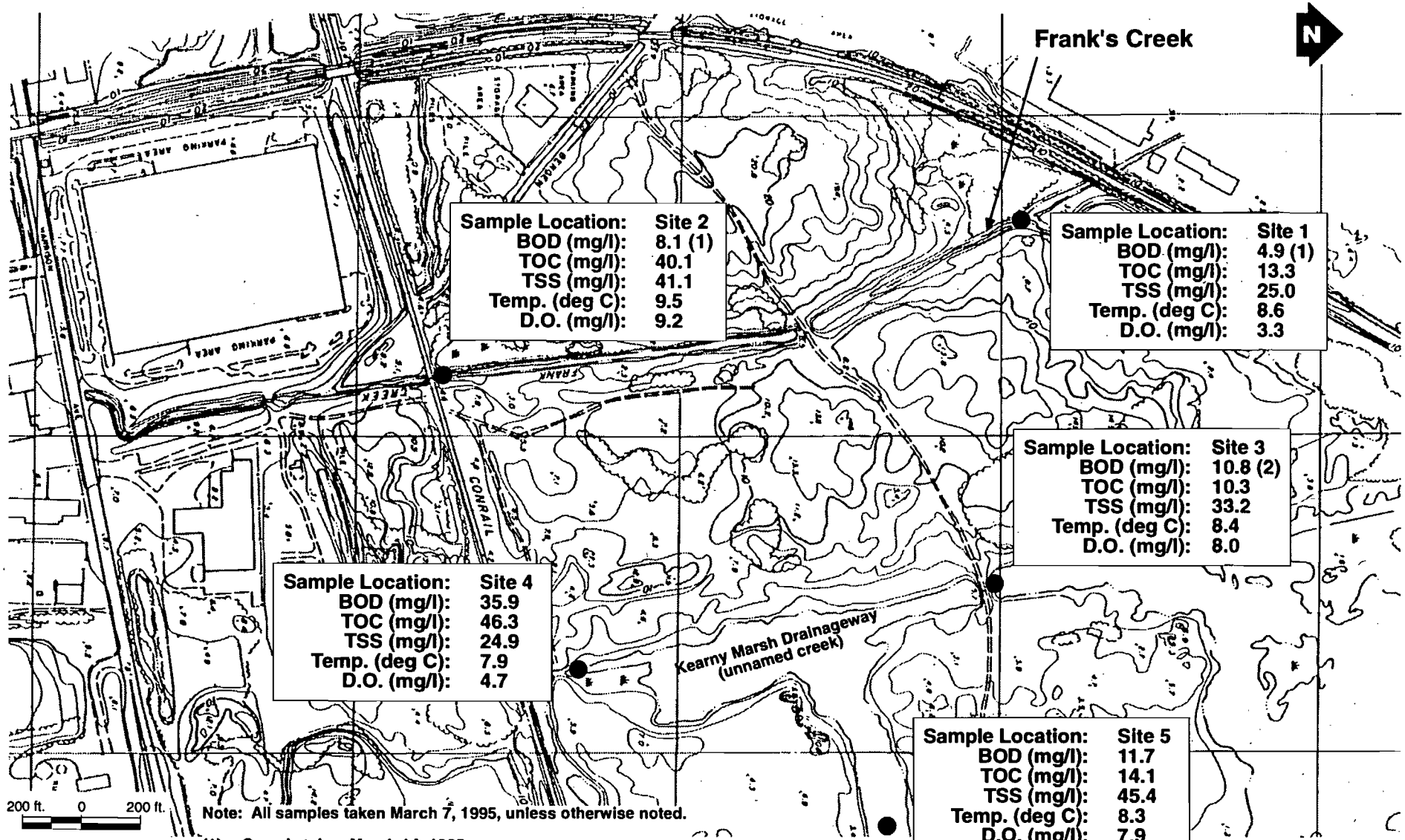

Note: All samples taken March 7, 1995, unless otherwise noted.

(1) Sample taken March 14, 1995
(2) Average of samples taken March 7 and March 14, 1995

Figure 2-4
On-Site Water Quality Sample Locations and Results
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2.1.5.2 Upstream and Downstream Tributaries

This section identifies existing classifications, designated uses and limitations for upstream tributaries which flow onto the site, and downstream tributaries which flow from the site. It also provides a narrative description of the factors affecting water quality. In addition, this section lists the major permitted discharges into these tributaries and other tributaries or confluences with other water bodies. Regional surface water features are shown on Figure 2-5.

Hackensack River

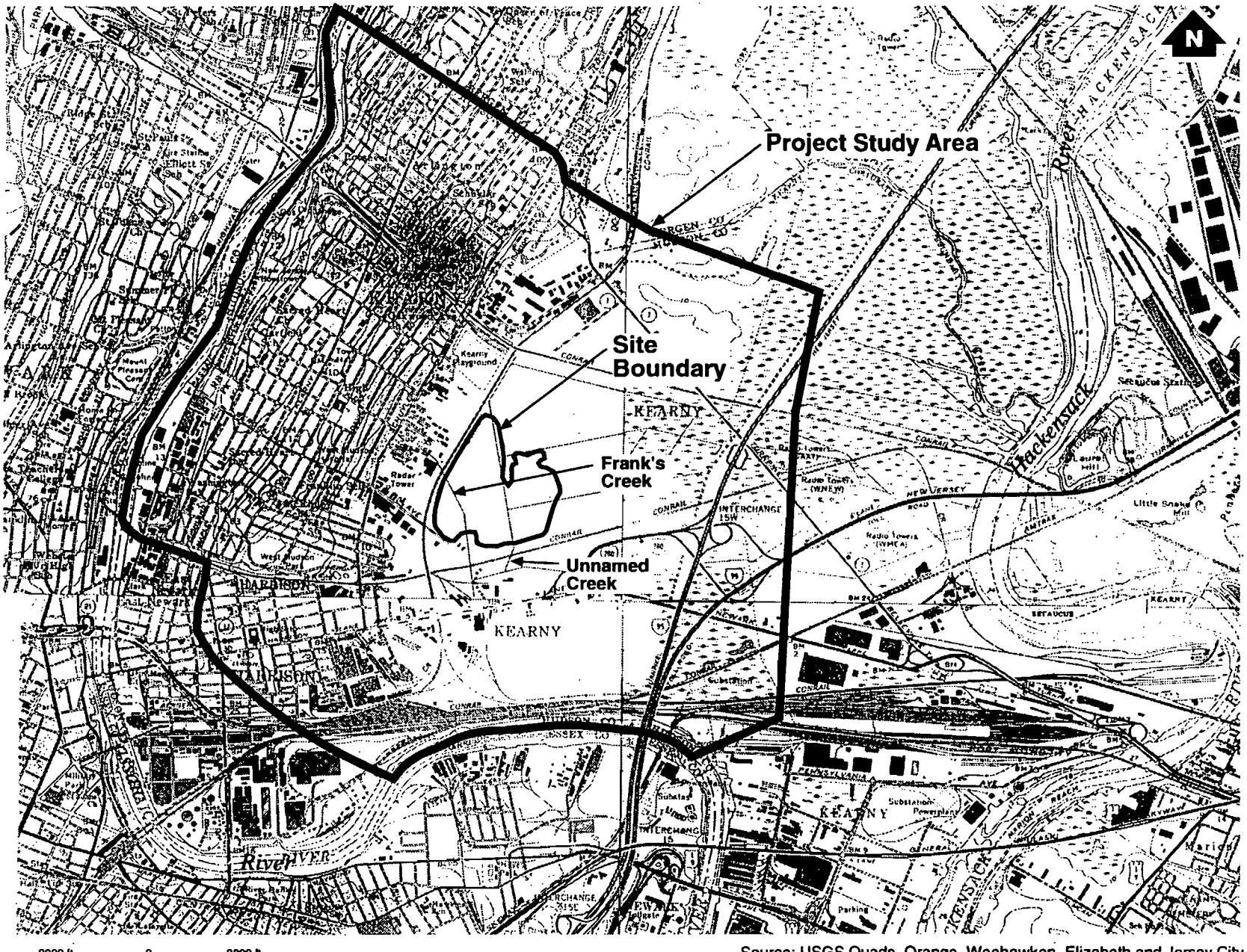
The Hackensack River, the primary fresh water source for the Meadowlands, originates in Rockland County, New York, drawing its water from streams in the north Palisades. The 50 mile southward course of the Hackensack River parallels that of the nearby Hudson River to the east. The river drains a watershed 34 miles in length with a width ranging from 4 to 7 miles. The area of the Hackensack watershed is approximately 197 square miles, two thirds of which is located in Bergen and Hudson counties.

The Hackensack Meadowlands District lies within the lower Hackensack River Basin. Water quality in this region has been influenced significantly by the urbanization and industrialization that has occurred within the watershed and by tidal exchange with adjacent coastal waterways (Mattson & Vallario, 1976). Due to its limited freshwater inflow (controlled by the Oradell Dam upstream of the District boundary) and indirect communication with the open sea, the lower Hackensack River is not as well flushed as many estuaries (CBA, 1990). As a result, the water quality is inherently susceptible to pollutants introduced into the watershed.

The sources of pollution within the District include 50-60 industrial discharges, three power generating plants (Hudson, Bergen and Kearny), three major sewage treatment plants (Bergen County Utilities Authority, Secaucus MUA, and North Bergen MUA), 12 combined sewer overflows (CSO's), 12 emergency overflows, and 1,200 acres of uncontrolled and undeveloped landfills. The collective inputs from point sources as well as non-point sources have adversely affected the water quality within the Meadowlands. This conclusion is based on assessing several water quality parameters which are described below.

The NJDEP has classified the Route 1 and 9 Bridge to Kearny Point reach of the Hackensack River as an SE-3 water body. The water quality criteria that need to be maintained to achieve this standard are summarized in Table 2-4.

The water quality monitoring that has taken place to date indicates that, during the summer, the water quality classifications for the District are not being met. Oxygen, fecal coliform bacteria, temperature and pH values are outside acceptable ranges. In general, the water quality in the river and its tributaries, based on these parameters, has remained fairly constant every summer between 1983 and 1988 (HMDC, 1990). Other parameters that cause



Source: USGS Quads, Orange, Weehawken, Elizabeth and Jersey City

Figure 2-5
Surface Water Features
HMDC Materials Handling Complex - PEHIS

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TIERRA-D-000429

Table 2-4

New Jersey Water Quality Criteria That Are Important in the Hackensack and Passaic River and their Tributaries

CRITERION	WATER QUALITY CLASSIFICATION			
	SE1	SE2	SE3	FW2-NT
Fecal Coliform	<200/100ml	<770/100ml	<1500/100ml	<200/100ml
Dissolved Oxygen	24 hr. Average ≥5.0 mg/l but not <4.0 mg/l any time	≥4.0 mg/l all the time	≥3.0 mg/l all the time	24 hr. average ≥5.0 mg/l but not < 4.0 mg/l any time
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
Suspended Solids	None which would render the water unsuitable for the designated uses.			<40 mg/l
Temperature	No thermal deviations which would cause ΔT > 2.2°C (4°F) from Sept.-May or ΔT > 0.8°C (1.5°F) from June to August; T ≤29.4°C(85°F)			ΔT ≤2.8°C (5°F); T ≤27.8°C (82°F) for small-mouth bass or yellow perch waters, or T ≤30°C (86°F) for other non-trout waters.
Toxic Substances	i. None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesireable aquatic life, or which would render the waters unsuitable for the designated uses. ii. Toxic substances shall not be present in concentrations that cause acute or chronic toxicity to aquatic biota, or bioaccumulate within an organism to concentrations that exert a toxic effect on the organism or render it unfit for consumption. iii. The concentration of nonpersistent toxic substances in the State's waters shall not exceed one-twentieth (0.05) of the acute definitive LC_{50} or EC_{50} value, as determined by appropriate bioassays conducted in accordance with N.J.A.C. 7:18. iv. The concentration of persistent toxic substances in the State's waters shall not exceed one-hundredth 0.01) of the acute definitive LC_{50} or EC_{50} value, as determined by appropriate bioassays conducted in accordance with N.J.A.C. 7:18.			
Ammonia, un-ionized (24-hr avg)	0.1 of acute definitive LC_{50} or EC_{50}			< 50 µg/l
Lead (total recoverable)	———			5 µg/l
Nitrate (as N)	———			10 µg/l

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degradation of water quality in the District include excess nutrients (which can affect dissolved oxygen) and toxic compounds.

Passaic River

Frank's Creek flows into the Newark segment of the Passaic River. The Passaic River drains into the Hackensack River which flows into Newark Bay, and eventually connects with the Atlantic Ocean. The Passaic River is used for navigational purposes and is tidal in nature. The 1-year 24-hour rainfall in the area is approximately 2.75 inches. There are no surface water intakes on the Passaic River, the Hackensack River or Newark Bay within 3 miles downstream of the site (NUS, 1989).

The Newark segment of the Passaic River from Second River to its mouth is classified as an SE-3 water body with the following designated uses:

1. Secondary contact recreation;
2. Maintenance and migration of fish populations;
3. Migration of diadromous fish;
4. Maintenance of wildlife; and
5. Any other reasonable uses

The New Jersey Administrative Code (NJAC) Section 7:9-4 defines standards for surface water quality, and the criteria required to meet these standards (Table 2-4).

2.1.6 Topography

The topography of the site and its surroundings is described in this section. Contour data, drainage patterns, 100-year floodway and flood hazard delineations are discussed as part of this narrative.

Contour elevation varies markedly across the site study area. Contour of the proposed site are characterized by an irregular surface, caused by previous dumping at the site. The existing site elevation ranges in elevation from 3 feet above mean sea level (AMSL) to approximately 15 feet AMSL. Existing contours are shown on Figure 2-6.

HMDC has delineated the in-District Hackensack River watershed into 27 sub drainage basins. The proposed study area falls within the Kearny Marsh Drainage Way. The Kearny Marsh Drainage Way is the largest single sub-basin in the District (2,669 acres), and is also the most constrained by man-made features. Numerous highway and railroad embankments transect the marsh at many angles. There is no central stream; much of the complicated water flow is directed through culverts connecting subareas.

Man-made dikes and tidegates prevent any tidal influence and thereby maintain a large freshwater marsh. Point sources of freshwater from industrial discharge contribute to the local freshwater regime. Kearny Marsh has been experiencing rising water levels resulting in large water cells and ponding action.

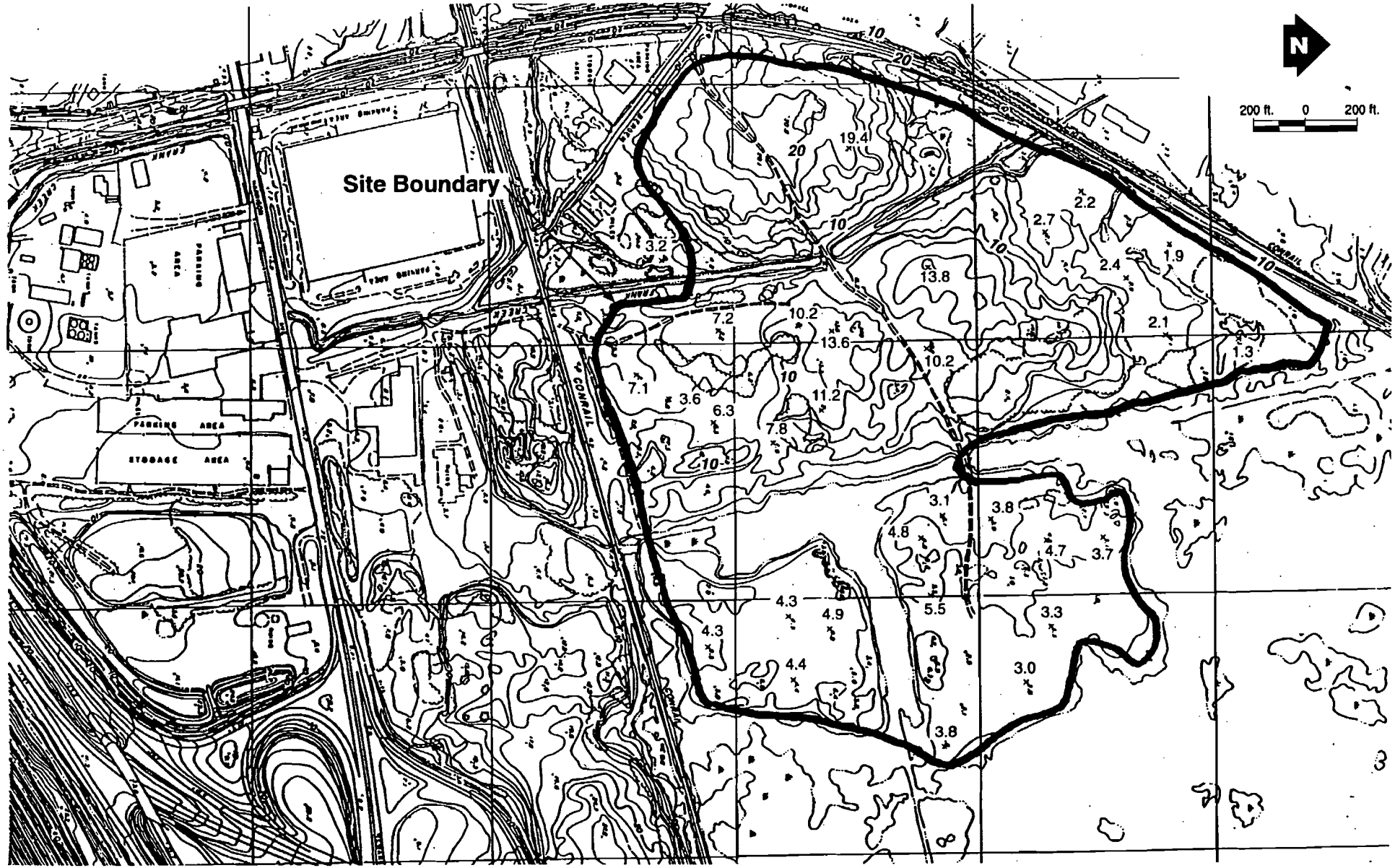

Figure 2-6
Existing Site Topography
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Also part of the site hydrology is Frank Creek's with a length of 1.25 miles. Its headwaters cover a 400 acre area in the southwestern corner of the District. The flow from the Frank Creek discharges into the Passaic River. The site is entirely within the 100-year floodplain, but is essentially filled above the 5 foot 100-year flood level.

2.1.7 Climatological Data

Descriptions of the existing climatological features of the area surrounding the proposed facility site are based upon long-term (30 years or more) historical data recorded at the National Weather Service (NWS) monitoring station at Newark International Airport located approximately 20,000 feet south of the proposed facility. Specific climatological averages based on the Newark NWS data are shown in Table 2-5.

Climate

The following description of the local climate is adapted from the National Oceanic and Atmospheric Administration's (NOAA, 1994), 1994 Climatological Data Summary of Newark in 1994. The Town of Kearny is located in western Hudson County, New Jersey directly north of Newark. The climate is dominated by continental weather patterns with prevailing westerly winds. However, easterly winds, particularly southeasterly, moderate the climate because of the influence of the Atlantic Ocean. The slow change in the ocean water temperature tends to retard the spring and fall seasons by imparting a warming effect in the fall and a cooling effect in the spring.

Daily temperature falls of 5 to 15 degrees, depending on the season, are not uncommon when the wind backs from southwesterly to southeasterly. Periods of very hot weather, lasting as long as a week, are associated with a west-southwest air flow which has a long trajectory over the land. Extremes of cold are related to rapidly moving outbreaks of cold air traveling southeastward from the Hudson Bay region.

Temperature

The temperature patterns for the area surrounding the proposed site are greatly influenced by the Atlantic Ocean.

Data from the Newark NWS monitoring station indicate that the annual average temperature of the area surrounding the proposed facility site in the period of record (1964 to 1933) was 54.1°F. Average monthly temperatures range from a low of 31.6°F in January to a high of 76.8° in July. The highest temperature recorded at the Newark NWS station was 105° in July 1993 and the lowest recorded was -8° in January 1985.

Precipitation

A considerable amount of precipitation is realized from the Northeasters of the Atlantic coast. These storms, more typical of the fall and winter, generally last for a period of two days and commonly produce between 1 and 2 inches of precipitation. Storms producing 4 inches or more of snow occur from one to five times a winter. The frequency and intensity of snowstorms and the duration of the snow cover increase dramatically a few miles to the west of the proposed facility site.

Table 2-5

Climatological Values for the Area Surrounding the Proposed Keegan Landfill

Month	Average Temperature (°F)	Average Total Precipitation[b] (in.)	Average WindSpeed/ Direction (mph)	Average Snowfall (in.)
January	31.6	3.34	11.2 NE	7.5
February	32.9	2.88	11.5 NW	7.9
March	41.1	4.04	11.9 NW	4.9
April	51.7	3.66	11.2 WNW	0.7
May	62.5	3.86	10.9 SW	trace
June	71.6	3.31	9.5 SW	0.0
July	76.8	4.08	8.9 SW	0.0
August	75.1	4.16	8.7 SW	0.0
September	67.8	3.73	9.0 SW	0.0
October	56.9	3.03	9.4 SW	trace
November	46.3	3.61	10.2 SW	0.5
December	35.4	3.38	10.8 SW	5.5
ANNUAL	54.1	43.08	10.2 SW	26.9

[a]Newark NWS Data. Period of record is January 1964 to December 1993.
[b]Total precipitation includes rains, snow and ice, reported as rain.

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Annual average precipitation (including rain, snow and ice) over the period of record (1964 to 1993) was 43.08 inches. Monthly precipitation extremes range from a high of 11.84 inches in August 1955 to a low of 0.07 inches in June 1949. The annual average snowfall over the period of record (1964 to 1993) was 26.9 inches. The highest monthly snowfall experienced in the area surrounding the facility site was 29.1 inches in December 1947.

Wind

General air movement in the area surrounding the proposed facility site is dominated by the prevailing westerly winds. The summer months most often experience warm southwesterly winds. The winter months generally experience westerly and northwesterly winds. The proposed facility site is located sufficiently inland from the bays so that it is not significantly affected by a sea breeze. Wind speeds during the winter months (November to April) are normally higher than summer months.

The annual average wind speed over the period of record (1964 to 1993) is 10.2 miles per hour (mph). The highest monthly average wind speed is in March at 11.9 mph and the lowest monthly average is in August at 8.7 mph.

2.1.8 Ambient Air Quality

2.1.8.1 Applicable Regulations

The proposed facility is regulated under Federal and State law. The NJDEP has developed a number of regulations and guidelines that are stricter than those developed by the United States Environmental Protection Agency (EPA) under the Clean Air Act (CAA) of 1970. Pertinent regulations are described below.

National Ambient Air Quality Standards (NAAQS)

Pollutants with legal air quality standards are called criteria pollutants. The criteria pollutants include sulfur dioxide (SO^2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), total suspended particulates (TSP), inhalable particulates (PM10) and lead (Pb). Air quality standards are concentrations over a period of time, such as a year or a day, which have been shown to be safe for sensitive persons, such as the elderly, children, or people with respiratory or heart disease.

Primary air quality standards are based upon public health needs. Secondary standards are levels deemed necessary to prevent deterioration of visibility or damage to materials or vegetation—effects that occur at lower concentrations rather than effects on people. Therefore, comparisons are made to both primary and secondary standards and are used as guideline values for assessing impact.

Air basins or regions are classified as attainment or nonattainment areas for the criteria pollutants depending upon whether the NAAQS have been exceeded. Ozone attainment areas are further classified as marginal, moderate, serious, severe or extreme depending upon the degree of exceedance of the ozone standard. Particulate (PM10) and carbon monoxide nonattainment areas may be designated as either moderate or serious. Table 2-6 shows the

Table 2-6
Comparison of State and Federal Ambient Air Quality Standards

		New Jersey		Federal	
Pollutant	Averaging Time	Primary (ug/m3)/(ppm)	Secondary (ug/m3)/(ppm)	Primary (ug/m3)/(ppm)	Secondary (ug/m3)/(ppm)
Carbon monoxide	1 hour 8 hours	40,000/35 10,000/9	40,000/35 10,000/9	40,000/35 10,000/9	NA NA
Sulfur dioxide	3 hours 24 hours Annual (arithmetic mean)	N/A 365/.14 80/.03	1,300/.5 260/.10 60/.02	NA 365/.14 80/.03	1,300/0.5 NA NA
Inhalable particulates (PM 10)	24-hour Annual (arithmetic mean)	NA NA	NA NA	150 50	150 50
Ozone	1-hour Max daily 1-hour	NA 235/.12	160/.08 NA	NA 235/.12	235/.12 NA
Nitrogen dioxide	Annual (arithmetic mean)	100/.05	100/.05	100/.05	100/.05
Total suspended particulates	24 hours Annual (geometric mean)	260 75	150 60	NA NA	NA NA
Lead	3-month avg. quarterly mean	1.5 NA	1.5 NA	NA 1.5	NA 1.5

existing State and Federal (NAAQS and NJAAQS) ambient air quality standards (NJDEP May 1994).

2.1.8.2 Study Area Ambient Air Quality

New Jersey monitors and forecasts ambient air quality and reports this information to health organizations and wire services. This report is known as the New Jersey Pollutant Standards Index (PSI). This index indicates that in 1993 primary ambient air quality standards were exceeded during 4 days of the year. The PSI divides the state into nine reporting regions. The region potentially affected by the proposed facility is the southern metropolitan region that consists of Hudson, Essex and Union Counties.

A discussion of each of the pollutants regulated by NAAQS is presented below. The quantitative description of existing air quality conditions is based on the 1993 Air Quality Report published by the NJDEP, Division of Environmental Quality dated May 1994. The report is a summary of New Jersey air quality data compiled for 1993 from the statewide monitoring station network. Figure 2-7 shows the monitoring locations throughout

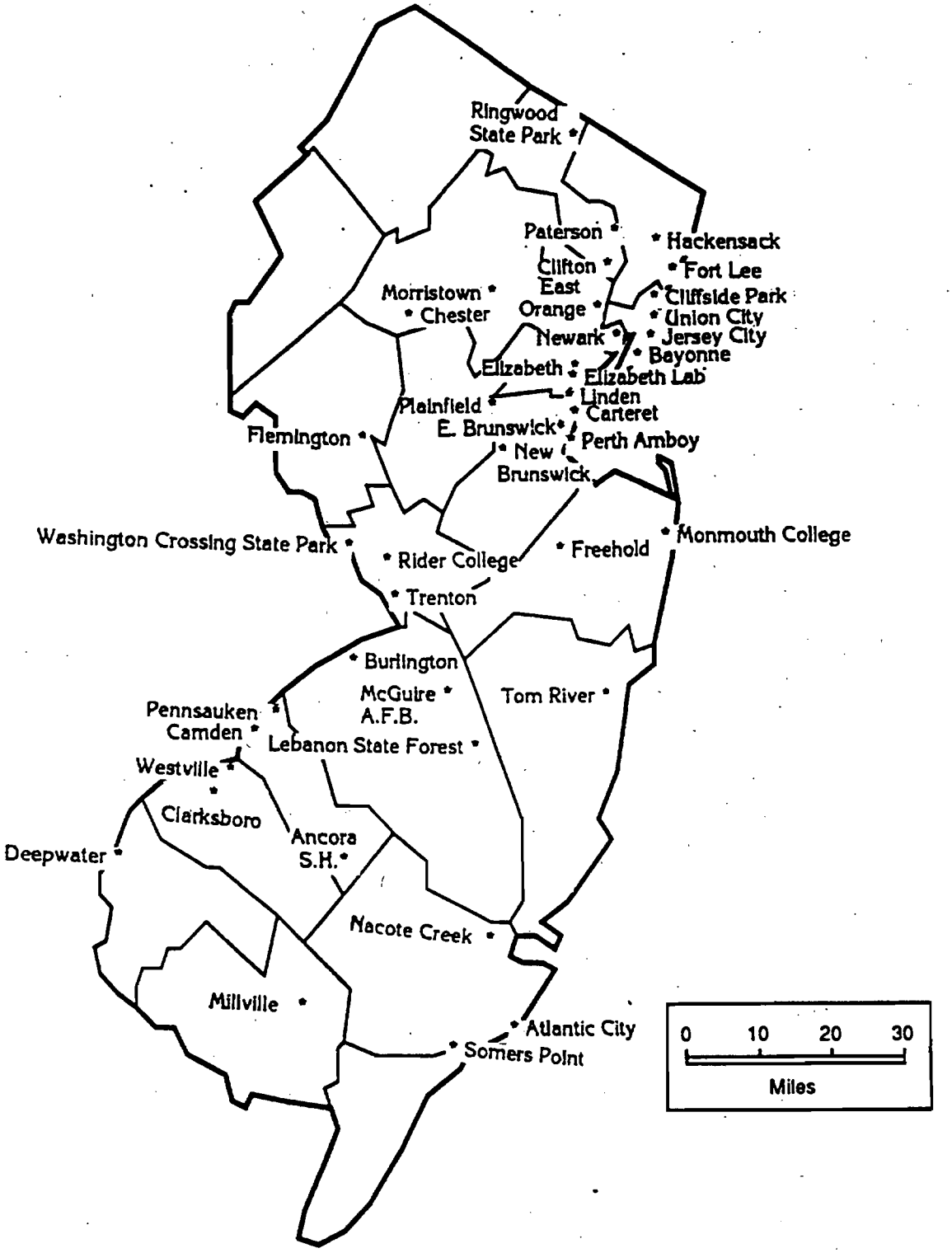

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Figure 2-7
State of New Jersey
Air Quality Monitoring Network
HMDC Materials Handling Complex - PEHIS

TIERRA-D-000437

New Jersey. NJDEP maintains continuous monitoring stations throughout the state. Five Newark monitoring stations provide the best representation of air quality in Project Study Area:

Table 2-7 lists the pollutant concentrations at the Newark monitoring stations and compares them with the NAAQS.

Carbon Monoxide (CO)

Emissions of carbon monoxide occur when incomplete combustion takes place (CO is an intermediate product before CO_2 is formed). The primary source of CO is the automobile, which emits excessive CO when operated with an incorrect fuel/air mixture. Thus, high CO concentrations tend to be found primarily in downtown urban areas. Table 2-7 shows CO concentrations for the Newark Monitoring Station for 1-hour and 8-hour averages (NJDEP 1993). Values are within NAAQS. Although this is the closest location, it does not properly represent site conditions because of the highly localized nature of CO.

Sulfur Dioxide

Sulfur dioxide results from the burning of fossil fuel. Therefore, sources of SO_2 typically include coal or oil burning facilities such as space heaters, industrial boilers, and power plants. SO_2 in the atmosphere combines with other gases to form acids. This, combined with precipitation, yields acid rain, which is a major environmental concern affecting soils, vegetation, and man-made structures.

Table 2-7 list the annual arithmetic mean levels, and the 3-hour running averages for SO_2 (NJDEP 1993) at the Newark Monitoring Station. Standards for the year 1993 were not exceeded.

Inhalable Particulates (PM10)

Inhalable particulates are emitted from stationary sources and area sources. Further particulate contribution comes in the form of fugitive dust emissions from industrial complexes, regional landfills, natural erosion, and long-range air pollutant transfer (area sources). They are differentiated from total suspended particulates (TSP) by their aerodynamic diameter which must be 10 micrometers or less. Table 2-7 shows the annual average and maximum 24 hour average at multiple Newark monitoring stations. Standards for 1993 were not exceeded.

Ozone (O_3)

Ozone and other oxidates are formed by the reaction of volatile organic substances, such as hydrocarbons, with oxides of nitrogen in the presence of sunlight. Thus, ozone is only a potential problem when sunlight is at its maximum strength, which occurs from late spring to early fall. Because of the high nitrogen oxide concentrations resulting from heavy automobile traffic in this densely populated region, in addition to hydrocarbons from nearby industry, the whole region is designated as an area of severe nonattainment. Table 2-7 shows the 1-hour maximum readings of ozone. (NJDEP 1993).

Table 2-7
Keegan Landfill Study Area
Existing Air Quality

Pollutant	*Monitoring* Station*	*Site Code***	*Averaging Period*	*1993 Max Concentration*	*NAAQS*
Carbon Monoxide	Newark	S	1-hour 8-hour	5.6 ppm 4.8 ppm	35 ppm 9 ppm
Sulfur Dioxide	Newark	S	3-hour Annual	0.52 ppm .008 ppm	0.5 ppm 0.03 ppm
Inhalable Particulates (PM10)	Newark	S	24-hour Annual	79 ug/m^3 32.7 ug/m^3	150 ug/m^3 50 ug/m^3
	Newark-Woolworth Bldg	SPM	24-hour Annual	72 ug/m^3 28.6 ug/m^3	150 ug/m^3 50 ug/m^3
	Newark Police Booth	S	24-hour Annual	81 ug/m^3 ***	150 ug/m^3 50 ug/m^3
Ozone	Newark	S	1-hour	0.113 ppm	0.12 ppm
Nitrogen Dioxide	Newark	S	Annual	0.035 ppm	.053 ppm
Total Suspended Particulates	Newark-Ave. C^1	S-PB	24-hour Annual	128 ug/m^3 61.3 ug/m^3	260 ug/m^3 75 ug/m^3
	Newark-Ave. C^2	SPM-PB	24-hour Annual	126 ug/m^3 63.0 ug/m^3	260 ug/m^3 75 ug/m^3
Lead	Newark-Ave C^1	S	3-month	.317 ug/m^3	1.5 ug/m^3
	Newark-Ave C^2	SPM	3-month	.336 ug/m^3	1.5 ug/m^3

* Newark - St. Charles and Berlin Streets
Newark - Woolworth Bldg - 165 Market Street
Newark Police Booth - Broad and Market Streets
Newark - Avenue C^1 - Avenue C and Wright Street - 060 - Cookson Pigments
Newark - Avenue C^2 - Avenue C and Wright Street - 069 - Cookson Pigments
PB - Lead Monitoring Site

** Site Code: S - State and Local Air Monitoring Sites (SLAMS), these sites fulfill the federal monitoring requirements for the sate.

SPM - Special Purpose Monitoring, these sites fulfill a specific need or purpose and are not federally required.

N - National Air Monitoring Sites (NAMS), these sites are a subset of the SLAMS which must comply with stricter siting criteria and reporting requirements.

PB - Lead Monitoring Site

*** Insufficient Data for Valid Arithmetic Mean

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Nitrogen Dioxide (NO_2)

Nitrogen dioxide and nitric oxide (NO) result from high-temperature combustion. The primary source of this form of air pollution is the automobile, as well as other mobile sources. Additional sources of NO_2 are refineries and fuel combustion.

With the reduction of emissions from automobiles resulting from the use of catalytic converters, the ambient levels of NO_2 should decline. Table 2-7 shows the annual arithmetic mean of NO_2 (NJDEP 1993) at the Newark monitoring station.

Total Suspended Particulates (TSP)

The sources of total suspended particulates are the same as inhalable particulates. Table 2-7 lists the average particulate levels from 1993 for monitoring stations within close proximity to the site. Standards for the year 1993 were not exceeded.

Lead (Pb)

Lead as an air pollutant comes principally from automobiles, with lesser amounts from industries such as smelting. Ambient levels have decreased in recent years with the increased use of unleaded gasoline and pollution control devices on automobiles. Levels are within NAAQS. Table 2-7 illustrates the maximum quarterly values (NJDEP 1993).

In summary all indicators of air quality are in compliance with federal and state health based standards, except for ozone. Ozone has been identified as a regional problem.

2.1.8.3 Regional Air Quality

A description of the existing air quality within the District has been prepared to characterize existing air quality. The existing major point, area, and transportation sources that contribute to air quality within the District have been identified.

Existing Air Quality

The Hackensack Meadowlands District is located in an air basin (the NY, NJ, CT Consolidated Metropolitan Statistical Area) classified as moderate for carbon monoxide nonattainment. The air basin, as a whole, must demonstrate attainment with air quality standards by December 31, 2000. The New Jersey State Implementation Plan (SIP) revisions, which are intended to plan for the achievement of the NAAQS, were due to be submitted to EPA November 15, 1992, in accordance with the timetable established in Title I of the Clean Air Act of 1990. Some of the tools NJDEP may use in achieving attainment throughout New Jersey include having the SIP contain provisions for reducing vehicle miles traveled (VMT), supplying oxygenated gasoline, and producing economic incentives to reduce stationary source carbon monoxide emissions by 5% per year until attainment occurs.

Similarly, the air basin containing the District is classified as severe for ozone nonattainment and must demonstrate attainment by November 15, 2007. Two primary precursors exist for ozone formation, volatile organic compounds and nitrogen oxides, whose emission reductions throughout all of New Jersey will have to be addressed in the SIP revisions. A reduction of emissions from both transportation and stationary sources is likely to be

required for ozone in the air basin. Transportation-related reduction techniques may include motor vehicle inspection and maintenance programs, Stage II vapor recovery at gasoline dispensing facilities, "clean" fuels, vehicle based vapor recovery, mandatory car pooling, and enforceable transportation control measures to reduce VMT.

The District, and surrounding areas, are classified as attainment for particulates (PM10), nitrogen dioxide, sulfur dioxide and lead.

Existing air quality conditions for the Hackensack Meadowlands District are characterized using existing NJDEP Monitoring stations. The 1993 air quality report for monitoring stations near the District indicates that several criteria pollutants are approaching or have exceeded the NAAQS. Table 2-8 lists the pollutant concentrations measured at each monitoring station within and near the District in 1993. Measured data is also compared with the NAAQS. When comparing the 1993 maximum pollutant concentrations to the NAAQS, all the pollutants except ozone are below their respective health standard. (1993 Air Quality Report, May 1994.) While carbon monoxide concentrations within the District are within NAAQS limits, the air basin encompassing the District contains other areas which do not meet the NAAQS; therefore, the air basin as a whole is considered to be nonattainment.

Since the air basin's baseline air quality exceeded the NAAQS for ozone and carbon monoxide, proposed development alternatives within the District, as well as those throughout the remainder of New Jersey, will have to demonstrate a reduction in air quality impacts for these pollutants. Proposed transportation alternatives will have to result in lower VMT, vehicle hours traveled and congestion. Proposed stationary and area source alternatives will have to demonstrate a net reduction in carbon monoxide and ozone precursors, volatile organic compounds and nitrogen oxides emissions.

2.1.9 Ambient Acoustical Conditions

This section presents information on current environmental noise levels in the vicinity of the proposed project site. The section first presents an explanation of how noise is measured, followed by relevant noise regulations and guidelines and a discussion of the results of the environmental noise monitoring program conducted by CDM on March 7, 1995 at the proposed facility site. Finally, the background environmental sound levels for the District are assessed.

2.1.9.1 Noise Measurements

Noise is often and most simply defined as unwanted sound. The magnitude of air pressure fluctuations produced by sound is referred to as the sound level and is measured in decibels (dB). The decibel scale using a logarithmic function compresses the very large range of audible pressures into a meaningful scale: 0 dB corresponds to the faintest audible sound; levels in excess of 130 dB produce pain in humans. Because human hearing sensitivity varies with the frequency of sound, a filter, called the A-weighting filter, which simulates this frequency sensitivity in human hearing, is used in measuring and reporting environmental sound levels. A-weighted sound levels are abbreviated as "dBA." Figure 2-8 shows typical sound pressure levels of various sounds in dBA. Since the decibel scale is logarithmic, changes in sound energy are not proportional. A 26 percent change in the energy level

Table 2-8
Hackensack Meadowlands District
Existing Air Quality

Pollutant	*Monitoring* Station*	*Site Code***	*Averaging Period*	*1993 Max Concentration*	*NAAQS*
Carbon Monoxide	Hackensack	N	1-hour 8-hour	7.9 ppm 6.9 ppm	35 ppm 9 ppm
	Jersey City[1]	N	1-hour 8-hour	8.2 ppm 5.9 ppm	35 ppm 9 ppm
Sulfur Dioxide	Hackensack	S	3-hour Annual	0.43 ppm .008 ppm	.5 ppm++ .03 ppm
	Jersey City[1]	N	3-hour Annual	.071 ppm .012 ppm	.5 ppm++ .03 ppm
Inhalable Particulates (PM10)	Fort Lee	N	24-hour Annual	91 mg/m^{3+} 36.6 ug/m^3	150 ug/m^3 50 ug/m^3
	Jersey City[2]	N	24-hour Annual	93 ug/m^{3+} 34.4 ug/m^3	150 ug/m^3 50 ug/m^3
Ozone	Cliffside Park	S	1-hour	.115 ppm	.12 ppm
Nitrogen Dioxide	Cliffside Park	S	Annual	.029 ppm	.053 ppm
Total Suspended Particulates	Union City	SPM	24-hour Annual	129 mg/m^3 50.5 ug/m^3	260 ug/m^3 75 ug/m^3
	Jersey City[2]	SPM	24-hour Annual	144 ug/m^3 55.4 ug/m^3	260 ug/m^3 75 ug/m^3
Lead	Union City	S	3-month	.035 ug/m^3	1.5 ug/m^{3++}
	Jersey City[2]	N	3-month	.053 ug/m^3	1.5 ug/m^{3++}

* Hackensack, 133 River Street
Fort Lee, Lemoine Avenue Overpass
Cliffside Park, Accomando Place and Cedar Street
Union City, 714 31st Street
Jersey City[1], 2828 Kennedy Boulevard
Jersey City[2], 355 Newark Avenue

** Site Code: S - State and Local Air Monitoring Sites (SLAMS), these sites fulfill the federal monitoring requirements for the sate.

SPM - Special Purpose Monitoring, these sites fulfill a specific need or purpose and are not federally required.

N - National Air Monitoring Sites (NAMS), these sites are a subset of the SLAMS which must comply with stricter siting criteria and reporting requirements.

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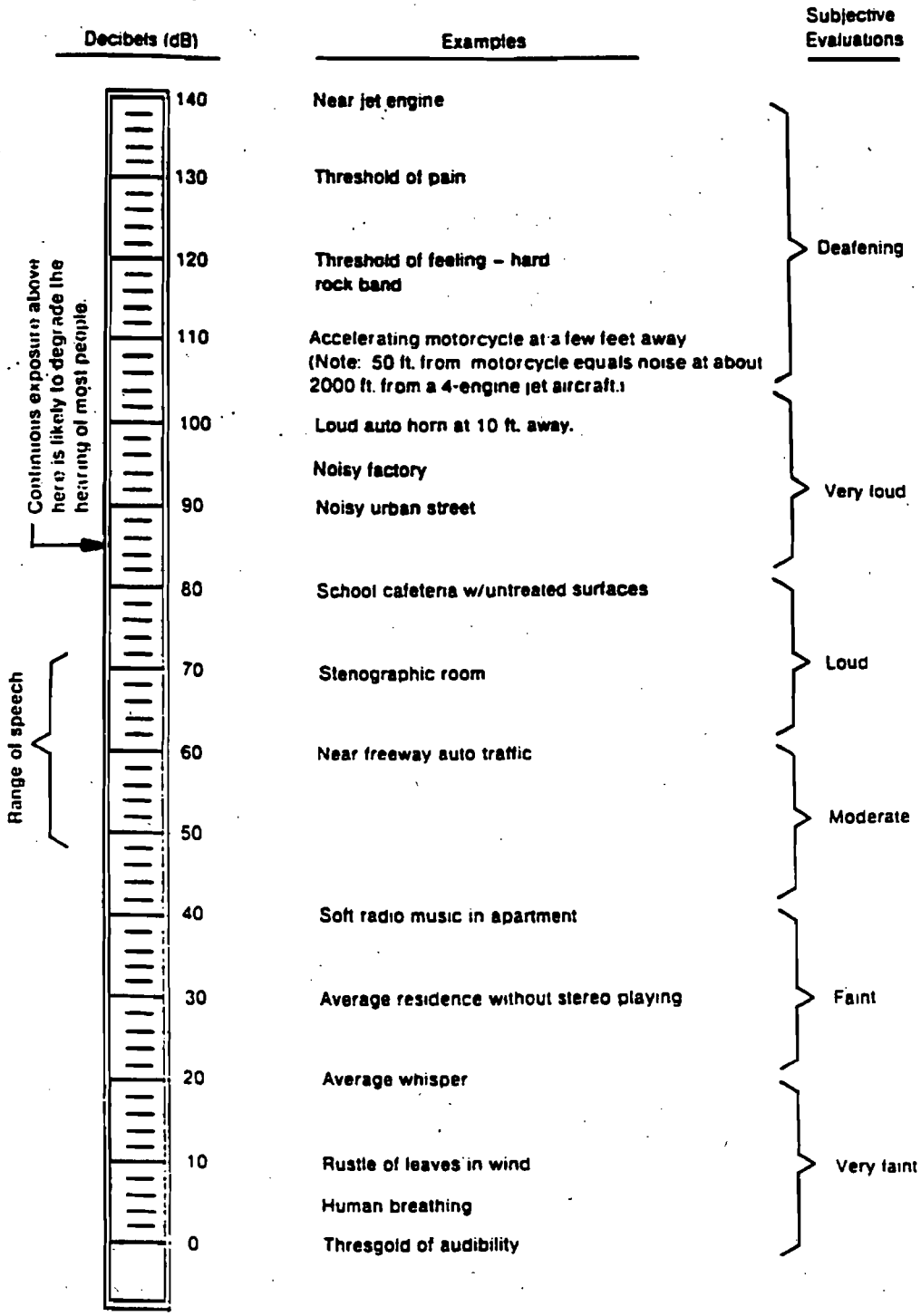
Some common, easily recognized sounds are listed below in order of increasing sound intensity levels in decibels. The sound levels shown for occupied rooms are typical general activity levels only and do not represent criteria for design.



Source: Egan, M. David. Concepts In Architectural Accoustics. McGraw-Hill Book Co., New York, 1972

changes the sound level by just one decibel. The most sensitive human ear would not detect this change, except in an acoustical laboratory. A doubling of the energy level would result in a 3 dB increase, which would be barely perceptible to most people. A tripling in energy level would result in a clearly noticeable change of 5 dB in the sound level. A change of ten times in the energy level would result in a 10 dB change in the sound level. For most people a 10 dB increase in sound level is perceived as a doubling of the apparent loudness.

The noise descriptors used in this analysis are the energy equivalent sound level (L_{eq}) and the day-night energy equivalent sound level (L_{dn}). The L_{eq} is a single value average of the energy content of a time-varying sound level for any time period. Human perception of sound is such that a total ambient sound level increase in the L_{eq} of 0 to 3 dBA would be perceived as "negligible" noise impact, an increase of 5 dBA would be perceived as a "minor" noise impact, an increase of 5 dBA to 10 dBA would be perceived as a "moderate" noise impact, and an increase of 10 dBA or more would be perceived as a "significant" noise impact (Figure 2-8).

A problem can occur when assessing noise exposure over a 24-hour period with a single-valued descriptor such as L_{eq}. Sound levels occurring at night generally produce greater annoyance than do the same levels occurring during the day. It is generally agreed that community perception of nighttime sound levels is 10 dBA higher than daytime levels. That is, a given level of environmental noise during the day would appear to be approximately 10 dBA louder at night, at least in terms of community annoyance. This is largely because nighttime environmental ambient sound levels in most areas are approximately 10 dBA lower than daytime sound levels.

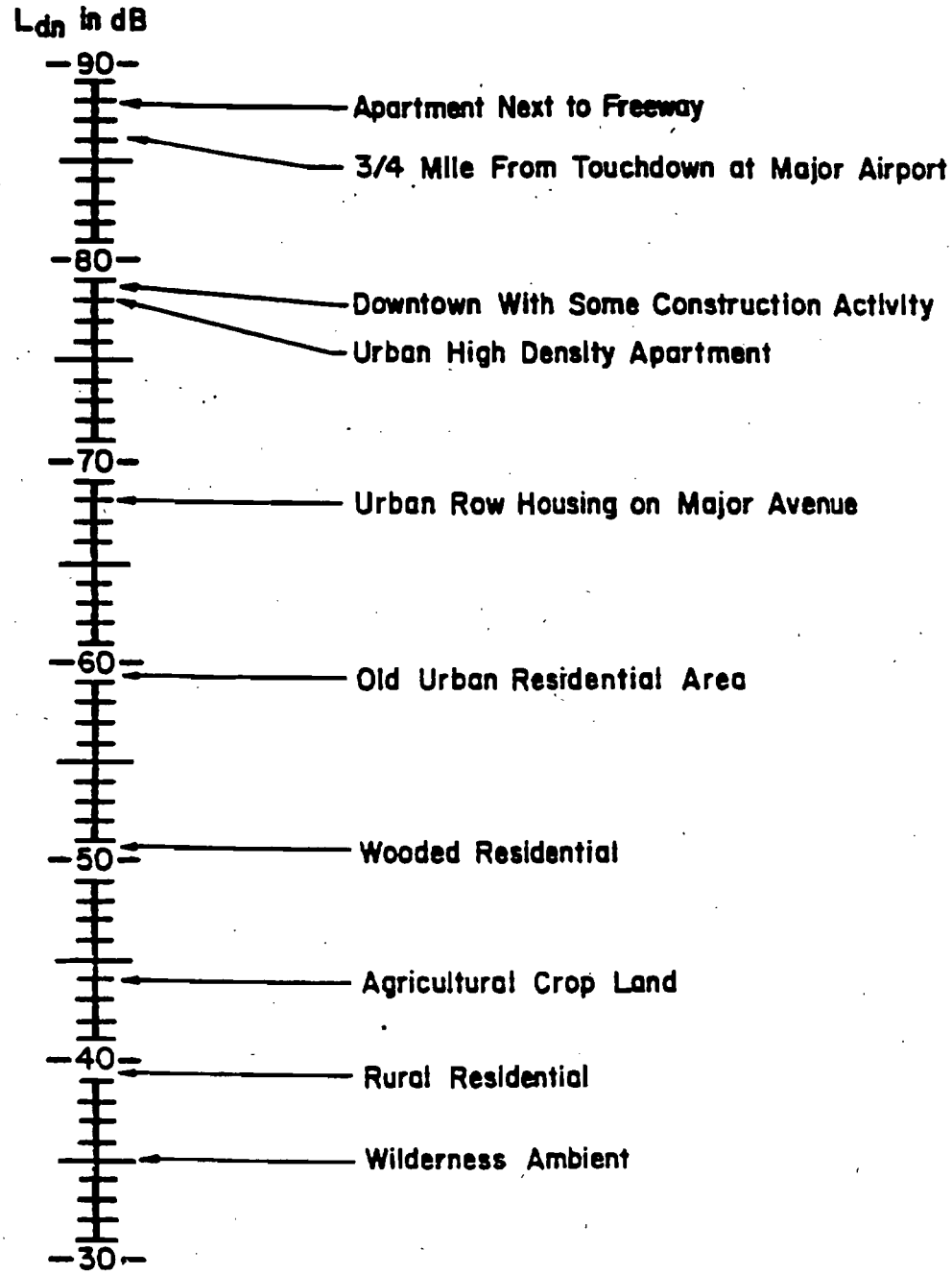
To account for nighttime community reaction to sound, a day-night noise descriptor has been defined using the energy equivalent sound level. This descriptor, referred to as the day-night average sound level, (L_{dn}), adds 10 dBA to sound levels occurring between 10:00 pm and 7:00 am. L_{dn} accounts for increased community sensitivity to nighttime sound levels. As a result, both the L_{eq} and the L_{dn} have become widely accepted for use in environmental noise regulations and criteria. However, because the landfill will not operate at night, the concern with nighttime noise impacts does not exist with the project.

To put the L_{dn} in clearer perspective, Figure 2-9 contains a day-night average sound level scale of L_{dn} showing corresponding values for various types of outdoor locations.

2.1.9.2 Relevant Noise Regulations and Guidelines

HMDC Regulations

The District zoning regulations (at NJAC 19:4-6.1) set forth the noise regulations in the District. The regulations are expressed in terms of performance standards by category. Noise shall not exceed the maximum sound levels specified for each performance category as follows:



Source: Egan, M. David. Concepts in Architectual Accoustics. McGraw-Hill Book Co. New York. 1972

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Figure 2-9
Example of Outdoor Day-Night Energy Equivalent Noise Levels
HMDC Materials Handling Complex - PEHIS

HMDC Noise Level Restrictions		
Performance Standard Category	*Maximum Permitted Sound Level*	*Where Measured*
A	65 dBA	On or beyond subject property boundary line.
B	70 dBA	On or beyond subject property boundary line.
C	76 dBA	On or beyond the zone boundaries.

NJDEP Regulations

New Jersey regulations require that noise levels generated by industrial, commercial, public service, or community service facilities not exceed the standards set forth in the New Jersey Noise Control Regulations under NJAC 7:29-1.2. These regulations state that sound from any such facility and its related premises, property, or equipment used to provide governmental services to the public including, but not limited to water and sewage facilities, when measured at any residential property line, shall not exceed the following:

1. From 7:00 a.m. to 10:00 p.m.:

   i. Continuous airborne sound which has a sound level in excess of 65 dBA; or
   ii. Continuous airborne sound which has an octave band sound pressure level in decibels which exceeds the values listed below in one or more octave bands.

Octave Band Center Frequency (Hz)	Octave Band Sound Pressure Level (dB)
31.5	96
63	82
125	74
250	67
500	63
1,000	60
2,000	57
4,000	55
8,000	53

or,

iii. Impulsive sound in air which has a peak sound pressure level in excess of 80 decibels.

2. From 10:00 p.m. to 7:00 a.m.:

i. Continuous airborne sound which has a sound level in excess of 50 dBA; or

ii. Continuous airborne sound which has an octave band sound pressure level in decibels which exceeds the values listed below in one or more octave bands:

Octave Band Center Frequency (Hz)	Octave Band Sound Pressure Level (dB)
31.5	86
63	71
125	61
250	53
500	48
1,000	45
2,000	42
4,000	40
8,000	38

or,

iii. Impulsive sound in air which has a peak sound pressure level in excess of 80 decibels.

Similar, but less restrictive, limitations exist for sound measured at any commercial property line. There are no regulations limiting noise levels as measured at industrial property lines.

Federal Guidelines and Standards

The U.S. Department of Housing and Urban Development (HUD) has been the lead federal agency setting standards for interior and exterior sound levels for housing. HUD noise standards are outlined in 24 CFR Part 51. This regulation establishes site acceptability standards based on L_{dn} (day-night energy equivalent noise level) noise exposure levels. These standards were developed for urban environments, and are useful as general guidelines in planning for residential uses in the District.

The table below shows HUD site acceptability in terms of ranges of L_{dn}. "Acceptable" sites are those where noise levels do not exceed an L_{dn} of 65 dB. Housing on acceptable sites does not require noise attenuation other than that provided in customary building techniques in the District.

U.S. Department of Housing and Urban Development Site Acceptability Criteria[a]	
	Day-Night Energy Equivalent Level (in decibels)
Acceptable	Not exceeding 65 dB
Normally unacceptable	Above 65 dB but not exceeding 75 dB
Unacceptable	Above 75 dB

[a] Taken from 24 CFR Para. 51.103, Criteria and Standards

"Normally unacceptable" sites are those where the L_{dn} is above 65 dB but does not exceed 75 dB. Housing on normally unacceptable sites requires some means of noise abatement, either at the property line or in the building exterior construction, to assure that building interior noise levels are acceptable. From a practical standpoint, this usually means that buildings must be air conditioned so that windows can be closed to reduce exterior sound transmission into interior spaces.

"Unacceptable" sites are those where the L_{dn} is 75 dB or higher. The term "unacceptable" does not mean that housing cannot be built on these sites, but rather, that more sophisticated building sound attenuation is likely to be needed and that there must exist some benefits which outweigh the disadvantages posed by high environmental noise levels. Housing on unacceptable sites generally requires sound-attenuating double glazing and air conditioning.

2.1.9.3 Environmental Noise Monitoring Program

To characterize ambient sound levels in the vicinity of the proposed project, weekday environmental noise monitoring was conducted at the following four locations on March 7, 1995 by CDM personnel:

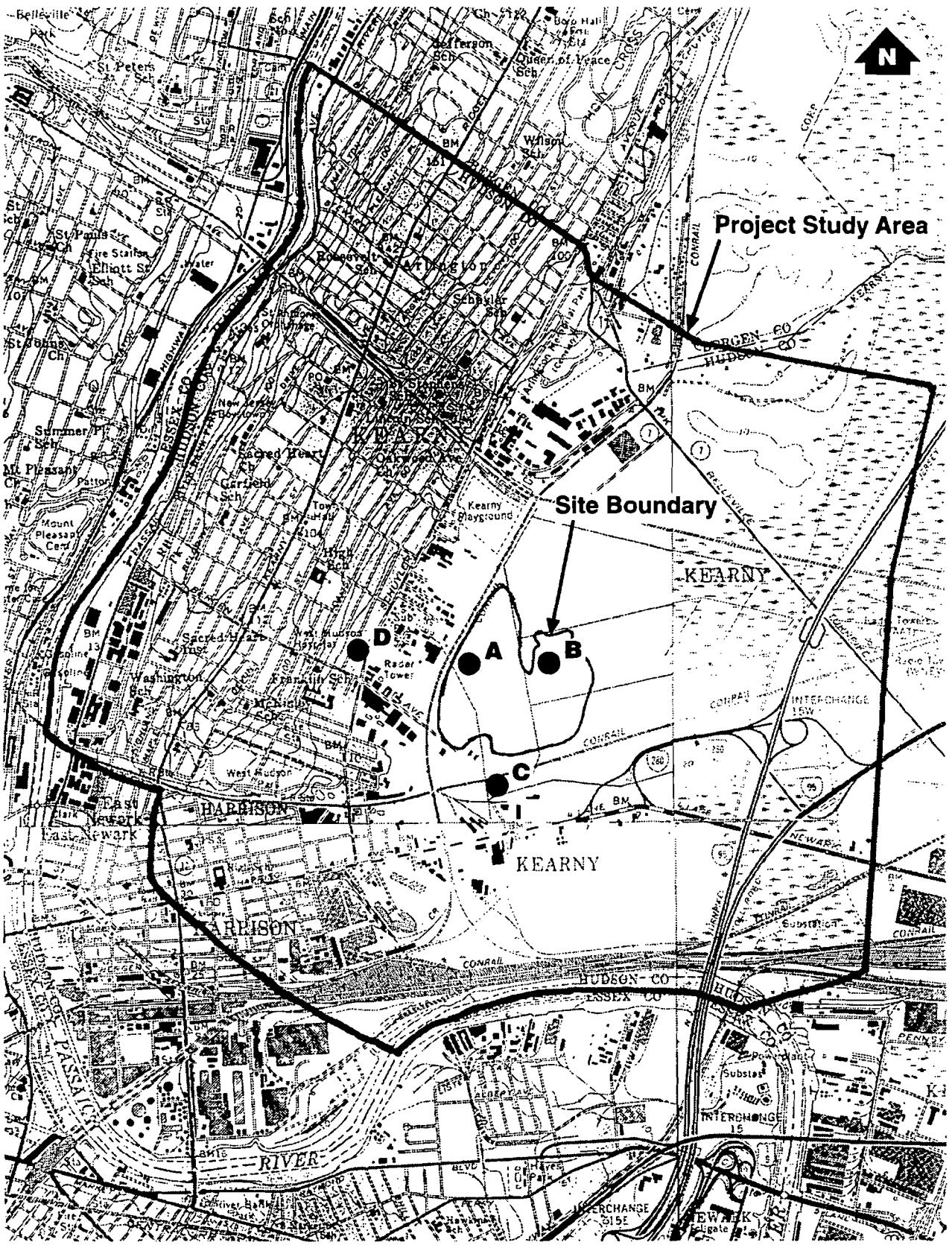
Location A:	At the western boundary of the proposed facility site, adjacent to commercial/industrial and residential area
Location B:	At the eastern boundary adjacent to the Kearny Marsh
Location C:	At the southern boundary of the proposed site, north of Harrison Avenue.
Location D:	80 Ivy Street in Kearny, off Bergen Avenue in a residential area.

Survey locations, shown on Figure 2-10, were chosen to monitor noise levels at the boundaries of the proposed facility (3 locations) and adjacent to sensitive receptors. A major daytime continuous noise source in the area is auto and truck traffic on major area roads (Harrison Ave., Schuyler Ave., New Jersey Turnpike, Route 280). Intermittent noise sources in the area include overhead aircraft, typical urban sounds (horns, sirens, radios, etc.), and birds and insects.

The noise monitoring covered twelve distinct 20-minute periods between 8:30 a.m. March 7, 1995 and 12:30 a.m., March 8, 1995 at each of the three boundary (A, B & C) locations in order to define representative existing ambient sound levels throughout the day and night. Between 7:30 a.m. and 8:00 a.m. residential location D was monitored to determine off-site conditions. In addition, at location A octave band center frequency sound levels were measured from 10:00 - 10:30 and 12:30 - 1 p.m. Noise measurements were made using a Gen Rad Model 1988 precision (type 1)integrating sound-level meter conforming to the requirements of NJAC 7:29-2.6. The monitoring program followed New Jersey regulations and sound-level meter manufacturer recommendations.

Table 2-9 shows the existing minimum and maximum daytime and nighttime L_{eg} sound levels measured at each location. As shown in the table, measured existing noise levels at all locations are in compliance with both the 65 dBA daytime NJAC regulation for continuous sound but exceed the 50 dBA nighttime NJAC regulation. Table 2-9 also shows that existing L_{dn} sound levels in the vicinity of the site are within the "normally unacceptable" range as defined by HUD for residential uses.

Table 2-10 presents the lowest and highest measured 1-minute L_{eq} sound levels by octave band center frequency at location A. These octave band center frequency levels are in compliance with the daytime NJAC regulations for octave band sound levels. The lowest A-weighted ambient sound levels will be used in the noise impact analysis for comparison with predicted construction sound levels to provide a conservative assessment of project construction noise impact. Noise impact will be assessed in the environmental impact section in



Source: USGS 7.5 minute Quadrangle maps: Orange, Weehawken, Elizabeth and Jersey City

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Figure 2-10
Study Area Noise Monitoring Locations
HMDC Materials Handling Complex - PEHIS

Table 2-9
Existing Energy-Equivalent and Day-Night Energy Equivalent Sound Levels at Study Area Noise Monitoring Locations
(March 7 and 8, 1995)

	Energy-Equivalent Levels (L_{eq})			
	Measured			Day-Night Energy (Ldn) Equivalent Sound Levels
Monitoring Location	Daytime Minimum (dBA)	Daytime Maximum (dBA)	Nighttime (dBA)	Measured (dBA)
A	58	61	59	66
B	58	62	60	66
C	59	62	61	67
D	60	60	NA	NA

NA - No measurement taken.

Table 2-10
Location A
Octave Band Center Frequency Energy-Equivalent Levels
(March 7, 1995)

Hz	Lowest Daytime (10:00 - 10:30 a.m.) (dBA)	Highest Daytime (12:30 - 1:00 p.m.) (dBA)
31.5	69	75
63	68	70
125	64	63
250	53	57
500	53	55
1000	50	56
2000	47	45
4000	42	36
8000	28	27

terms of the project impact criteria discussed above by computing the magnitude of predicted change from the L_{eq} noise levels measured at the monitoring locations.

The nearest sensitive noise receptors in the project study area are the residences west of the proposed facility.

With regard to other potential sensitive receptors, the nearest schools are as follows: an elementary school (Mt. Carmel Guild School) about 0.4 miles west of the proposed landfill; Franklin Elementary School about 0.5 mile west from the proposed facility; Kearny High School approximately 0.6 miles northwest of the proposed facility; and West Hudson Handicapped Center .4 miles, northwest of the proposed site. The nearest hospital West Hudson Hospital is about 0.5 mile from the facility. Harvey Field is the closest park to project activity approximately 0.1 miles west. In addition, Gunnel Oval(Kearny) Park 0.5 miles northwest and West Hudson Park 0.7 miles southwest exist within the study area. For more detail on these sensitive receptors, see section 2.3 Cultural Environment and 2.4 Socioeconomic Environment.

2.2 Biological/Ecological Environment

The proposed facility is bordered on the north and east by the Kearny Marsh, classified as a Freshwater Marsh biozone within HMDC's region. Because the land south and west of the site is zoned for manufacturing, light industrial and residential use, impacts to these areas are not considered. The description of the biological/ecological environment is based on the Draft Environmental Impact Statement on the Special Area Management Plan for the Hackensack Meadowlands District, NJ (HMDC, 1995).

2.2.1 Plant Associations (Flora)

Little undeveloped open space remains in the Meadowlands District that is not a wetland, an aquatic habitat, or a filled and contaminated upland. The terrestrial habitats have been significantly modified since the arrival of the first settlers; first for farming and later for residential and industrial development. The major terrestrial open spaces that have become re-established in the District are on the closed solid waste disposal areas. The site of the proposed facility is one such area.

2.2.1.1 Inactive Waste Disposal Sites

Outside of the small areas that are still used for active waste disposal, most of the historic waste disposal sites have become revegetated and provide habitat for numerous species. These open areas are concentrated in undeveloped former landfill areas in the District (approximately 1,200 acres).

The plant communities on the inactive landfills can be characterized as early to middle successional. The fills were abandoned only recently (circa 1970-1980) and the dominant species are herbaceous plants, forbs (herbs other than grasses), and small shrubs. The climax local forests have not yet had time to become re-established; that process can take 200 years. As a result the waste-filled land remains open and the terrestrial wildlife that dominate there are those most closely associated with the transitional "old-field" community of the Atlantic

seaboard. This community is an association of plants and animals that develops in agricultural areas that have been left undisturbed for several years. Both the plant and animal species in these open areas are considered opportunistic in that they can reproduce quickly and in large numbers to colonize disturbed areas. The populations, however, are continually changing as these opportunistic species are displaced by the local climax species (assuming no further human disturbances).

2.2.1.2 Freshwater Marsh

The freshwater marshes north and east of the proposed facility in the Meadowlands consist of wetlands that are not directly connected to tidal waters. These marshes are influenced by freshwaters coming from upland runoff or groundwater. In the Meadowlands District, freshwater marshes of various size can be found in:

- the Kearny Marsh lying south of the New Jersey Transit Boonton Line
- the Penhorn Creek basin
- in North Bergen, in areas isolated from the tides by roads and dikes
- Losen Slote Creek
- areas near Teterboro Airport
- in small pockets throughout the lower Hackensack River floodplain

Historically, these freshwater meadows contained a mix of grasses such as those of the *Panicum* and *Andropogon* genera. However, most of the freshwater marshes in the District are currently dominated by *Phragmites*. Several areas do persist as remnant (non-reed) habitats, in the vicinity of Losen Slote and Moonachie Creek, the westerly portion of Sawmill Creek WMA, and areas in Kearny Marsh. In addition, naturally wooded areas make up some of the freshwater marshes.

2.2.2 Animal Associations (Fauna)

A variety of invertebrates, amphibians, reptiles, fish, birds, and mammals are found in the Hackensack Meadowlands. A list of species found in the District was compiled by HMDC (1987) from a review of 33 references and from their own surveys.

In summary, 23 species of invertebrates have been identified, and 31 species of fish. USEPA (1989) reports that over 250 species of birds have been seen in the Meadowlands, and over 60 nest there. The marshes in the region are used by waterfowl, including over 20 species of ducks.

2.2.2.1 Game and Non-Game Mammals

Mammals in the region include opossum, shrews, mice, moles, raccoon, weasel, skunk, foxes, chipmunk, squirrel, muskrat, rat, cottontail, and feral dogs and cats.

2.2.2.2 Game and Non-Game Birds

Birds breeding in freshwater marsh zone (adjacent to the proposed facility) include red-winged blackbirds, long-billed marsh wrens, and green-backed herons.

2.2.2.3 Reptiles and Amphibians

The freshwater habitat contributes a high biological diversity to the Meadowlands. Within the zone are found freshwater species such as the leopard frog, snapping, painted, and spotted turtles, and many aquatic insects and invertebrates.

2.2.2.4 Fish

Based on the data collected during 1987 and 1988 (HMDC 1989), several observations can be made regarding the fish species found in the District as follows:

- The lower Hackensack River can be divided into three general biological zones, based on the salinity of the water. These zones are not specific and the boundaries can vary depending on the tides and seasonal runoff. In the reach furthest downstream the average annual salinity was 9.4 parts per thousand (ppt). Of the 22 species of fish caught at this location, 7 were marine species, 6 were diadromous (migrating between ocean and freshwater), 5 were estuarine, and 4 were freshwater. In the middle zone the average annual salinity was 5.6 ppt. Of the 21 species of fish caught at this location, 6 were marine, 7 were diadromous, 4 estuarine, and 4 freshwater. In the upstream reach, the average annual salinity was 3.4 ppt. Of the 14 species caught, none were marine, 3 were diadromous, 4 were estuarine, and 7 were freshwater.

- The fish population is dominated (numerically) by the mummichog (*Fundulus heteroclitus*). This species represents approximately 90% of the individuals caught.

- Other abundant fishes were the Atlantic silverside, inland silverside, white perch, blueback herring, Atlantic tomcod, brown bullhead, pumpkinseed, American eel, and bay anchovy.

- The composition of the fish community seems to vary seasonally, with two peaks in species diversity. The first peak occurs in the spring and the second in the fall. The peaks correspond to periods of seasonal use such as the spring and fall migrations. Fish using the estuary as a refuge from predators and/or as a nursery area also contributed to these peaks.

2.2.3 Rare, Threatened and Endangered Species (Vegetation, Fish, and Wildlife), Including Unique Habitats

Several species among the state and federally listed endangered or threatened species have been reported to use open space locations within the site Project Area. State and federal laws seek to preserve the habitats of the threatened and endangered species. Existing remnant or unique habitats are discussed in Section 2.2.3.2. Remnant habitats are those which were more common in the past but which have since dwindled to remnants of their former areal range. Unique habitats are those that developed under unusual circumstances and now provide valuable habitat. Remnant habitats provide scientists with an opportunity to study and understand the mechanisms that led to the reduction of these habitats. Remnant and unique habitats in the Meadowlands provide a local diversity of plants and animals which may supply the stock to recolonize other areas of the Meadowlands at some future time.

2.2.3.1 Threatened or Endangered Species Habitats

Table 2-11 lists the various rare, threatened or endangered (T/E) species, as collected from several data sources (USEPA/Maguire Group, 1989; NJDEP Natural Heritage Program, written communications, 1992; NJDEP Division of Fish Game and Wildlife, written communications, 1992). Habitat areas as identified from federal, state, and HMDC sources generally cover broad expanses of territory, in which some localized use, or uses, have been observed. In addition, a federal biological assessment has been conducted in the District to identify potential impacts to the Peregrine Falcon. The results of this study are discussed below (under "Peregrine Falcon"). Several of the species of birds listed in Table 2-11 are indicated as being threatened or endangered only for the breeding populations. These species are either known to breed in the District, or the District is considered to be a suitable breeding habitat for these species.

Additionally, the NJ Audubon Society (NJAS) reports that two birds on NJ's threatened and endangered species list—short-eared owls (Asio flammeus, a former nester in the District) and long-eared owls (*Asio otus*, a possible nester in the District)—use the Meadowlands every year. The short-eared owl is classified as threatened in NJ, and the breeding population of long-eared owl is classified as endangered. However, no information on specific probable habitats within the District is available.

Figure 2-11 presents the habitat areas identified from these sources, and distinguishes between wetland and vacant upland areas. The habitats identified in the SAMP EIS include the Kearny Marsh, Belleville Turnpike and the Saw Mill Creek Wildlife Management Area. Each species listed in Table 2-11 is described in more detail below, followed by a description of each general habitat location noted on Figure 2-11.

Description of T/E Species

This section, taken from the preliminary Draft Environmental Impact Statement (EIS) on the Special Area Management Plan for the Hackensack Meadowlands District (1995), describes the threatened or endangered species in the Project Study Area.

Peregrine Falcon. The peregrine falcon (*Falco peregrinus*) is listed as an endangered bird species in both federal and state regulations. Although peregrine falcons historically inhabited remote, unpopulated areas, today they are found nesting and feeding in close proximity to human activity. Although the peregrine falcon is not yet known to breed in the Meadowlands District, in 1994 12 pairs of peregrines occupied nest sites within 15 miles of the District. Four were on buildings in New York City and six others were on bridges, including the George Washington Bridge, Goethals Bridge, and Outerbridge Crossing connecting New York and New Jersey (Chris Nadareski, pers. comm.). One formerly unreported breeding pair was discovered (through interviews conducted for the SAMP) to be utilizing a nest site at a power plant in Kearny about three-quarters of a mile south of the District boundary (James Schissias and Sheldon Kay, pers. comms.); this pair apparently produced at least two fledglings in 1993, but none were observed in 1994 (John Lung, pers. comm.). Also, NJDEP reports a breeding pair on the I-280 bridge over the Passaic River in Harrison, about 1.6 miles west of the District (Kathleen Clark, pers. comm.). The breeding

Table 2-11

Threatened and Endangered Species Observed in the Hackensack Meadowlands[1]

Scientific Name	Common Name	State Status[2]	Federal Status[2]
Botaurus lentiginosus	American Bittern	T[3]	X
Rynchops niger	Black Skimmer	E	X
Dolichonyn oryzivorus	Bobolink	T	X
Sterna antillarum	Least Tern	E	X
Circus cyaneus	Northern Harrier	E[3]	X
Pandion haliaetus	Osprey	T	X
Falco pereginus	Peregrine Falcon	E	E[3]
Podilymbus podiceps	Pied-Billed Grebe	E[2]	X
Passerculus sandwichensis	Savannah Sparrow	T	X
Nycticurax violaceus	Yellow-Crowned Night Heron	T	X
Ammodramus savannarum	Grasshopper Sparrow	T	X
Cistothorus platensis	Sedge Wren	E	X
Alosa sapidissima	American Shad	X[4]	X[4]
Microgadus tomcod	Atlantic Tomcod	X[4]	X[4]
Eupatorium capillifolium	Dog Fennel	E	X
Carex pseudocyperus	Sedge	E	X
Hieracium Kalmii	Canada hawkweed	E	X
Prenanthes racemosa	Smooth rattle-snake root	E	X
Salix lucida	Shining Willow	E	X
Scirpus maritimus	Salt Marsh Bullrush	E	X
Triglochin maritimum	Sea-side arrowgrass	E	X

[1] Preliminary list pending further information from the NJ Natural Heritage Program
[2] T = Threatened; E = Endangered; X = Not Listed
[3] Breeding population only
[4] Listed for similarity of appearance to T/E species
[5] Listed as a T/E species in AVID report (USEPA, 1989)

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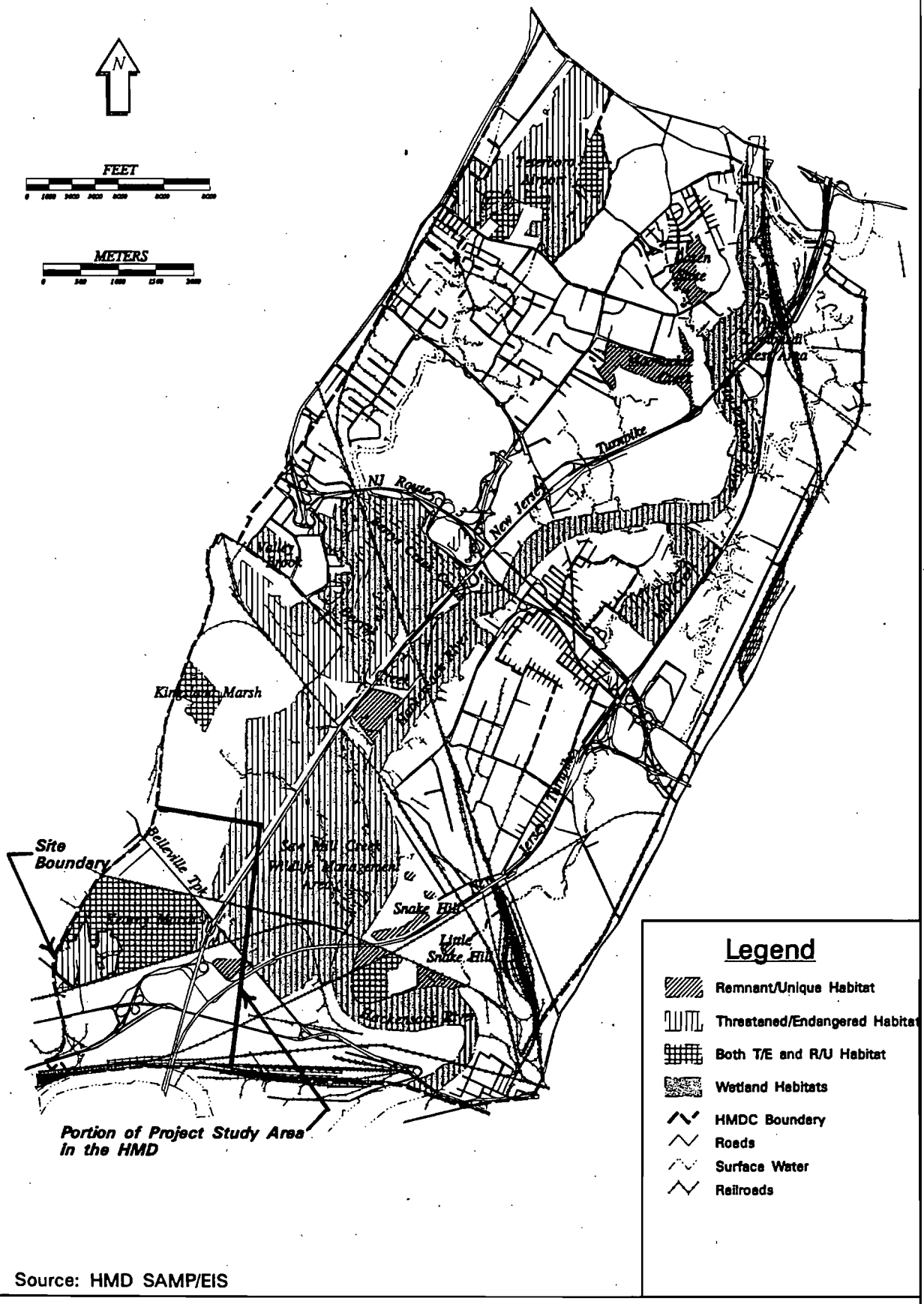

Source: HMD SAMP/EIS

Figure 2-11
Existing Threatened/Endangered and Remnant/Unique Habitats

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peregrines in New York City and New Jersey are apparently nonmigratory (Chris Nadareski and Kathleen Clark, pers. comms., and Frier 1982).

In the Meadowlands, peregrines have been sighted in the Sawmill Wildlife Management Area; in Kearny Marsh and Kingsland Marsh; and in the wetlands and upland landfills near lower Berrys Creek (around the Hackensack Meadowlands Environment Center). These habitats include approximately 2,260 acres of wetlands and 520 acres of vacant uplands. A Biological Assessment (BA) was conducted for the HMD SAMP/EIS to determine the potential impacts of the SAMP on peregrine falcon habitats. The research conducted for the BA found that a total of 67 observations of peregrine falcon in the Meadowlands have been reported in the literature and the sightings logbook maintained by the Hackensack Meadowlands Environmental Center, including one observation (of two birds) in May 1994. Entries in the logbook are made by birders and other visitors to the Center and vicinity, who represent a wide range of proficiencies at bird identification. However, most of the peregrine entries are by reputable observers and are considered to be reliable. After scattered reports from 1963, 1966, 1977, 1978, and 1980, this species has been reported every year since 1982 with the exception of 1989. The peak numbers of observations in that period were 9 in 1987, 10 in 1991, and 9 in 1992. The months with the greatest number of observations are August (10 seen), September (11 seen), and October (10 seen), whereas those with the lowest number are June, July, and November (with 2 observations each). It is highly likely that the reported sightings constitute only a small fraction of the actual occurrences of Peregrine Falcon in the Meadowlands District.

Of the 67 observations, 73% are from the Lyndhurst/North Arlington area (i.e., HMDC and Sawmill Creek WMA, and immediate surroundings, including landfills). This is an area of excellent waterbird habitat, including extensive tidal flats and marshes, with excellent public access. It is well known to regional birding enthusiasts and is frequently visited by experienced observers. Another 16% of the observations are from Kearny, either at Kearny Marsh or adjacent landfills. Although public access to Kearny Marsh, owned by the town of Kearny is relatively limited, observation points are known to area birders, and because the site is well known for its waterbirds it would be included on any birding trip to the area. The paucity of reports from other areas of the District can be attributed at least in part to a lack of public access to potential peregrine habitat elsewhere, but (owing to the presence of extensive open water and tidal flats) the Lyndhurst/North Arlington/Kearny area does encompass the best waterbird habitat, and consequently the best hunting habitat for Peregrine Falcon, in the District. The regular use of landfills by peregrines should also be noted—their activities are not restricted to wetlands.

Although Peregrine Falcon has been observed in the Meadowlands District in every month, the pattern of occurrence (highest during the migration months of September-October and in the winter months of January-February, lowest in June-July) suggests that the greatest use is by migrating and wintering birds rather than breeders from the surrounding region. An independent investigator who has conducted more than 2,500 hours of observation of the New York City peregrines, believes that adult peregrines in the city do all their hunting in or near the nesting territory, and considers it highly improbable that these birds travel to the Meadowlands to hunt (Sol Frank, pers. comm.). Even the breeding pair at Kearny is reported

to concentrate their breeding-season hunting on Rock Doves that roost and nest on the nearby Pulaski Skyway (John Lung, pers. comm.).

Egg dates for peregrine in New York state are generally March 26 to May 31 (Bull 1974), and as incubation lasts 28-29 days and fledgling occurs 35-42 days after hatching (Brown and Amadon 1989), adults could be hunting to feed nestlings from late April into early August. However, other than the August peak there is no increase in sightings during these months, as might be expected if one or more of the nearby pairs were hunting frequently in the District to feed themselves and their young. It seems unlikely that the regional population has uniformly late egg dates that would result in an August peak in hunting activity by breeders. This peak may, however, represent dispersal into the Meadowlands by at least one local breeding pair and possibly their young, since the peregrines breeding at the PSE&G Kearny Generating Station are reported to disappear from that site each year in August (John Lung, pers. comm.). Fledged young from other regional breeding sites may also utilize the concentrations of shorebirds that occur during August on tidal flats such as Sawmill Creek. According to Sol Frank (pers. comm.), banding results have shown that New York City peregrine fledglings do disperse widely from their natal territories. The results of a habitat classification conducted as part of the SAMP/EIS are presented on Figure 2-12.

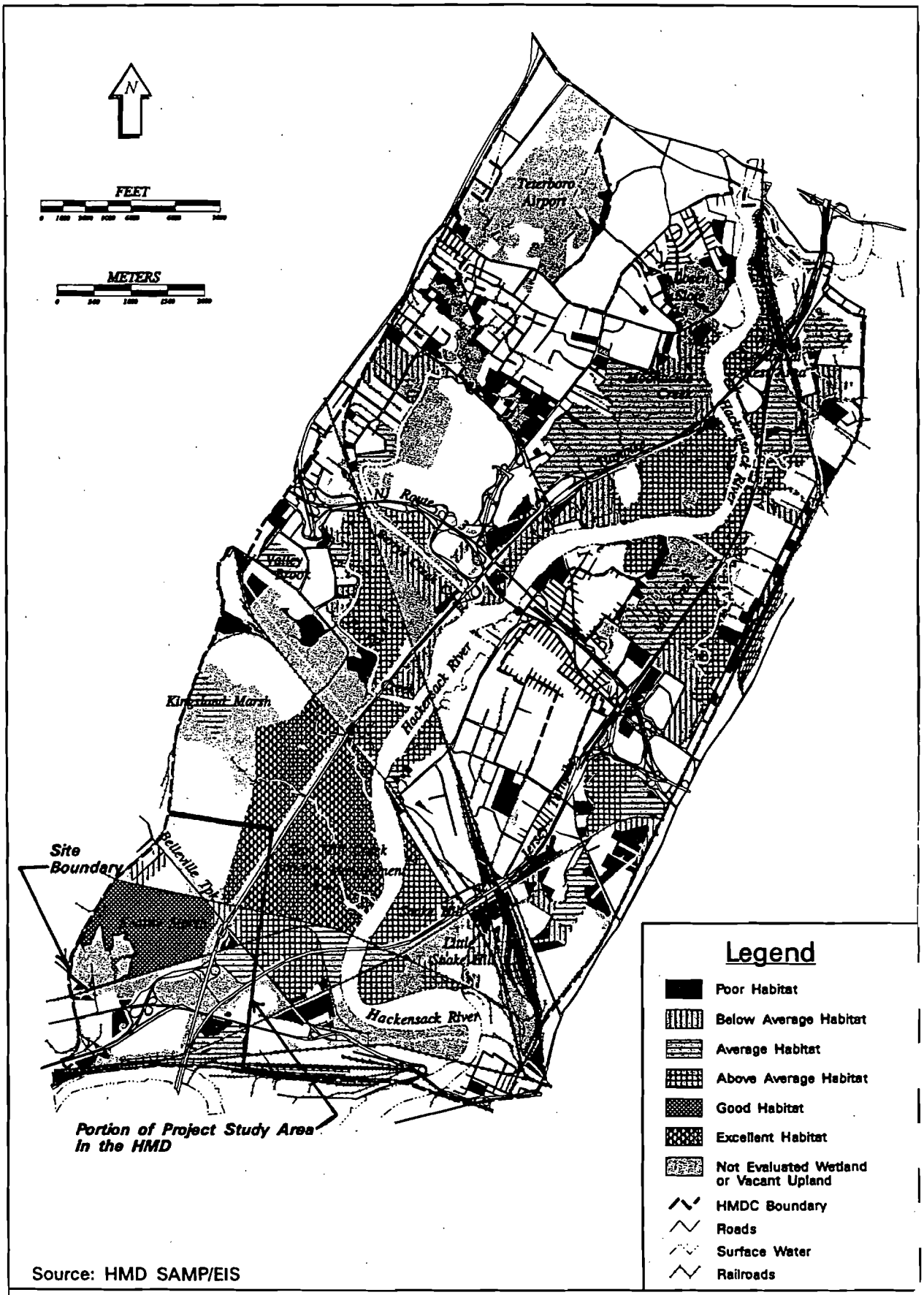
Black Skimmer. The black skimmer (*rynchops niger*) is a state endangered bird in New Jersey. Black skimmers are known to be somewhat sensitive to human activity, especially in their selection of nesting sites. Within the District, the black skimmer's habitats include the wetlands along Belleville Turnpike, Kingsland Marsh, and Sawmill Creek Wildlife Management Area, and encompasses approximately 1,420 acres of wetlands and ten acres of uplands.

Least Tern. The least tern (*Sterna albifrons*) is a state endangered bird in New Jersey. The least tern is quite sensitive to human activity. Within the District, identified least tern's habitats include Kingsland Marsh, Mill Creek, Sawmill Creek Wildlife Management Area, and the wetlands around the NJ Turnpike Vince Lombardi service area. The identified habitat for the least tern included approximately 1,415 acres of wetlands and ten acres of uplands. According to the NJDEP Department of Fish, Game and Wildlife, the least tern has probably been lost in the District due to plant succession. However, information from the NJ Audubon Society (NJAS) indicates that while there appears to be a loss of nesting habitats in the District from natural causes, least terns still use the District for feeding.

Dog Fennel. The dog fennel (*Eupatorium capillifolium*) is a wetland plant included on New Jersey's endangered species list. Within the District, it has been found in approximately 260 acres of wetlands along Belleville Turnpike.

Pied-billed Grebe. The breeding population of the pied-billed grebe (*Podilymbus podiceps*) is listed as endangered in New Jersey. Within the District, habitat for this bird has been identified as including approximately 705 acres of wetlands—along Belleville Turnpike, in Kearny Marsh, and in Kingsland Marsh.

Osprey. The osprey (*Pandion haiaetus*) is listed as a threatened bird in New Jersey. Osprey are not especially sensitive to human activity, but the decline in population has been partly



Source: HMD SAMP/EIS

Figure 2-12
Peregrine Falcon
Feeding Habitat Quality

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attributed to man's encroachment on the osprey's estuarine and seacoast nesting habitats. Within the District, Kearny Marsh and Kingsland Marsh (which total approximately 440 acres of wetlands) have been identified as potential habitat areas for the osprey.

Savannah Sparrow. The savannah sparrow (*Passerculus sandwichensis*) is included on New Jersey's list of threatened birds. Within the District, approximately 1,820 acres of wetlands and 415 acres of uplands around lower Berrys Creek and the Sawmill Creek Wildlife Management Area have been identified as habitats for the savannah sparrow.

Yellow-crowned Night Heron. The yellow-crowned night heron (*Nyctanass violacea*) is listed as a threatened bird in New Jersey. The yellow-crowned night heron is somewhat sensitive to human activity, and may nest in the District. Within the Meadowlands District, identified habitats for the heron include Kearny Marsh, Kingsland Marsh, Sawmill Creek Wildlife Management Area, and wetlands along Belleville Turnpike. Approximately 1,460 acres of wetlands and 115 acres of uplands have been identified as habitats for the yellow-crowned night heron.

American Bittern. The breeding population of the American bittern (*Botaurus lentiginosus*) is listed as threatened in New Jersey. The American bittern is usually found hidden deep in a wetland amongst emergent plants. It also may nest in the Meadowlands. Within the District, the identified habitat for this bird includes approximately 2,715 acres of wetlands and 520 acres of uplands, including: wetlands along Belleville Turnpike, Mill Creek, and the "high salt marsh" near the Hackensack River south of Route 3; and wetlands and uplands near lower Berrys Creek, Kearny Marsh, and Sawmill Creek Wildlife Management Area.

American Coot. The American coot (*Fulica americana*) was listed in the NJ National Heritage Program report of T/E species, but is not officially listed as a threatened or endangered bird in New Jersey. The American coot is not overly sensitive to human disturbances, and utilizes only open water areas. In the District, the identified habitat for the American coot includes approximately 440 acres of wetlands in Kearny and Kingsland Marshes.

American Shad. The American shad (*Alosa sapidissima*) was listed as a T/E species in the AVID (USEPA, 1989), but is not officially listed as a threatened or endangered fish in New Jersey. Within the District, the entire length of the Hackensack River has been identified as habitat for the American shad.

Atlantic Tomcod. The Atlantic tomcod (*Microgadus tomcod*) was listed as a T/E species in the AVID (USEPA, 1989), but is not officially listed as a threatened or endangered fish in New Jersey. Within the District, the Hackensack River south of Route 3 and the deeper channels in the Sawmill Creek Wildlife Management Area have been identified as habitat for the Atlantic tomcod.

Description of Habitat Locations

Hackensack River. The entire length of the Hackensack River is identified as a habitat for American shad, while the Hackensack River from Mill Creek south is identified as a habitat for Atlantic tomcod.

Kearny Marsh. The wetlands in this area have been identified as a habitat for peregrine falcon, pied-billed grebe, American bittern, osprey, yellow-crowned night heron, and American coot. The vacant upland areas south-west of Kearny Marsh, along with the wetlands have been identified as a coastal heron rookery.

Sawmill Creek Wildlife Management Area. This area has been identified as a habitat for many wetland species, including least tern, peregrine falcon, American bittern, black skimmer, yellow-crowned night heron, savannah sparrow, and Atlantic tomcod.

2.2.3.2 Remnant or Unique Habitats

Remnant habitats are those which were more common in the past but which have since dwindled to remnants of their former range. Unique habitats are those which have developed under unusual circumstances and now provide valuable habitat. Remnant habitats provide scientists with an opportunity to study and understand the mechanisms which led to the reduction of these habitats. Remnant and unique habitats provide a local diversity of plants and animals which may supply the stock to recolonize other areas of the Meadowlands at some future time. Remnant and unique habitats have been identified by USEPA in the 1989 "Functional Assessment of Wetlands in New Jersey's Hackensack Meadowlands", and are shown in Figure 2-11. In the project Study Area remnant and unique habitats include:

- Freshwater Meadows near Losen Slote and Moonachie Creek, Kingsland Marsh, and Kearny Marsh (approximately 605 acres)

2.3 Cultural Environment

2.3.1 Recreational Resources

The primary recreational resources within the project study area are county and municipal parks of Kearny and Harrison (west and southwest of the proposed facility) and the Kearny Marsh (north and east of the proposed facility). Table 2-12 lists the county and municipal parks, and provides the size and facilities offered. The Kearny Marsh is currently utilized for a variety of recreational activities including hunting, fishing, native photography, bird watching boating and swimming. Access to the Marsh however is prohibited by law.

2.3.2 Aesthetic (Visual) Resources

The proposed landfill site is bounded on the south and west by industrial/commercial properties of limited aesthetic value. The Kearny Marsh provides the greatest aesthetic value. Gunnell Oval Park offers the best publicly accessible vantage point for viewing the Marsh. Public access and the topography in the project study area limit the ability to view the Marsh from other locations. Visibility from Harvey Park, directly west of the proposed landfill, is currently blocked by topography and the Bedrock Stone Company which operates between the park from the proposed landfill.

Table 2-12
Existing Parks and Recreational Facilities

Name & Location	Acres	Facilities
Hudson County - County		
West Hudson - Kearny/Harrison (Duke St./Schuyler Ave.)	5	Football, soccer, base/softball, basketball, bocci, tennis
Hudson County - Municipal - Kearny		
Fairlawn Manor - Jefferson & Bennet Aves.	2	Football, base/softball, basketball, playground
Gunnel Oval - Schuyler/Oakwood Aves.	23	Football, soccer, base/softball, basketball, handball, playground, tennis
Harvey Field - Schuyler, Berg & Garfield Aves.	7	Soccer
Kearny H.S. - King St./Garfield/Devon St.	3	Football, track
Riverbank Park - Passaic Ave. & River	16	Ice skating, playground, tennis
Veteran's Memorial Field - Belgrove Dr./ Bergen Ave.	13	Football, soccer, base/softball, basketball
Veteran's Playground - Hickory/Oakway/Spruce Street	2	Street hockey, basketball, playground
Twelve parks less than 2 acres		
Hudson County Municipal - Harrison		
John F. Kennedy Stadium - 1st Str.	ND	Football, track, tennis, etc.
Little League Field - Harrison Ave.	ND	Base/soft ball
Library Park	ND	Basketball

Sources: HMDC Master Plan, Environmental Operations, Engineering Staffs, 1991. Open Space Plan Report
ND - Not determined

2.3.3 Historical/Archeological Resources

Historical and archaeological resources in the project study area have been identified by reviewing the State and National Register of History Places, utilizing the Stage 1A Archaeological and Historical Sensitivity Evaluation of the Hackensack Meadowlands, New Jersey report prepared by Grossman and Associates, Inc. The Highland Hose Company #4 on Halstead Avenue in Kearny is the only State and National Register Historic Place within the project study area. Based on the historical review of the History of Kearny and Harrison, the West Hudson Park located in both towns was selected as an additional area of historical significance. The Grossman report included the Schuyler Copper Mines, Belleville Turnpike, and the Cedar Swamps as areas of historical or archaeological significance within the project study area. These areas are shown on Figure 2-13. Each of these resources are described below.

Highland Hose Company #4

Kearny's oldest fire house was built in 1894 for the Highland Hose Company. It is no longer in active service but does contain a Fireman's Museum. The site is on both the State and National Register of Historic Places.

West Hudson Park

Planned and constructed in 1913, the West Hudson Park covers forty-three and one-half acres. The park, which extends from Schuyler Avenue to North 5th Street in Harrison, is bordered on the north by Dukes Street and on the south by Conrail rail lines. The following description originally appeared in Kearny's local newspaper, The Observer, on June 9, 1933.

> "A trip through the park shows one all the pleasure seeker or picnicker desires. There is a swimming pool and a large sports field where on summer evenings crowds gather to play basketball, to bowl, to run and engage in similar sports. For the nature lover there are secluded walks, a winding lake and beautiful shrubs and foliage. The park, while it is Kearny's only one of any pretensions or size, is a worthy one. It ranks with any of the other county parks as far as go completeness, variety and beauty."

Schuyler Copper Mine (Figure 2-13, No. 1)
In North Arlington, on the bluffs to the west of the Hackensack Meadowlands and just outside of HMDC's project area, eighteenth century economic activity was centered around Arent Schuyler's Copper Mine. Schuyler's Mine, which is shown on Robert Erskine's Revolutionary War era map of the area, was reported to have been discovered prior to 1719 "by a Negro slave on the Schuyler plantation."

As of the writing of *The WPA Guide to 1930's New Jersey*, the ruins of these mines were reportedly in the face of a cliff along Schuyler Ave. 0.2 miles north of Belleville Pike. Much loose earth had reportedly fallen into the mine's two entrances, and exploration was considered dangerous. Below the mines, and also on the cliff, were the remains of a pump house that had been used to work the mine.

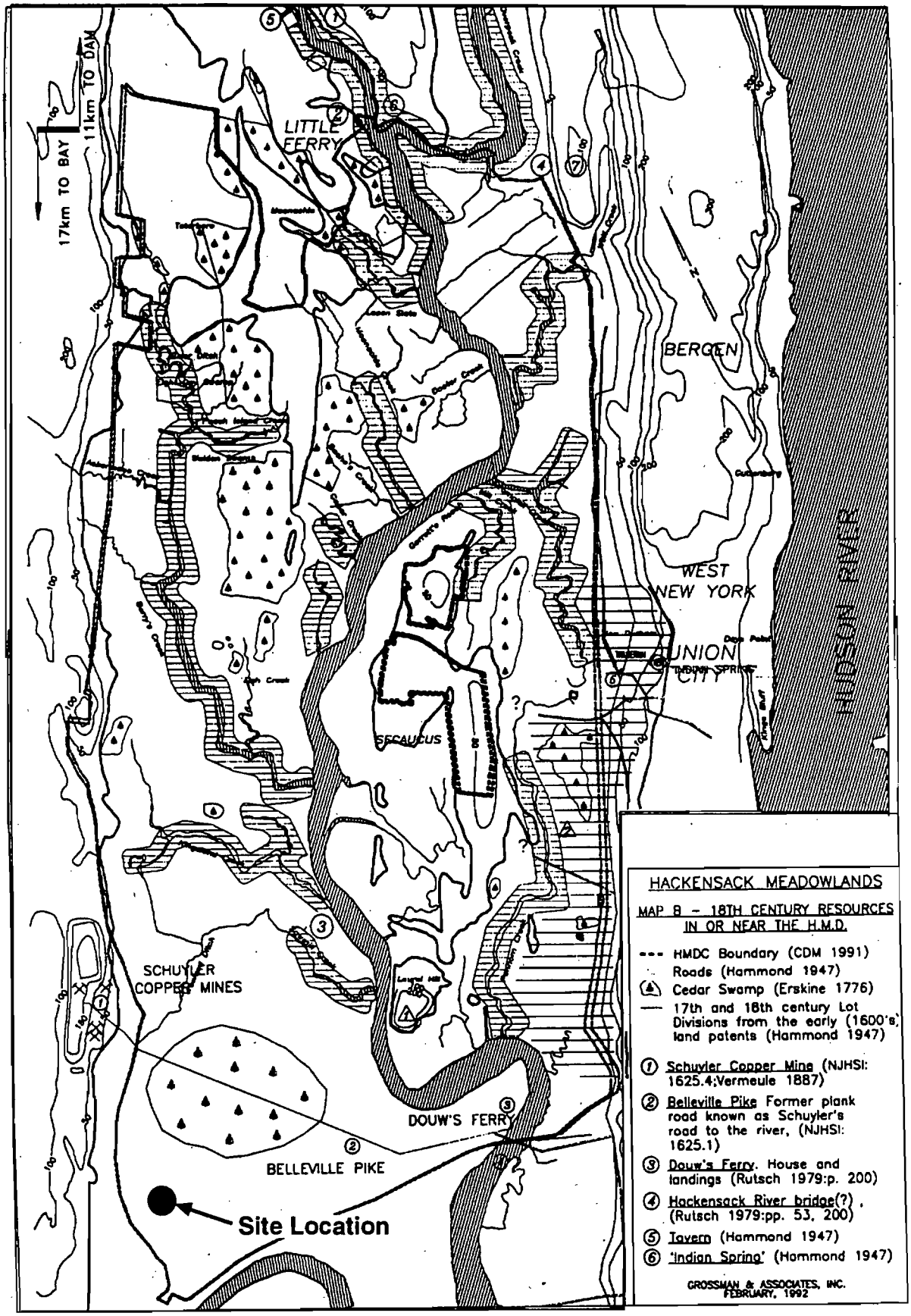

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Figure 2-13
Cultural Resources in or Near the H.M.D.
HMDC Materials Handling Complex - PEHIS

Belleville Pike (Figure 2-13, No.2)
The first roads in the area were also laid out in the eighteenth century to transport the people and resources from the towns in the interior of New Jersey, across the marsh and meadows, to the ports along the Hudson River which provided ferry service to the port of New York. In 1768, John Schuyler built a cedar log road along the route of the current Belleville Pike, from his copper mine in North Arlington, to Bergen. Other sources suggest that the turnpike, which was originally called Schuyler Rd., "was built by sailors from the British fleet anchored in New York harbor during the Revolution in order to furnish an outlet for the copper needed in the manufacture of munitions." However, aside from two skirmishes between British troops and patriots at Secaucus in 1780, most sources suggest that Revolutionary War era activity in the Hackensack Meadowlands was limited primarily to the use of the roads and the raiding of farms by both sides.

The early road network crossing and bordering the Hackensack Meadowlands is shown on Robert Erskine's 1776 map of the area. This included a road from Powles (Paulus) Hook on the Hudson River to Bergen (Jersey City), which then continued in three directions. One road extended north from Bergen through the "Bergen Woods" to "3 Pidgeons", where it connected with another road from "Hobuck Ferry" and "Wharsk Ferry" and then continued north along the eastern edge of the marsh. The road running north from Bergen is in the general alignment of the later historic Hackensack or Bergen Road, and US Route 1 and 9. A "Tavern" is indicated on the east side of the road to Hackensack, at "Three Pidgeons", on Hammond's 1947 map of historic Bergen property lines (see Figure 2-13). Another unnamed road, presumably Schuyler's Road (now Belleville Tpke.), headed slightly northwest across the Hackensack River, through the "Salt Meadows" and the "Cedar Swamp", past Schuyler's copper mine, and then turned north along the Passaic River.

Cedar Swamps (Figure 2-13)
Approximately 800 years ago, the first cedar trees are believed to have appeared in the Meadowlands. The cedar bogs predominated for some three to five centuries, and began to dwindle beginning about 500 years ago. According to late 19th century maps, the then surviving cedar stands were limited to only a few scattered areas, surrounded by common reed (*Phragmites australis*). The apparent island pattern of isolated survival is consistent with ecological models of the takeover of one plant community by another. The pattern of survival also suggests that the former extent of cedar bogs in the Meadowlands was much larger than was found in the late 19th century.

Recent changes in the Meadowlands have been more abrupt, and more drastic. The first cause of change was the attempt to "reclaim" the Meadowlands as arable land, and beginning in the 1930's, to control mosquito breeding. The diking and ditching undertaken to drain the Meadowlands probably aided in the decline of the cedar bogs. In 1867, the Iron Dike Land Reconstruction Company constructed a dike along the northern bank of the lower Passaic River, around Kearny Point, along the western bank of the Hackensack River, and finally up Sawmill Creek. The section of land that this dike isolated contained a large cedar swamp, which was shown as a "former" cedar swamp on a 1896 map. Because diking prevents the influx of tidal water, and also dries out the marsh, this dike probably contributed to the loss of cedar in the Sawmill Creek area. (However, as was stated above, evidence suggests that

the cedar swamps started declining approximately 500 years ago, thus some of the reasons for the decline are probably "natural.") A further human factor in the decline of the cedar in the Meadowlands may have been the harvesting for use in ship building, to make plank roads to traverse the Meadowlands, and for lumber and shingles.

2.4 Socioeconomic Environment

The socioeconomic environment section includes a baseline description of the transportation facilities, utilities and public services which will serve the facility. An inventory of community and educational facilities within the study area and a description of housing and population are also provided. The potential for impact to these facilities and services is examined in Section 3.

2.4.1 Transportation Facilities

2.4.1.1 Proposed Facility Network

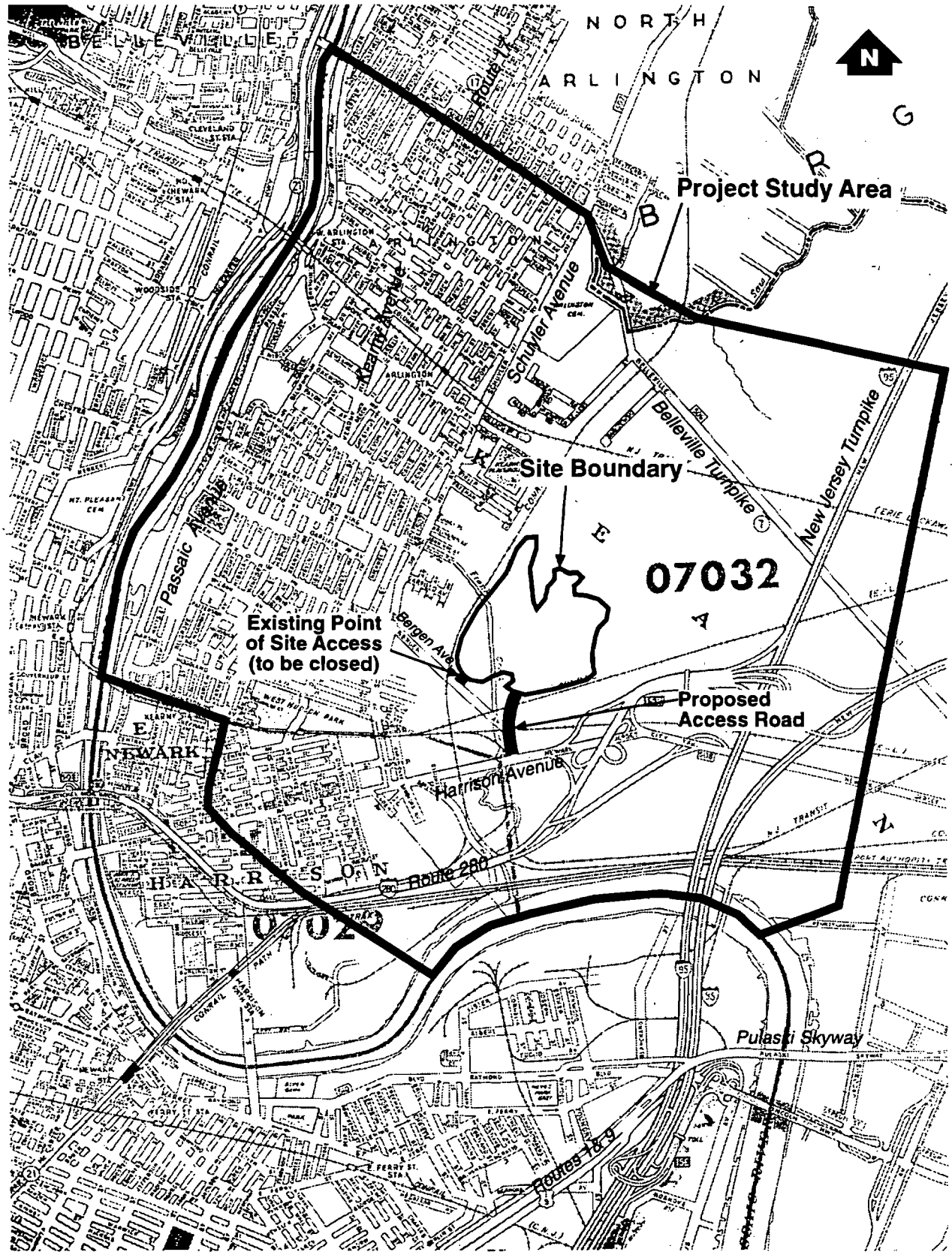
The transportation route to the proposed facility will utilize Harrison Avenue. A currently unimproved portion of Bergen Avenue which intersects with Harrison Avenue and travels north to the landfill will be improved and used as the access road to the landfill. Traffic will be directed from Harrison Avenue north on an improved road to a scale house on-site. No access to or from the facility will be permitted from the western end of Bergen Avenue (i.e., from Passaic Avenue, Kearny Avenue, Schuyler Avenue, etc.).

Harrison Avenue is accessible from Route 280 and from the New Jersey Turnpike and from Routes 1 and 9. The facility transportation network is shown on Figure 2-14. It currently serves residential traffic in Harrison and Kearny and high volume truck traffic to industrial facilities.

A 1995 traffic study performed by the New Jersey Department of Transportation, (NJDOT) measured average daily traffic (ADT), peak design and AM/PM peak hour volumes for Harrison Avenue and Schuyler Avenue. The study also identified the percentage of heavy truck traffic and total truck traffic for Harrison Avenue. The results of this study are presented below in Table 2-13.

Table 2-13
Schuyler Avenue and Harrison Avenue
NJDOT Traffic Study

Street Name and Location	ADT Two Way	AM Peak Hour	PM Peak Hour	% Heavy Truck in 24 Hours	% Total Truck in 24 Hours
Harrison Avenue (from Schuyler Ave. Intersection to Interstate 280)	16,140	1,210	1,355	17% (2591)	35% (5334)
Schuyler Avenue (At Harrison Avenue Intersection)	12,345	910	1,050	Not measured	Not measured.



Source: Hagstrom Map of Hudson County

CDM Camp Dresser & McKee

Figure 2-14
Facility Transportation Network
HMDC Materials Handling Complex - PEHIS

2.4.1.2 Regional Conditions

The District is located in the middle of one of the most densely populated and heavily traveled areas in the United States. Not only is the District surrounded by New Jersey's most populous cities, it also serves as a gateway to New York City. Highways—including the eastern and western spurs of the New Jersey Turnpike, U.S. Route 1 and 9, State Route 3, State Route 17 and U.S. Route 46—crisscross the District, bringing cars and trucks to and from New York City. Trucking companies have used the concentration of highways, and the proximity of markets, to locate major terminal facilities within the District, increasing the amount of truck traffic experienced on local roadways.

Existing Highway System

The District is served by a variety of major roadways including limited access facilities such as the New Jersey Turnpike, major state highways such as U.S. Routes 1 and 9, and other local distributor and collector facilities (see Figure 2-14). The following sections briefly describe the physical characteristics of important highway facilities in and around the District.

New Jersey Turnpike/Interstate Route 95. The New Jersey Turnpike is a north-south limited access toll road with a posted speed limit of 55 miles per hour (mph). The Turnpike passes through the center of the District, and serves both through traffic and Meadowlands-related traffic. Just to the south of the District, it consists of a twelve lane roadway, with three lanes each way dedicated to cars only. Between Interchanges 14 and 15E (still to the south of the District), it divides into two separate roadways. Within the District, the eastern spur is a six-lane roadway with two interchanges in the Secaucus area (16E and 17E), which serve State Route 3, U.S. Route 1 and 9, and Interstate Route 495, with access to Manhattan via the Lincoln Tunnel. The western spur consists of a six-lane roadway from interchange 15E through interchanges 15W (I-280), 16W (S.R. 3), and 18W (Meadowlands Sports Complex). North of interchange 18W, the western spur becomes a four-lane roadway. The eastern and western alignments of the Turnpike then merge together to form a ten-lane roadway in Ridgefield, just south of interchange 18E. North of interchange 18E (serving U.S. Route 46), the roadway reduces to six lanes and becomes Interstate Route 95, which merges with Interstate Route 80, and crosses the George Washington Bridge into Manhattan.

State Route 17. Route 17 is a north-south roadway which parallels the western boundary of the District. Most of the roadway north of Route 3 is a six-lane facility with a 50 mph speed limit and commercial developments along both sides of the roadway. The segment of Route 17 south of Route 3, also known as Ridge Road, is a two-lane facility passing through a mixed commercial/residential area and having a posted speed limit of 30 mph. The southern terminus of Route 17 is at State Route 7 in North Arlington. Ridge Road turns into Kearny Avenue at the North Arlington Kearny border. Route 17 primarily serves through traffic between the major highways that it crosses, but also serves as a collector and distributor roadway for local trips.

U.S. Route 1 & 9. Route 1 and 9 is a north-south roadway that parallels much of the eastern boundary of the District. At the southeastern corner of the District, at the Tonnelle Avenue Circle, the roadway divides into Route 1 and 9 (Tonnelle Avenue), which parallels the

District boundary, and Route 1 and 9 Business, which connects with the Holland Tunnel. The posted speed limit on the mostly four-lane Tonnelle Avenue ranges from 40 to 45 mph.

Interstate Route 280. The eastern terminus of Route I-280 is located in the southwestern corner of the District at Turnpike interchange 15W. The roadway is mostly a six-lane limited access facility with a posted speed limit of 50 mph. It serves the regional traffic between Hudson County and Morris County through Essex County, and provides access for Meadowlands traffic to Essex County and other regional facilities such as Routes I-287 and I-80. It also provides a connecting route for traffic headed to and from the Holland Tunnel and downtown Manhattan.

2.4.2 Utilities

2.4.2.1 Sewage Facilities

Until very recently, in-District portions of Kearny provided their own sewage treatment. Kearny now pumps their wastewater to the treatment facility operated in Newark by the Passaic Valley Sewerage Commissioners (PVSC). The Kearny Municipal Utilities Authority (KMUA) provides sewer service to industrial users in South Kearny. Residential sewer service is provided by the Town of Kearny. A twelve inch main collects sanitary wastewater along Bergen Avenue which flows by gravity to the South Kearny Pump Station where it is pumped to the PVSC WWTP. Table 2-14 identifies pertinent characteristics of the PVSC facility.

Table 2-14
PVSC Treatment Plant
System Characteristics

Facility Name: PVSC Plant
Location: Intersection of Wilson and Dormus Avenue, Newark
Existing Treatment Capacity: Avg.: 330 mgd
Peak Dry Capacity: 400 mgd
Peak Wet Capacity: 720 mgd

Unserved areas are characterized by absence of development or have uses that do not produce substantial quantities of wastewater. Specific areas that meet this description include the Kearny Marsh and vacant land uses in the southwest sections of the District.

2.4.2.2 Stormwater Management

Stormwater in the vicinity of the proposed landfill is conveyed over land to the Kearny Marsh and to catch basins which direct the water to the Kearny storm sewer infrastructure. A 4' x 4'-3" box culvert on Bergen Avenue adjacent to the proposed property directs stormwater from portions of Kearny to the Kearny Marsh.

2.4.2.3 Water Supply

Water supply in Kearny is provided by the Town of Kearny. Kearny is a participating municipality in the North Jersey District Water Supply Commission (NJDWSC) which was formed by the state in the 1930s. The NJDWSC water treatment plant in Wanaque, New Jersey allocates water to participating municipalities. The treatment process includes prechlorination, chemical addition (potassium permanganate, alum and polymer), sedimentation, filtration, post chlorination and pH adjustment (lime). Table 2-15 lists pertinent information for the North Jersey District water supply system, and for the Kearny system.

The NJDWSC water system is entirely surface water fed, receiving primary contribution from the Wanaque Reservoir. In addition, water is available from the Monksville Reservoir and the Ramapo and Pompton Rivers. Current allocation to Kearny MUA is 12.06 mgd. Average demand is 6.955 mgd and peak demand is 11.0 mgd. The water system has excess capacity of 5.1 mgd during non-peak periods and 1.0 mgd during peak demand periods. An 8-inch and a 12-inch water main runs from Schuyler Avenue along Bergen Avenue (including paper street) to Harrison Avenue. The proposed facility will obtain water from either of the Bergen Avenue mains.

Table 2-15
Town of Kearny Water Supply

NJDWSC Water Source: Wanaque Reservoir (29.6 billion gal)
NJDWSC Availability of Additional Supply: Monksville Reservoir (7 billion gal.), Pompton River (250 mgd) Ramapo River (150 mgd)
NJDWSC Treatment Plant Average Capacity: 140 mgd
NJDWSC Treatment Plant Peak Capacity: 210 mgd
NJDWSC Treatment Plant Average Demand (1994): 121.1 mgd
NJDWSC Treatment Plant Peak Demand (1994): 142 mgd (annual), 161 mgd (daily), 175 mgd (hourly)
Kearny Distribution System Capacity: 18.9 mgd
Kearny Current Commitment of Capacity: 12.06 mgd
Kearny Peak Demand (1994): 11.0 mgd
Kearny Average Demand: 6.955 mgd

2.4.2.4 Energy Supply

Electric Power

Electrical energy needs in the Hackensack Meadowlands District are met, for the most part, by PSE&G's one in-District facility and two powerplants and associated substations that are just south of the District. These facilities transmit electricity over 138 KV lines.

The Kearny generating station on the lower Passaic provides service to Kearny. Overhead powerlines run along the south side of Bergen Avenue and intersect at railroad tracks south of the proposed facility. Power lines continue south toward Harrison Avenue and east and west along the rail lines.

Natural Gas

The Transcontinental Pipeline Corporation has two major pipelines in HMDC's District that run from north to south along the western spur of the NJ Turnpike, from the gas storage facility site on the Hackensack River to points west and outside of the District. These lines are part of a larger network that spans the Atlantic seaboard (linking petroleum reserves in the Gulf of Mexico with the New England area). Natural gas is available to the proposed facility via a pipeline along Bergen Avenue.

2.4.3 Public Safety

This section describes existing public services for Kearny and Harrison, including local law enforcement, fire protection and health protection.

Although information is included herein on available Harrison municipal services, they are included for reference purposes only due to their location within the project study area. It should be emphasized that the proposed facility will be located entirely within the Town of Kearny, and will rely on Kearny municipal services. Host community benefits to the Town of Kearney, which are expected to exceed $2 million per year, will offset additional municipal service costs.

Police Protection

Local law enforcement is provided by the Kearny Police Department and the Harrison Police Department. Two stations in Kearny, the headquarters on Laurel Avenue and Second Precinct on Route 1 and 9, house 109 sworn officers and 45 vehicles. Harrison Police Department Headquarters is located in Harrison and contains 58 sworn officers and 12 vehicles.

Fire Protection

The Kearny Fire Department protects the citizens and properties of Kearny. The department has four stations located on Kearny Ave., Midland Ave., corner of Deven Terrace and Davis Ave. and Route 1 and 9. The force is made up of 100 paid employees and vehicles (three trucks and four engines). The fire fighters have received full fire training, emergency medical training (EMT), and hazardous materials training (HazMat).

The Harrison Fire Department has stations located on Sussex Street and Cleveland Avenue. The Department has 61 firefighters who receive full fire training, emergency medical training (EMT) and hazardous materials training (HazMat). Vehicles used by the department include 4 engines, 1 truck and two ambulances. The fire department also provides emergency medical assistance to the citizens of Harrison.

Health Protection

Health protection services in the project study area are provided by the Kearny Health Department, the Harrison Board of Health and the Hudson Regional Health Commission.

2.4.4 Community Facilities

Educational Facilities

A number of educational facilities are located in the Project Study Area. Table 2-16 lists the educational facilities in the project study area.

Health Care Facilities

The only hospital located in the project study area is the West Hudson Hospital (250-bed facility) on Bergen Avenue in Kearny.

Religious Facilities

Places of worship in Kearny include: Knox Presbyterian Church on Kearny Avenue; First Lutheran Church of Kearny on Oakwood Avenue; West Hudson Christian Center on Kearny Avenue; St. Stephen's Church on Washington Avenue in Kearny; St. Cecelia's Church on Kearny Avenue and Hoyt Streets; Our Lady of Sorrows Church on Davis Avenue; First Presbyterian Church on Kearny Avenue in Kearny; Trinity Episcopal Church on Kearny Avenue; Kearny Christian Community on Elm Street in Kearny; Kearny Christian on Kearny Avenue; First Evangelical Free Church on Maple Street in Kearny; Gospel Light Baptist Church on Davis Avenue in; Oakwood Baptist Church on Oakwood Avenue; and Kearny Bible Chapel on Quincy Avenue.

Places of worship in Harrison within the project study area include: Holy Cross Church on Harrison Avenue; Our Lady of Chenstochowa on Jersey St.; Christ Episcopal Church on N 4th St.; St. John Lutheran Church on Davis Avenue.; St. Casimir Polish National Catholic Church on Cross St.; Portuguese Evangelical Church on 5th St.; Spanish 7th Day Adventist Church on Central Ave.; and Davis Memorial Methodist Church on Harrison Ave.

2.4.5 Population and Housing

Recent information on population, housing, and employment have been evaluated for the towns of Kearny and Harrison, Hudson County, and for the Meadowlands District. Since 1980, these locations have grown, indicating the strong pressures for economic development in this area. The general demographic and economic characteristics are described below. Population and employment data for Hudson County and the Meadowlands District for the period from 1970 to 1990 is presented in Table 2-17. Current population data in Kearny and Harrison are presented in Table 2-18.

Table 2-16
Project Study Area Educational Facilities

School	Grade Level	Municipality	Address
Franklin School	K-8	Kearny	100 Davis Avenue
Garfield School	K-6	Kearny	360 Belgrove Drive
Lincoln School	K-8	Kearny	101 Beech Street
Roosevelt School	K-6	Kearny	733 Kearny Avenue
Schuyler	K-6	Kearny	644 Forest Street
Washington	K-8	Kearny	80 Belgrove Drive
Sacred Heart	K-8	Kearny	22 Wilson Avenue
Saint Cecelia	K-8	Kearny	114 Chestnut Street
Saint Stephen	K-8	Kearny	141 Washington Avenue
Kearny High School	9-12	Kearny	336 Devon Street
Lincoln School	K-8	Harrison	430 William Street
Washington School	K-8	Harrison	223 Hamilton Street
Harrison High School	9-12	Harrison	North 5th Street
Holy Cross	K-8	Harrison	15 South 4th Street

Table 2-17
Demographics and Employment Data for Bergen and Hudson Counties and the Hackensack Meadowlands District

Population

Location	Census 1970	Percent Change	Census 1980	Percent Change	Census 1990	Percent Change	Projected 2010
Bergen County	897,147	-5.8	845,385	-2.4	825,380	8.60%	896,400
Hudson County	607,839	-8.4	556,972	-0.7	553,099	0.70%	556,972
Bergen & Hudson Counties	1,504,986	-6.8	1,402,357	-1.7	1,378,479	5.43%	1,453,372
HMDC (a)	N.Av.		13,340	13.6	15,154		
HMDC as a percentage of Bergen & Hudson Counties			0.95%		1.10%		

Households

Area	Census 1970	Percent Change	Census 1980	Percent Change	Census 1990		
Bergen County							
Total Households	283,575	5.9	300,410	2.8	308,880		
Hudson County							
Total Households	214,665	-3.2	207,857	0.4	208,739		

Employment

Area	1977	Percent Change 1977-80	1980	Percent Change 1980-86	1986	Percent Change 1986-20	Projected 2000
Bergen County	370,400	6.6%	394,900	12.1%	442,700	23.4%	546,500
Manufacturing	107,600	3.6%	111,500	-10.8%	99,500	-0.7%	98,800
Nonmanufacturing	262,800	7.8%	283,400	21.1%	343,200	30.4%	447,700
Hudson County	231,800	-1.7%	227,800	4.0%	236,900	17.0%	277,200
Manufacturing	72,100	-5.0%	68,500	-23.6%	52,300	-14.7%	44,600
Nonmanufacturing	159,700	-0.3%	159,300	15.9%	184,600	26.0%	232,600

(a) Estimated based on a land use survey of housing prepared by HMDC.

N.Av. = Information not available.

Sources: 1990 Census of Population and Housing, U.S. Dept. of Commerce
1980 Census of Population and Housing, U.S. Dept. of Commerce
NJ Dept. of Labor, Volume III: Industry Outlook for Counties of NJ

Table 2-18
Demographic and Employment Data for Kearny and Harrison

	Population					
Location	Census 1970	Percent Change	Census 1980	Percent Change	Census 1990	Estimated 1992
Kearny	37,585	-4.9%	35,735	-2.4%	34,874	35,265
Harrison	11,811	+3.6%	12,242	+9.7%	13,425	13,298
	Households and Employment					
	Households		Civilian Employment			
Kearny	12,470		19,224			
Harrison	4,858		7,244			

2.4.5.1 Population

The 1992 population of Kearny, as estimated by the U.S. Bureau of Census, is 35,265. The population decreased from 37,585 in 1970 to 35,735 in 1980 and 34,874 in 1990. The estimated 1992 population in Harrison was 13,298. Population in Harrison has steadily risen since 1970 when population was 11,811. The 1980 population was 12,242 and in 1990 the population was 13,425.

Households

In 1990 the total number of households in Kearny was 12,470, while Harrison had 4,858 households. In Hudson County the number of households decreased from 1970 to 1980, and increased slightly from 1980 to 1990 as shown in Table 2-18. From 1970 to 1980, total households decreased 3.17 percent in Hudson County from 214,665 to 207,857, and increased by 0.4 percent from 1980 to 1990, to 208,739. Vacant housing units constituted approximately 9.1 percent of all housing units in Hudson County, in 1990.

Employment data by industry sector for 1986, with projections to the year 2000, has been prepared by the NJ Department of Labor. Employment information for Hudson County is shown in Table 2-17.

The manufacturing sector is expected to decline sharply in Hudson County, which has an older industrial base and possibly a larger concentration of declining manufacturing subsectors. The trend toward decreasing numbers of manufacturing jobs and stability or increases in other sectors is similar to that exhibited throughout the state of New Jersey and the United States. Overall employment is expected to grow by 17 between 1986 and the year 2000 percent in Hudson County

2.4.5.2 Housing

The average property value in 1990 in Kearny was $165,700 and in Harrison it was $130,700, according to the U.S. Census. Since that time the economic downturn caused a decrease in property values which only now have stabilized.

Residential areas east of Schuyler Avenue in Kearny are located on John Hay Avenue, Arlington Avenue, Quincy Place and Sandford Avenue. The remainder of properties east of Schuyler Avenue are commercial/industrial facilities whose value varies according to a variety of factors. The area immediately west of Schuyler Avenue is predominantly residential. Schuyler Avenue and Kearny Avenue in Kearny and Harrison Avenue and Frank E. Rodgers Boulevard in Harrison generate the primary commercial activity.

Table 2-19 lists classification by use and based on the Real Property Evaluation of 1991 and 1990 Census Housing Units for Kearny and Harrison.

Table 2-19
Real Property Valuation and Housing Units for Kearny and Harrison

Location	Total Housing Units	Class	Number of Parcels
Kearny	13,435	Vacant Residential Farm Commercial Industrial Apartments	221 6,885 — 555 215 134
Harrison	5,120	Vacant Residential Farm Commercial Industrial Apartments	78 1,924 — 282 81 77

Current development patterns in the area suggest continued commercial, residential, and recreational growth. Examples of current development in the immediate vicinity of the proposed project include: development of 1.68 acres of light industrial property adjacent to proposed site on Bergen Ave; construction of 2-2 family homes on the corner of Garfield Avenue and Schuyler Avenue; and the expansion of Harvey Field extending property east toward the proposed facility.

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Section 3
Environmental Impact and Mitigation

The environmental assessment discussed in this section considers the positive and negative impacts of the proposed facility. Analysis of the impacts is based on worst case conditions that may result from the implementation of the project. Both short-term construction and long-term operating/post-closure impacts are addressed. The current preliminary conceptual design is the basis of this analysis. Mitigative techniques proposed to address potential impacts associated with the project are also contained in this section.

Short-term construction of the engineered facility will include installation of a perimeter leachate collection system and slurry wall, a construction and demolition recycling facility, construction of a scale house and administrative and maintenance buildings, sedimentation and erosion control measures, and utility infrastructure. Long-term operation of the facility involves filling the landfill on a daily basis with non-processible wastes, placing and grading of cover and post-closure monitoring.

In addition to describing the undesirable and adverse impacts of the proposed project, this section will also highlight the beneficial effects that the project will have on the environment.

Based on the site and project study area condition (described in the environmental inventory), the most significant impacts addressed in this section are the following: groundwater quality, surface water quality, stormwater runoff, wetlands, hazardous wastes, traffic, noise, visual, and recreational impacts. Although impacts are quantified where possible, at this conceptual stage of the project many of the potential environmental impacts can be discussed only qualitatively.

Mitigation of impacts considered in this assessment include ground and surface water protection and improvement, wetlands protection, traffic and noise control, and visual resource protection.

3.1 Physical/Chemical Environment

3.1.1 Geology, Topography and Soils

Environmental Impact

Construction

A soil bentonite cutoff wall will be constructed around the perimeter of the landfill to hydraulically isolate the fill area. In addition, a leachate collection system (including piping and a pump station) will be installed during the construction phase. The topography of the proposed site will be revised during landfill construction. The landfill area will be regraded to create a uniform surface for the waste filling operation. Other areas will be recontoured for planting, paving, and stormwater management. As a result of these activities during the construction period, the potential exists for both wind and water erosion of excavated materials. Uncontrolled runoff, particularly during the construction phase, can load streams with sediment transported by the runoff. The construction also has potential to create fugitive airborne dust emissions.

Operation and Post-Closure

While the landfill is active, off-site fill materials will be used as daily cover for the non-processible waste. Non-processible waste and cover soil will be placed in the landfill until the landfill reaches its maximum capacity. At this point it will be graded and capped with a final cover in accordance with the facility's NJDEP permit. The final topography will be a maximum of 100 feet above mean sea level (amsl). The final topography will be sloped from this maximum level at varying grades to the existing site elevation of 10 feet amsl. Off-site cover material will meet or exceed NJDEP requirements. Impacts from placement of intermediate and final cover are not expected.

Mitigation

Construction

In order to control runoff of sediment during construction, several mitigation measures will be used. The potential for construction-related soil erosion will be minimized by standard soil erosion and sediment control techniques, including silt fencing and sedimentation basins. Placement of silt fences along drainage channels running from the area of active construction will serve as check drains to slow runoff velocity (thus reducing sediment transport). The silt fences will also act as filters in removing the sediment load from the runoff.

Operation and Post-Closure

Methods for controlling erosion and subsequent sedimentation due to runoff are divided into vegetative and structural mitigative measures. Vegetative measures to control erosion and sediments include:

- Application of vegetative or ground cover on areas of exposed soils within 15 days of exposure, except on areas where construction will begin within 30 days. Should construction plans be suspended, exposed areas should be seeded or mulched immediately.
- Selection of ground cover species that are adapted to the site and the planting purpose
- Limiting grades of slopes to a maximum of 3:1 (horizontal to vertical)
- Retention and protection of existing vegetation, especially trees, wherever possible.

Proven soil conservation practices which can be utilized for both the operation and post-closure phases will be used to prevent or reduce impacts related to soil erosion. The practices may be either temporary or a permanent element of the landscape design and final development. The following paragraphs outline several of the more common structural measures for control of erosion and sedimentation. These mitigation measures will be used when and where appropriate.

- **Land Grading.** To the extent practical, construction and development plans should integrate building designs and road alignments into the existing topography. Factors to consider include side slopes for overall stability, source and placement of soils or earth materials and degree of compaction of soils or earth materials.

- **Benches and Berms.** These are terraces constructed across open sloped land whose purpose is to reduce the length and grade of a slope or slopes. Benches and berms reduce runoff and erosion by reducing the velocity of the water and by facilitating infiltration into the soil.

- **Diversions.** Diversions are structures that intercept surface runoff before it may gain sufficient velocity to cause erosion damage. These may be temporary or permanent structures.

- **Sedimentation Basins.** Sedimentation basins are used to trap runoff and sediment. In such basins, the runoff is temporarily detained and the sediment is trapped and settles out. Sedimentation basins are usually situated in either natural drainage ways or at the low corner of the site. Like diversion structures, they may be either temporary or permanent. The size of the particular sedimentation basin will depend upon the location, size of drainage area, soil type, and precipitation pattern.

3.1.2 Hazardous Wastes

Environmental Impact

Construction, Operation and Post Closure

Although the former Keegan Landfill has been classified as a medium priority site on the USEPA National Priority List (NPL) due to the presence of hazardous chemicals, no remedial action has been taken to date. It is estimated that 65 million gallons per year of leachate contaminated by these wastes discharge to surrounding groundwaters and surface waters. The proposed facility will be designed to prevent this discharge from continuing.

The landfill's in-flow design creates a hydraulic relationship between the groundwater level inside the landfill and the level outside the landfill that assures that local groundwater flows toward the landfill. The perimeter cutoff wall and leachate collection system will prevent contaminated leachate from the former Keegan Landfill from degrading groundwater resources. The state-of-the-art in-flow landfill design will create a lower hydraulic head within the perimeter cutoff wall, thereby creating a flow gradient from outside the landfill toward the leachate collection system inside the landfill perimeter. The perimeter soil-bentonite cutoff wall and leachate collection system will be used to hydraulically isolate the landfill from the Kearny marsh.

As the rainfall percolates through the site it collects contaminants. The contaminated rainfall (leachate) is then removed via the leachate collection system. By withdrawing the leachate from the system (which includes the period of operation and post closure), the site is remediated. By eliminating the discharge of millions of gallons of leachate per year to surrounding groundwaters and surface waters, the water quality in the adjacent Kearny Marsh will be improved. In addition, the MSLA 1-D Landfill will be closed with surplus revenues generated by the landfill operations. Discharge of leachate from this inactive landfill will be controlled and the quality of its receiving water will be improved.

In summary, because leachate will be collected on-site and will be treated off-site at the PVSC wastewater treatment plant, the project will prevent 65 million gallons per year of leachate from discharging to the environment.

Mitigation

No mitigation measures are required because this activity will benefit the site and its surrounding environment.

3.1.3 Groundwater Resources

Environmental Impacts

Groundwater quality in the aquifer beneath the landfill is currently being degraded by contaminated leachate from waste formerly dumped in the Keegan Landfill. There is evidence that chromate and bichromate slurries were disposed of at the Keegan Landfill when the landfill was open (from the 1940s to 1972) (NUS, 1989).

Construction

During project construction, limited quantities of the following materials may be kept on site:

- Fuels and lubricating oils,
- Hydraulic fluids,
- Metal cleaning agents (organic solvents and inorganic acids),
- Caustic solids and liquids (lime, bleach),
- Road salt,
- Glues and adhesives, and
- Paints and paint thinners.

Because these materials will be on-site only in limited quantities, and the potential for contamination will be minimized by procedures governing their use and storage, the potential of accidental groundwater quality deterioration during construction is negligible.

Operation and Post-Closure

The following four possible sources of groundwater contamination will exist during operation and post-closure of the landfill.

- Solid waste landfilling
- Leachate storage
- Sanitary wastewater
- Surface water runoff (operations only)

Each of these potential impacts is discussed below in relation to the current conceptual design.

Solid Waste Landfilling

Leachate that is produced when rain percolates through the landfill will be intercepted by the leachate collection system. The landfill design, described in Section 3.1.2, and site conditions will preclude off-site aquifer impacts.

Impacts to drinking water within the project study area are expected to be minimal for the following reasons:

- The Kearny Marsh adjacent to the facility is a ground water discharge area.
- There are no municipal water wells within three miles of the site.
- Drinking water is supplied to the area from the Wanaque Reservoir located in northern New Jersey.
- The leachate collection system will discharge leachate to the Passaic Valley Sewerage Commission (PVSC) treatment plant.

Impact of Leachate Collection, Treatment, and Disposal

Landfill leachate and in-flow from the surrounding aquifer will be conveyed via force main to the Passaic Valley Sewerage Commission (PVSC) wastewater treatment plant. Because of PVSC's ability to properly treat and dispose (off-site) of the leachate, the impact is expected to be minimal.

Impact of Sanitary Wastewater

Sanitary wastewater from personal and domestic uses will also be directed to PVSC. Because sanitary wastes will be conveyed and treated off-site, they will not affect groundwater quality or quantity.

Impact of Surface Water Runoff

The uncontrolled discharge of surface water runoff from the active areas of the landfill would have the potential to pollute adjacent surface waters. Several elements of the landfill design will substantially reduce the discharge of contaminated runoff and thereby protect against groundwater contamination from this source. These design features include: (1) diverting surface water runoff from adjacent tributary areas around the areas being filled; (2) grading the landfill surface thereby avoiding pockets of standing water; and 3) implementation of in-flow design to direct leachate flow into the landfill leachate collection system.

Groundwater Recharge

Groundwater that supplies the industrial wells in the area is replenished by groundwater recharge. Interfering with recharge can cause the water table to drop.

The installation of the leachate collection system will interfere with direct groundwater recharge over the landfill area. Rain water percolating through the landfill will be collected by the leachate collection system and treated at an off-site treatment plant. Because the area covered by the landfill is a very small percentage of the total area available for recharge to the local aquifer system, the net change in groundwater recharge to the local aquifer system will be negligible. Additionally, the leachate collection system will protect the aquifer and industrial wells from being impacted by contaminated leachate from the former Keegan Landfill.

Mitigation

Construction

Careful use and proper storage of any fuels and construction chemicals during construction at the facility site will minimize the risk of ground water contamination. Any accidental spills or leaks would be cleaned up and the affected soils removed before the contaminants are transported to the groundwater table, eliminating any possible degradation of existing groundwater quality. Strict compliance with use, storage, containment, and spill cleanup procedures typical for any construction site will be practiced to ensure that groundwater quality is not impacted by construction activities.

Operation and Post-Closure

Landfill Design. The key features of the design will be a soil-bentonite (clay) cutoff wall that will encircle the site and be "keyed" into the existing underlying clay soils. The leachate collection system, which consists of a perforated pipe and gravel trench (essentially a french drain), will be located inside the cutoff wall and a minimum of two feet below the level of the Kearny Marsh.

Groundwatering Monitoring. To protect against off-site groundwater impact, groundwater quality will be periodically evaluated by groundwater monitoring. Additionally, piezometers may be placed inside and outside the cutoff wall in order to measure the hydraulic gradient across the cutoff wall. Groundwater monitoring will be conducted during the operational, closure, and post-closure stages of the project. The sampling program, as required by NJDEP, consists of quarterly sampling runs and a more comprehensive annual sampling event.

3.1.4 Surface Water Resources

Environmental Impact

The potential for impact to the surface water resources in the study area as a result of the implementation of the proposed project is discussed below.

Construction

A short-term issue of concern is the potential for contaminated surface water runoff to be generated during construction activities. This impact could include siltation of the stormwater runoff from cleared or excavated areas or from stockpiles of excavated materials. Other potential short-term impact can occur if oil, gasoline, or other hydrocarbons from construction equipment accidentally spill and are transported in local runoff.

Operation and Post-Closure

The inflow design consisting of a leachate collection system and a soil bentonite perimeter cutoff wall will have a beneficial impact on surface water during operation and post closure. Currently, contaminated leachate from the former Keegan Landfill impacts the groundwater. Because the groundwater discharges to the Kearny Marsh, Frank's Creek and the unnamed creek, the contaminants are transported to these surface water bodies. The in-flow design will prevent this contaminated leachate from impacting the groundwater. This will, in effect,

improve the surface water quality. Operation of the landfill in this manner will prevent additional leachate from the former Keegan Landfill from impacting the surface water bodies.

Soils at the site are classified as well-drained, according to SCS. Although soils may be well-drained, it does not necessarily follow that they are highly permeable, and would permit rapid in-flow or movement of potential pollutants. This is especially true at the Keegan Site where soil is mixed with refuse from previous dumping. The drainage characteristics of a given site are also dependent on the slope of the ground surface and the depth of the groundwater table. The soil permeability is dependent on the properties of the soil itself (including grain size and plasticity). Therefore, contaminants will not necessarily move rapidly to groundwater in well-drained soils. Groundwater discharges to the surface water. Therefore, if groundwater becomes contaminated, surface waters may also become contaminated.

The potential for surface water impacts via contamination of groundwater fed streams will be reduced by the leachate containment and collection system installed around the perimeter of the landfill. In addition, once the landfill receives final cover, the potential for impacts to nearby surface waters should be further reduced. The purpose of the final cover is to reduce the possibility of water percolation through buried waste; this reduces the generation of leachate but increases the volume of surface runoff. The stormwater collection system will control this increased runoff.

Mitigation

Construction

During construction there is some potential for minor adverse impacts from surface water runoff. Several mitigation measures are available that effectively reduce the potential for surface water quality impact from construction. For example, the placement of silt fences along drainage channels running from the area of active construction is recommended to serve as check dams to slow runoff velocity (thus reducing sediment transport). The silt fences will also act as filters in removing the sediment load from the runoff. Proper grading and mulching of exposed slopes should minimize any excessive runoff and resulting erosion. Silt fences, hay bales or mulch at the base of the fill area are recommended. In addition, sedimentation basins are recommended to collect and settle sediment (and potential contaminants) in runoff. A soil erosion and sedimentation control plan will be implemented to reduce adverse impacts from surface runoff.

Operation and Post-Closure

At this preliminary stage in design, specific stormwater controls have not been determined. The following description describes the controls typically employed at landfill sites. Stormwater detention basins and collection systems may be incorporated into the landfill design to control the discharge of runoff-borne contaminants. A drainage channel will be constructed along the base of the side slope to direct runoff to the stormwater basins. Other methods of erosion and sediment runoff control include prompt revegetation and reseeding of exposed slopes, the use of brush and straw dikes, filter cloth fences, and hay bales. A Soil Erosion and Sediment Control Plan will be developed for the proposed project incorporating good engineering and landscaping practices to control runoff. The soil erosion and sediment control plan will be maintained during the operation and post-closure of the site.

When the landfill reaches permitted elevation, landfilling will cease and final cover (including a vegetative cover) will be applied. The presence of vegetation will slow surface runoff and erosion.

In order to minimize groundwater contamination (and subsequent impacts to surface water as a result of groundwater discharge) an in-flow design will be utilized. A soil bentonite cutoff wall will be installed around the perimeter of the landfill and will be keyed into the natural clay layer beneath the former Keegan Landfill. Leachate from the landfill will be collected inside the cutoff wall via a gravel and perforated pipe french drain system. The withdrawal of leachate within the cutoff wall through pumping creates the required hydraulic head. Leachate now impacting the surface water will be collected and conveyed off site for treatment.

3.1.5 Air Quality and Climate

Environmental Impact

Construction

Exposure of the earth will create a potential for particulate emissions (dust) during the operation of construction equipment and the force of the wind.

Average emission rate estimates for regulated air pollutants from construction equipment are listed in Table 3-1. These data can be used to predict the overall emission rate for standard equipment to be used during construction. The combined emissions from vehicle exhausts and other on-site equipment during construction are relatively minor and should comply with applicable standards. The total impact of construction on air quality is temporary. Impacts should be minimized by good engineering practices.

Operation and Post-Closure

The principal sources of air emissions from landfilling operations are fugitive dust emissions and vehicle exhaust emissions. During daily operations, fugitive dust will be produced mainly by vehicles traveling on unpaved haul roads to the active fill area and also from placement of soil cover on in-place waste. Wetting down of unpaved roads will minimize fugitive dust emissions and thus should prevent significant air quality impacts. The predominant westerly, northwesterly and southwesterly winds would tend to blow any dust in the direction of the Kearny Marsh northeast and east of the site and the industrial properties southeast of the site. Operator skill in applying and compacting cover has a significant impact on the levels of dust emissions. Operators will be trained to use proper techniques and approved methods. Impacts on residential and recreational areas west of the site will be minimized due to the predominant wind patterns in the area and the substantial buffer zone.

Table 3-1
Comparison of Exhaust Emissions for Heavy-Duty Gasoline and Diesel-Powered Construction Equipment and Vehicles and Light-Duty Vehicles

	Wheeled Tractor	*Motor Grader*	*Wheeled Loader*	*Roller*	*Wheeled Dozer*	*Scraper*	*Off-Highway Truck*	*Misc.*	*Emissions from an average heavy-duty vehicle operating in 1985*	*Emissions from an average light-duty vehicle operating in 1985*
Diesel-Powered Construction Equipment:										
Carbon Monoxide (g/hr)	973.0	97.7	251.0	83.5	335.0	660.0	610.0	188.0	23.7	34.0
Exhaust Hydrocarbons (g/hr)	67.2	24.7	84.7	24.7	106.0	284.0	198.0	71.4	3.5	9.2
Nitrogen Oxides (g/hr)	451.0	478.0	1090.0	474.0	2290.0	2820.0	3460.0	1030.0	398.0	32.0
Particulates (g/hr)	61.5	27.7	77.9	22.7	75.0	184.0	116.0	63.2	32.0	14.6
Sulfur Dioxide (g/hr)	40.9	39.0	82.5	30.5	158.0	210.0	206.0	64.7	56.1	10.8
Gasoline-Powered Construction Equipment:										
Carbon Monoxide (g/hr)	4320.0	5490.0	7060.0	6080.0	(1)	(1)	(1)	7720.0	200.7	23.7
Exhaust Hydrocarbons (g/hr)	161.0	186.0	241.0	277.0	(1)	(1)	(1)	254.0	13.9	2.0
Nitrogen Oxides (g/hr)	195.0	145.0	235.0	164.0	(1)	(1)	(1)	187.0	9.3	1.7
Particulates (g/hr)	10.9	9.4	13.5	11.8	(1)	(1)	(1)	11.7	24.2	12.8
Sulfur Dioxide (g/hr)	7.0	7.6	10.6	8.4	(1)	(1)	(1)	10.6	7.2	2.6

(1) Exhaust emissions produced from gasoline models not given
Source: USEPA (1977)

Traffic-Related Emissions

Vehicle exhaust emissions associated with landfilling operations will have negligible effects on regional levels of sulfur dioxide (SO_2), nitrogen oxide (NO_2), ozone, lead and other criteria pollutants because, at a maximum, only a small number of additional vehicles, compared to total vehicle movements in the study area, will be traveling to the site.

The following analysis focuses on the potential effect of the projected landfill-generated traffic on ambient air concentrations of carbon monoxide, since that is the most localized pollutant associated with vehicles. Carbon monoxide is considerably more stable than other traffic-related pollutants (such as hydrocarbons, nitrogen oxides, and oxidants formed by photochemical reactions in the atmosphere).

The potential impacts on air quality attributable to landfill-generated traffic would be greatest near the Harrison Avenue access road intersection, the entrance to the landfill, and on-site traffic at the working face of the landfill. About 200 solid waste-related trucks for the weekday peak day are anticipated to access the facility.

A review of traffic-related one-hour carbon monoxide concentration predictions for similar projects (with greater peak hour traffic than the proposed project) showed maximum values well below federal 1-hour and 8-hour standards. Based on this result, it is concluded that the increase in ambient carbon monoxide concentrations caused by landfill-generated traffic will not be significant.

Impact on Climate

Impacts on the climate in the area of the proposed landfill will be insignificant. Removal of vegetation will cause a slight decrease in evapotranspiration. The ambient surface temperatures will increase slightly due to the exposure of the ground to direct sunlight. These climatological impacts will be mitigated by reseeding and revegetation of exposed areas after landfilling.

Mitigation

Construction

This PEHIS has identified those air pollutants associated with construction activities that affect the local ambient air quality. The short-term emissions associated with construction activity have been divided into mobile and fugitive dust sources. The mobile source emissions are likely to cause only insignificant localized impacts.

Measures generally applied to minimize short-term emissions and impacts are as follows. Construction vehicles should be well maintained to minimize air pollutant emissions. Engine idling should not be allowed when vehicles are not directly in use during construction. Delivery schedules for materials can be programmed to reduce queue lengths for vehicles serving the site.

The following mitigative measures are proposed to reduce construction-generated fugitive dust emissions. All transfer points and material handling operations will be cleaned to minimize dust emissions. The dumping and transfer of loose, fine-aggregated materials will be restricted. Vehicles transporting these materials will be covered and loading/unloading will be controlled.

Surface dust loadings on paved access routes will be minimized by using wheel cleaning blankets, by sweeping and wetting the egress station, and by washing down vehicles.

Water coverage is one of the more commonly used methods of controlling dust from construction activities. The efficiency of control, however, depends on the frequency of application. Dust emissions can be virtually cut in half with complete water coverage applied twice a day. The presence of wind breaks and covering dusty material storage areas will also help reduce fugitive dust by sheltering exposed materials from the wind.

Operation and Post-Closure

The following measures are recommended to control air pollutants during landfill operation:

- Water all unpaved roads as necessary.
- As soon as possible, undertake erosion control seeding of graded areas that are not scheduled to be used.
- Temporarily seed stockpiled soils.
- Designate haul routes on-site to channel traffic over paths that can be watered.
- Keep landfill vehicles well maintained.
- Avoid engine idling when vehicles are not directly in use.

3.1.6 Odors/Landfill Gases

Environmental Impact

The impacts of odors and landfill gases are discussed in this section as they relate both to the former Keegan Landfill and the proposed landfill. This analysis is necessary because the former Keegan Landfill received putrescible wastes which produce odors and gases. The proposed landfill will accept only nonprocessible wastes, which will limit generation of odors and gases. Because the project will address the impacts of the former Keegan landfill and propose mitigative measures to control them, the project will improve the odor conditions that currently exist at the site.

Construction

During construction of the landfill, portions of the former Keegan Landfill may be exposed and re-graded. This activity may temporarily release odors commonly associated with landfills. The sources and causes of these landfill odors are outlined below.

Sources of Landfill Odors. The main sources of odors from the former Keegan Landfill will be from previously buried refuse that would be re-exposed to the air because of regrading.

Causes of Landfill Odors. Landfill odors in general are caused by the production of hydrogen sulfide (H_2S) and odorous organic compounds. Hydrogen sulfide, which has an odor similar to rotten eggs, is produced by the breakdown of sulfur-containing compounds, such as those found

in plaster board, by anaerobic bacteria. Methane gas (CH_4) is produced under the same conditions as H_2S. Methane production is of primary concern because it forms an explosive mixture at concentrations between 5 and 15 percent in air.

The former Keegan Landfill has had several underground fires fueled by the methane the landfill produces. The process that produces methane also produces a variety of organic acids, ethers, aldehydes and ketones. When these organic substances contain sulfur, the products are indoles, skatoles, and mercaptans. These sources combine to produce unpleasant odors that are characteristic of stale garbage.

Operation and Post-Closure

Because the proposed landfill will contain only nonprocessible waste, odor and gas generation will be minimal. Included in this waste category are sheetrock, non-recyclable plastics, industrial and commercial residuals, treated lumber, asbestos, etc. The most common and most objectionable odors occur near the working face of the landfill and are a result of normal incoming refuse. These odors dissipate within a few hundred feet, at most, as the exposed area is small (150 feet wide maximum) and is covered daily. The second potential source is from leachate coming to the surface at the toe of the slope or from the collection system.

The predominant northwesterly, westerly and southwesterly winds would tend to blow any odors toward the Kearny Marsh, northeast of the site and industrial areas southeast of the site. Once the site is closed and reclaimed, odors will be reduced further.

Mitigation

Construction

Because of the odor-generating potential of exposing and re-grading the former Keegan Landfill wastes, excavation of wastes will be minimized. Buffer areas surrounding the site create a separation between the face of construction and sensitive receptors and the odor dispersion that occurs over this distance will minimize odor impacts.

Operation and Post-Closure

Landfill odors are dependent on the types of wastes brought to the site. Because the wastes are nonprocessible, odor generation will be minimal. Standard operating techniques will be followed to control and minimize possible odors. At the end of each working day, cover will be deposited on the area filled that day, in accordance with New Jersey State regulation. This cover will prevent waste materials from blowing off-site and aid in the control of odors. Proper maintenance of previously filled areas to prevent cracks and eroded areas will reduce the possibility of detectable odors from the site. Because the landfill is being developed in stages, the active fill area will be controlled. As a result, less waste will be in contact with the air, reducing the possibility of odor emissions. Additionally, the buffer area adjacent to the working face of the landfill creates a physical separation between sensitive receptors and the landfill. This distance will tend to dissipate odors.

The proposed site will be worked in small areas and final cover applied when the landfill reaches permitted elevation. This will reduce the area that will potentially be exposed to

moisture. Methane production from the new landfill is not expected. Once the site is covered and closed, no detectable odors would be present; therefore, no mitigation measures will be necessary.

3.1.7 Noise

Environmental Impact

Construction

Construction of the landfill and related facilities will require the use of heavy equipment such as bulldozers, payloaders and trucks. Construction worker traffic will be another source of noise, though less significant than construction equipment. Noise produced by heavy equipment will vary throughout the day. During the busiest periods of construction activity, sound levels between 80 and 100 dBA at 50 feet may be generated, although the incidence of the most elevated of these sound levels is expected to be temporary in any one day.

Table 3-2 shows typical noise levels for equipment anticipated to be used in facility construction. Based on these construction equipment noise levels (90 dBA @50 ft.), Table 3-3 shows the predicted maximum temporary construction Leq sound levels at the nearby receptors. These levels do not quantify the attenuating effect of the railroad embankment and therefore overestimate the peak short-term levels. The following five receptors shown on Figure 3-1 were selected for the noise study.

Receptor Number	Location Description
1	Mount Carmel Guild School
2	Harvey Field
3	John Hay Ave. Residential
4	West Hudson Handicapped Center
5	Gunnel Oval Park

These levels shown on Table 3-3 are based on the construction equipment anticipated to be in use at the landfill. To represent maximum impact conditions, construction is assumed to be occurring at the boundary of the landfill footprint closest to the subject receptor. Maximum noise impacts of construction to sensitive receptors (Gunnell Oval Park and Harvey Field) are expected during construction along the western and northwestern boundary of the facility. Construction for this operation of the facility is expected to last for a short duration of time (approximately 4 months). Construction of the western and northwestern cutoff wall will be scheduled during the winter months.

Also shown is the lowest measured 15-minute daytime Leq sound level at the representative monitoring locations for the receptor and the predicted noise impact due to construction. The noise level is based on an acoustic formula which predicts that a doubling in distance from a sound source reduces the sound level by 6 decibels.

Table 3-2

Typical Construction Equipment Noise Levels

Equipment Item	*Noise Level at 50 Ft. (dBA)*
Autos/Pickups	68
Trucks	
Moving	70
Idle	63
Concrete	84
Concrete Pump	84
Cherry Picker	
Crane	84
Loaders	82
Pile Drivers	88
Compactors	73
Graders	80
Backhoes	80
Cranes	75
Compressors	
Portable	80
Stationary	78
Generators	
Portable	80
Stationary	75
Fork Lifts	68
Welders	76
Pneumatic Tools	86

Source: Cavanaugh-Tocci Associates, Inc., Sudbury, Massachusetts (November 1988)

Table 3-3
Material Handling Complex PEHIS
Kearny, New Jersey
Predicted Maximum Construction
L_{eq} Sound Levels

Receptor Location	Location Description	Distance from Closest Site Boundary	Lowest Measured Sound Level (dBa)	Highest Measured Sound Level (dBa)	Estimated Maximum Construction Sound Level (dBa)	Maximum Temporary Impact[4]
1	Mount Carmel Guild School	1450	58[1]	61[3]	61	Barely Perceptible
2	Harvey Field	550	58[1]	61[3]	69	Doubling of Loudness
3	John Hay Avenue Residential Property	850	58[1]	61[3]	65	Readily Perceptible
4	West Hudson Handicapped Center	1250	58[1]	61[3]	62	Barely Perceptible
5	Gunnell Oval Park	600	58[1]	61[3]	68	Doubling of Loudness
A	Western Site Boundary	-----	58	61	-----	-----
B	Eastern Site Boundary	-----	58	62	-----	-----
C	Southern Site Boundary	-----	59	64	-----	-----
D	Ivy Street Residential Property	1800	60[2]	60[2]	59	No Change

Note: 1 - Measurement estimated based on lowest measurement taken from locations A-D
2 - Only one measurement taken at the location
3 - Based on second lowest maximum measurements from locations A-D
4 - Based on United States Federal Highway Administration Noise Impact Criteria (1973)

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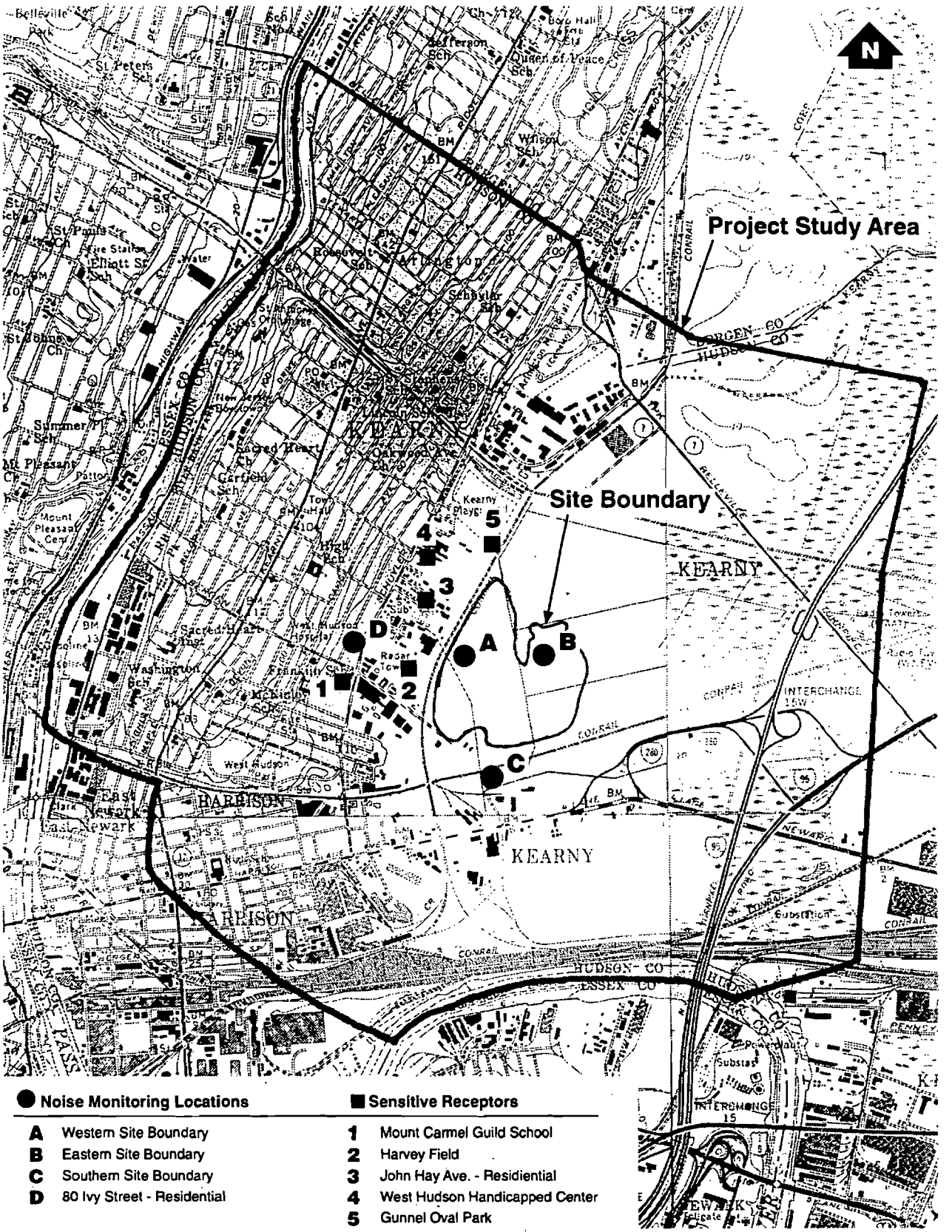

Source: USGS 7.5 minute Quadrangle Maps: Orange, Weehawken, Elizabeth and Jersey City

Figure 3-1
Study Area Noise Monitoring Locations and Sensitive Receptors
HMDC Materials Handling Complex - PEHIS

CDM Camp Dresser & McKee

Table 3-4
Material Handling Complex PEHIS
Kearny, New Jersey
Predicted Maximum Facility Operations
Daytime L_{eq} Sound Levels

Receptor Location	Location Description	Distance from Closest Site Boundary	Lowest Measured (dBa)	Estimated Maximum Operation Sound Level (dBa)	Conformance with DEP Limits	Maximum Impact
1	Mount Carmel Guild School	1450	58[1]	47	Yes	None
2	Harvey Field	550	58[1]	55	Yes	None
3	John Hay Avenue Residential Property	850	58[1]	51	Yes	None
4	West Hudson Handicapped Center	1250	58[1]	48	Yes	None
5	Gunnell Oval Park	600	58[1]	54	Yes	None
A	Western Site Boundary	-----	58	-----	-----	-----
B	Eastern Site Boundary	-----	58	-----	-----	-----
C	Southern Site Boundary	-----	59	-----	-----	-----
D	Ivy Street Residential Property	1800	60[2]	45	Yes	None

Note: 1 - Measurement estimated based on lowest measurement taken from receptors A-D
2 - Only one measurement taken at the location

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Based on the impact categorization, a minimal short-term impact (3-4 dBA increase) is predicted at locations 1 and 4 (Mount Carmel Guild School and West Hudson Handicapped Center). No impact would occur at receptor D, Ivy Street residential property. The 4-7 dBA increase predicted at the closest residential property on John Hay Avenue (receptor 3) will be perceptible. The greatest impact due to construction is expected at Harvey Field and Gunnel Oval Park, receptors 2 and 5 respectively. The 7-11 dBA increase results in a doubling of the loudness at these locations.

It should be noted that the highest predicted construction sound levels at locations 2 and 5 is 20 dBA below the eight hour per day exposure limit of 90 dBA established by OSHA for protection against hearing loss. In other words, project construction sound levels, although audible, would be well below the levels at which health effects occur.

Average construction sound levels over a full construction work shift are expected to be considerably lower than the maximum levels above. Truck backup alarms could at times be audible, especially at receptors 2 and 5. The actual A-weighted sound level from backup alarms would be negligible. Alarms would be audible at times only because of their distinctive tonal and temporal characteristics rather than because of their level.

Operation and Post-Closure

Landfill Operations

The landfill operations noise analysis is based on noise level measurements made at the Cape May County, New Jersey, regional landfill. This landfill serves a region that generates about 400 tons per day, a figure about one-quarter that of proposed materials handling complex. To account for this fourfold difference, the sound levels measured at the Cape May landfill have been conservatively increased by 6 dBA (which represents a quadrupling in sound energy). The noise analysis was based on a set of maximum-impact conditions, i.e., landfilling at the boundary of the landfill footprint closest to the receptors and use of the maximum Leq sound level measured at the reference landfill.

The same five receptors referenced earlier were selected for the noise study (see Figure 3-1).

Based on these conditions, Table 3-4 shows the predicted maximum Leq from landfill operations at nearby receptors shown on Figure 3-1. Also shown is: (a) the lowest measured daytime Leq for the receptor at the representative monitoring location; (b) conformance or not with the DEP daytime limit for solid waste management facilities: and (c) the maximum predicted impact (based on a comparison of the highest predicted sound level with the facility in operation with lowest measured ambient sound level). These predicted impacts are for a facility without noise mitigation measures and do not quantify the attenuating effect of the railroad embankment.

As can be seen in Table 3-4, landfill operations and landfill-bound traffic will result in negligible sound level increases at the site, in adjacent areas, and along the primary routes to the site.

Landfill Truck Traffic

Landfill-related traffic noise would basically originate from three sources: (1) waste deliveries by solid waste trucks; (2) cover deliveries; and (3) operations staff using autos and small trucks. The waste deliveries by solid waste truck would, by far, be the major facility-related traffic noise source. As described in Section 2.4.1, facility traffic would exclusively access the site from Harrison Avenue via an improved road. The traffic analysis indicates that waste and landfill cover deliveries would generate an average of 200 round trips per day. This represents a 2.5 percent increase in the average daily traffic on Harrison Avenue near the site. Total truck traffic will increase on Harrison Avenue by 7.5 percent. This percentage increase is expected to have a negligible effect on area sound levels. Furthermore, this facility-related traffic would occur in the daytime only. Therefore, facility-related traffic would not result in a perceptible impact on existing sound levels in the area.

Truck traffic on the new access road between Harrison Avenue and the new landfill entrance road would represent a substantial increase in traffic at this location. Currently, there is no traffic along this access road. However, the resulting truck traffic noise would not affect residential noise levels. The nearest residence to the proposed entrance road would be approximately 1,800 feet west (Bergen Avenue and Schuyler Avenue) and 2,500 feet southwest (Sandford Avenue) of the proposed Harrison Avenue landfill entrance road intersection. Trucks unloading waste are part of operations.

The combined noise impact of simultaneous truck traffic and landfill operations has been considered for the residences on the corner of Bergen Avenue and Schuyler Avenue and Sandford Avenue. The combined noise impact at these residences would be negligibly higher than from the landfill alone. Existing buildings between the landfill and the corner of Bergen and Schuyler Avenues will further attenuate off-site noise levels.

Mitigation

The following measures will minimize noise impacts during construction and operations:

- Existing sound barriers surrounding the site will tend to dissipate landfill generated noise levels. These include elevated railroad lines along the western boundary of the site, commercial/industrial facilities and trees and vegetation.
- Contractors will comply with regulations requiring noise mufflers on heavy equipment.
- Buffer areas between working face of site and sensitive receptors creates a physical separation which dissipates noise levels.
- Construction of the western and northwestern portion of the landfill will occur during the winter months. This will minimize impact to adjacent recreational areas (Gunnell Oval Park and Harvey Field).
- Waste deliveries will be limited to the hours between 6:00 a.m. and 4:30 p.m., Monday through Friday and 6:00 a.m. to 3:00 p.m. on Saturday.
- Operational controls will be implemented to reduce noise levels.

3.2 Biological/Ecological Environment

3.2.1 Terrestrial and Aquatic Environment

Environmental Impact

Construction

Existing vegetation will be temporarily removed from portions of the site during construction of the proposed landfill. Potential nesting areas for birds at the site will decrease and vegetative cover for ground animals will be displaced. The noise from the construction equipment will frighten animals, causing them to move to quieter, less disturbed surrounding areas.

Soil erosion and sediment control practices runoff from the construction site will have a minimal impact on surface water and wetland areas, due to mitigative measures. The remedial component of the project, the in-flow design, will prevent discharge of contaminated leachate from the former Keegan Landfill from continuing to impact aquatic habitats. The in-flow design will direct leachate to the leachate collection system where it will be sent to the PVSC WWTP. The beneficial impacts on water quality will provide correspondent improvements in the aquatic and terrestrial environment. Wildlife in the area will benefit from the improved conditions.

The proposed facility design will result in the placement of fill in 6.5 acres of wetlands that exist between Keegan disposal sites. This wetland area, situated between areas that formerly received waste at the Keegan Landfill, has been adversely impacted by the discharge of contaminated leachates. Because of these conditions, the functional value of the area is considered low. A cost-benefit analysis, discussed in Section 6.3, describes the rationale for utilizing this area. Excess revenues provided by the landfill operation will be used to remediate and close this site and close the MSLA 1-D landfill. The two landfill closures represent significant improvements to the environment.

Operation and Post-Closure

During the operational life of the landfill the surrounding wildlife will be subject to the sounds of landfill operating machinery and truck traffic. However, at other landfill operations in the District this has caused only temporary disturbance, until the wildlife became acclimated to the new noise source. Stormwater runoff from the landfill will be controlled on-site, minimizing potential siltation of the wetlands and creeks in the study area. Leachate from both the former Keegan Landfill and the proposed landfill will be collected and conveyed to the PVSC WWTP in Newark, precluding impacts of leachate on wildlife.

The leachate collection system will continually improve the ecosystem by removing harmful contaminants. Although the water quality will improve, the quantity of habitat available to wildlife will decrease slightly as areas receive fill and are then restabilized. This will impact the transitional community of terrestrial animals that has developed on the site of the former landfill during the 20 years of inactivity. These species of plant and animal will be gradually displaced during landfill operations. Because these opportunistic species have the ability to reproduce quickly and in large numbers, they are specifically suited to occupy other areas of open space. It is anticipated that these species will migrate to the 250 acres of open space in the adjacent Kearny Marsh or will relocate to inactive portions of the landfill as they are completed and

restabilized. Temporary disturbance near water's edge of Kearny Marsh will likely cause birds and terrestrial creatures to temporarily relocate to similar areas within the marsh.

As the landfill areas reach permitted height, closure and revegetation will begin. In the long term, the revegetated areas will provide valuable habitat for wildlife and encourage native species to return.

Mitigation

Construction

The overall adverse impact of construction should be minimal, because the environment adjacent to the landfill site will accommodate the wildlife displaced from the disturbed area. In addition, the landfill will be developed in small sections. Any relocation impact should be minimal because at any one time the bulk of the site will remain undisturbed. Revegetation of the site will commence as areas reach permitted height and are closed, providing new habitats.

Mitigation of the lost wetland area will be achieved by improving the ground and surface water quality for the entire 250-acre Kearny Marsh. The facility will incorporate a leachate collection system and a cutoff wall which will collect contaminated leachate and convey it off site for treatment. The remediation of the 110-acre landfill through this design further offsets the lost wetland area. Additionally, the funds generated by the landfill operations will be used to close the MSLA 1-D Landfill. Closure of these landfills will control discharge of leachate to groundwater and the surface water bodies.

Operation and Post-Closure

When the landfill reaches the maximum permitted height, the closure process will begin. Each filled area will receive a final vegetative cover. The closed site will attract wildlife species to the area, and represents valuable future upland and edge habitat in the District.

3.3 Cultural Environment

3.3.1 Visual Resources

Impact

Construction

Visual impacts from on-site construction activities will be insignificant because the buffers around the perimeter of the landfill area, the elevated rail lines, and the commercial/industrial properties will effectively screen views. The only construction-related impacts would come from trucks making daily approaches to the site from the Harrison Avenue access road.

Operation and Post-Closure

Contours showing the final shape of the landfill are presented in Figure 1-3. The engineering design calls for a final maximum elevation of 100 feet, which is 85 feet above the highest existing elevation of 15 feet amsl. Although the western portion of the landfill area is separated from residential and recreational receptors by a 45- to 50-foot stand of trees and commercial properties, it is anticipated that visual perception of the landfill from locations west of the site will be possible. The dramatic change in topography, compared to surrounding elevations, will

reduce visual amenities. However, the presence of other high landfill elevations in the area reduces the intensity of the proposed change in land elevation.

Mitigation

To reduce the visual impact of the landfill, additional trees and vegetation can be planted along the western boundary of the site to provide a visual buffer.

3.3.2 Historic/Archaeological (Cultural) Resources

Construction, Operation and Post-Closure

Environmental Impact

Results of the Historical/Archaeological Inventory identified Highland Hose Company No. 4 located on Halstead Street in Kearny as a State and National Historic site.

Other areas of historic or archaeological significance identified in HMDC's SAMP/EIS include the Cedar Swamp and the Schuyler Copper Mine on Schuyler Avenue and Belleville Pike.

The nature of the historic sites and their distance from the boundaries of the proposed landfill preclude any potential impacts. Highland Hose Company No. 4 is approximately 7,000 feet west of the site. The closest boundary of the Cedar Swamp is 800 feet north of the landfill. The Schuyler Copper Mines are 9,200 feet northwest of the site and Belleville Pike is 3,500 feet north of the site.

Mitigation

Because no impacts to historical and archaeological sites will occur, no mitigative measures are proposed.

3.4 Socioeconomic Environment

3.4.1 Transportation and Traffic

Traffic Impact

The traffic network that will serve the facility was determined based on the following criteria:

- Maximize the use of state highways
- Minimize the use of local streets
- Minimize the routing through congested areas, areas with severe grades, sight restrictions, and impediments and proper turning radii
- Minimize the routing through residential areas
- Maximize the routing through industrial areas or on routes other trucks use
- Assign trips to highways and intersections with adequate reserve capacity and high levels of service.

Using this criteria, three Corridor Routes are identified for the trips:

1. Belleville Turnpike to Harrison Avenue to new site access road.
2. New Jersey Turnpike to Harrison Avenue to new site access road.
3. Route 280 to Harrison Avenue to new site access road.

Several local feeder routes are suggested; however, each sending municipality can choose its best route(s). Their selection will be based primarily upon local pickup locations for each truck. Another possibility is for acceptable and prohibited routes to be designated in HMDC's Solid Waste Management Plan. There will be no direct access to the site from Schuyler Avenue.

Impact Assessment

HMDC has estimated that site operations would generate 200 trucks per day, the majority of which occur at off-peak commutation hours. The traffic model for the District indicates that the proposed facility would not change the Level of Service of the feeder routes (Harrison Avenue or Belleville Turnpike). Because the site is located about one-half mile west of the intersection of Route 280 and the New Jersey Turnpike at the 15W Interchange, trucks will utilize Harrison Avenue to access the site. The estimated 400 trucks per day represents a 2.5 percent increase in average daily traffic on Harrison Avenue (16,140) and a 7.5 percent increase in total truck traffic (5,334).

Access to the facility will be permitted only from Harrison Avenue via the new site access route. Currently a dirt road off Harrison Avenue and a driveway off Bergen Avenue provide access to the site. The western Bergen Avenue entrance will be discontinued while the dirt road from Harrison Avenue (eastern section of Bergen Avenue) will be improved to allow truck traffic to the landfill.

Mitigation

Improving the eastern section of Bergen Avenue that intersects with Harrison Avenue, and closing the old landfill entrance from the western end of Bergen Avenue will prevent traffic from accessing the site in the future from the west. These actions will reduce truck traffic along Schuyler Avenue and other residential roads in Kearny traveling to the facility.

NJDOT plans to widen Harrison Avenue from Schuyler Avenue to the Route 280 entrance from a two lane highway to a four lane highway. This project, expected to be completed in 1997, will markedly improve conditions along this heavily trafficked route. The four lane highway will further alleviate the minimal impact landfill traffic may have on conditions.

3.4.2 Public Utilities

Impact

Construction

Utility services will be required on-site during the construction period. Electricity could be temporarily acquired from the overhead distribution lines along Bergen Avenue. A temporary water supply would have to be brought on-site prior to hookup with the water main on Bergen Avenue. Wastewater service would require temporary outdoor facilities.

Operation and Post-Closure

Energy demands for electricity and natural gas will be relatively minor since the landfill will include only administrative and vehicle maintenance buildings. The existing infrastructure available on Bergen Avenue should be sufficient to accommodate these demands.

Water Service. Based on the number of employees, the facility is estimated to require approximately 1200 gallons per day of water. Additional water will be required to water the roads. Potable water will be provided by the Town of Kearny via the 8-inch or 12-inch main on Bergen Avenue. Based on current available capacity (5.1 mgd), the Town of Kearny has adequate capacity to meet the expected water demand from the proposed landfill.

Stormwater. Currently, stormwater from portions of the town of Kearny and from the landfill site drains to the Kearny Marsh. The existing wetlands and adjacent low-lying areas currently store and detain the stormwater runoff, thus preventing downstream flooding, and trapping runoff-borne pollutants. Proposed stormwater controls at the site are expected to reduce impacts of runoff on water quality in the Kearny Marsh. The increase in slope of the site, due to the construction of the landfill, will increase the quantity of surface runoff. Mitigative techniques will be utilized to improve runoff water quality and to maintain the existing runoff rate. Sedimentation and erosion controls will minimize transport of silt carried offsite by stormwater.

Wastewater Treatment. The proposed facility will produce domestic wastewater and will collect leachate from the landfill. Based on the estimated quantity of wastewater generated from the proposed site (0.2 mgd), primarily from the leachate collection system, construction of a force main will be necessary. The 12-inch gravity sewer line along Bergen Avenue is not capable of handling the wastewater. The force main will tie into the new KMUA Harrison Avenue pump station. The Harrison Avenue pump station will be connected to the Kearny South pumping station, which flows directly to the PVSC treatment facility in Newark, New Jersey. Because the estimated flow from the facility is 0.05 percent of capacity (330 mgd), the PVSC plant should have no difficulty treating this wastewater.

Mitigation

Because the existing 12-inch sanitary sewer along Bergen Avenue is not believed to be capable of adequately conveying wastewater from a hydraulic standpoint, construction of a force main is required. As described above this sewer line will travel east to the Harrison Avenue pump station. The pump station will convey the wastewater to the PVSC facility.

The adjacent Kearny Marsh could potentially receive runoff from the proposed landfill. Because the quantity of runoff will increase due to the change in topography, a stormwater collection system will be installed to control runoff and prevent degradation of the water quality in the adjacent surface water bodies. Mitigative controls for stormwater runoff including sedimentation basins will be employed to prevent erosion of site soils and subsequent deposition of sediment in the adjacent Kearny Marsh. Other mitigation measures are not necessary since no impacts are anticipated for other utilities.

3.4.3 Public and Community Services

Impact

Existing conditions at the site pose a significant health threat to the community and place a burden on public services. Discharge of contaminated leachate to the environment, and the potential for fire and smoke, and unrestricted access adversely impacts wildlife, vegetation, groundwater, surface water and soil, and exposes public to uncontrolled hazards. Impacts of the proposed facility should be viewed in light of the detrimental conditions which the project will alleviate.

Construction

Construction of the proposed landfill will result in temporary periods of higher noise levels, fugitive dust generation and increased traffic.

Their impact, however, will be minimized somewhat by the buffers that will be maintained around the proposed landfill area. Recreational facilities in the area include the Gunnell Oval Park and Harvey Field, which will be temporarily impacted during construction. Construction during the school year (from September to June) will have the least impact on these facilities because of their lower use during this period.

The distance between the landfill boundary and the Harvey Field is 550 feet. Currently the Division of Public Works Yard, a demolition/construction waste recycling facility, elevated rail lines and a tree buffer separate the landfill boundary from the recreational facility. These features, in particular the demolition/construction recycling operations, will mitigate the impacts to the recreational facility. For the Gunnell Oval Park, a 600-foot buffer zone is made up of vegetation at the park border, the Kearny Marsh and the elevated rail line. These features will attenuate impacts from construction.

Impacts to local schools and educational facilities closest to the proposed site (Mount Carmel Guild School, West Hudson Handicapped Center and Franklin School) are expected to be negligible. The 1450 to 2000 foot distance between the boundaries of the landfill and the schools will attenuate aesthetic impacts, noise, dust emission and odor due to construction. In addition, the commercial/industrial use of the property between the landfill and these educational facilities will mask potential negative impacts of construction.

Also, project requirements during construction are not expected to have an effect on the current capacity of the town and the county to provide police and fire protection.

Operation and Post-Closure

A number of the construction-related impacts will continue, albeit at lower levels, during operation of the landfill. Noise and fugitive dust generation from the on-site grading activities during the landfill operations, for example, will continue as a part of normal landfilling operations. The industrial buffer surrounding the site will aid in minimizing any continuing impact.

Truck traffic on regional roads will increase during operation of the landfill as regular deliveries of construction/demolition waste occur. Approximately 200 round trips per average day are anticipated. The impact on schools and hospitals will be minor due to the distance and the industrial buffer which currently separates the landfill from these facilities. Impacts to recreational facilities (Harvey Field and Gunnell Oval Park) as described above will be the most significant due to their proximity to the proposed landfill. The reduced buffer zone will reduce the effectiveness in filtering impacts. The vertical expansion of the landfill to 100 feet will have a negative visual impact on both recreational facilities. This impact, which will reach its maximum level at closure, will be permanent.

Impacts to police services during operations are not expected to be significant. The new intersection at Harrison Avenue will potentially cause minor increases in the need for traffic-related police and emergency services.

Landfill fires are fueled by methane. Methane is produced by the bacteria which thrives on the decaying household waste which was placed in the landfill. The proposed landfill will receive nonprocessible construction/demolition waste which does not produce conditions conducive to methane production. Mitigative measures described in the following section will reduce the potential for fires at the former Keegan Landfill. Because the proposed facility will be constructed on top of a former landfill, mitigative measures for methane control are important.

The impact of operation of the landfill on fire protection can be complex. The former Keegan Landfill has a long history of fires. In the last 10 years there have been seven major fires at the site. When they do occur they can be difficult to control. Potentially toxic smoke can hamper firefighting attempts, requiring firefighters to wear self-contained breathing apparatus.

Large volumes of water are required for landfill fires. The creeks and surface water bodies on-site can potentially provide some firefighting supply. In the absence of an on-site high-pressure water supply system, tank trucks would be required to supply water.

An underground landfill fire would require the services of a private contractor because the Kearny Fire Department is not equipped to extinguish such a fire. Private contractors have been used in the past to bring fires under control. Minor fires at the working face of the landfill would be extinguished by on-site personnel. Significantly, there have been no reported fires at landfills operated by HMDC since they began operations in 1980. The potential for fire is substantially reduced at a properly operated landfill.

The Kearny Health Department and Hudson County Regional Health Department are capable of overseeing the potential health-related impacts of the facility. Due to the proposed environmental controls at the site (in-flow design, leachate collection system, stormwater collection system, etc.), health concerns of the proposed facility are significantly less than the health risks of the current uncontrolled landfill.

During the post-closure period virtually all impacts described above would be eliminated since truck deliveries and on-site landfilling activities would cease. There would be a beneficial effect of post-closure if a re-use plan allowing public access to the nature preserve is adopted. That would assure a long-term land use compatibility with neighboring properties and may alleviate

some pressures that may be felt at that point by existing recreational facilities (e.g., school playgrounds and playing fields).

Mitigation

Reducing the potential for fires in the old waste at the former Keegan Landfill will be achieved by limiting oxygenation of the waste. The proposed facility will cover the old Keegan Landfill thereby removing this necessary component for fire. The potential for fires at the proposed landfill is low, due to the nature of the waste stream and state of the art methods of operation. The cover material will prevent aeration of newly placed waste.

3.4.4 Population and Housing

Impact

Construction

There are no residences or structures within the boundaries of the proposed landfill site. There would be a minor influx of construction workers but this should not impact the population or housing in the study area.

Operation and Post-Closure

The proposed landfill will be expected to employ 20 to 30 people, not including haulers of solid waste to the landfill. Since the number of jobs involved is relatively insignificant, the project will not significantly increase or decrease regional employment. Consequently, any change in employment will not result in significant in- or out-migration of population in the study area.

Impact on property values is expected to be minimal due to the existing site and surrounding conditions. The proposed site is a hazardous landfill classified by the USEPA as a medium priority for cleanup. Leachate now discharging from the currently abandoned landfill is having detrimental effects on the environment. Remediation of the site has not been conducted because of the prohibitive cost. Underground fires occur periodically and site security is minimal. The uses surrounding the Keegan site are primarily heavy industrial, including Port-O-San (a portable toilet storage and repair facility), a construction/demolition recycling operation, solid waste haulers storage yard, junkyards, Town Public Works yard, and a number of warehouses.

The environmental remediation and control elements of the project will be beneficial to the community, both economically (in terms of property values and in terms of water quality). The possible negative impacts are some potential reduction in aesthetic value, principally visual impacts. The landfill will be closed once it reaches the 100 amsl level, 85 to 95 feet above current levels.

Mitigation

The 800-foot distance to the nearest home will ameliorate aesthetic impacts (visual, noise) associated with landfill operations. The existing vegetation surrounding the proposed landfill site will remain as a buffer. Additional trees and vegetation can be planted to limit visual and noise impacts.

3.4.5 Land Use and Zoning

Impact

Construction

There are no predicted construction impacts from the proposed facility on land use and zoning.

Operation and Post-Closure

The proposed landfill is consistent with HMDC Zoning and the District Solid Waste Management Plan (SWMP). Furthermore, this facility, which would serve the regional need for non-processible waste disposal, has already been certified for inclusion in the SWMP by NJDEP. The Kearny Municipal Zoning Ordinance zones the site area for manufacturing. The surrounding land uses are zoned for industrial and open space.

Mitigation

A post-closure reuse plan, which must be approved by NJDEP as part of the landfill permit, has been developed for the site. The reuse plan dictates certain closure design requirements, such as elevation and final slopes, and provides for compatible uses of the site after it is no longer used as a landfill. The landfill reuse concept proposed consists of passive open spaces on landfilled areas and industrial and commercial development on undisturbed areas of the site. The creation of additional upland terrestrial habitat will be a significant addition to the limited upland habitat now present in the District.

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Section 4
Facility Relationship to Federal, State, County and Local Land Use or Environmental Plans, Policies, Controls or Regulations

Introduction

This section describes how the proposed facility conforms or conflicts with the objectives of the Federal, State, County or local land use or environmental requirements. Requirements which may restrict the construction and operation of the facility are identified and addressed individually. The list of regulations is taken from the Solid Waste Management Act regulations for an EHIS (NJAC 7:26-2.9 5ii).

Flood Hazard Area Control Act (NJSA 58:16A-50 et seq.)

Because the site is essentially near or above the 100-year flood plain elevation of 5 feet, no effect on the flood carrying capacity of the area is expected. Former landfilling operations have filled the site to 5 to 20 feet AMSL. Site grading for the proposed project will further elevate the site above the 100-year flood plain.

Natural Wild and Scenic Rivers Act (16 USCA 1271)
New Jersey Wild and Scenic Rivers Act (NJSA 13:8-45 et seq.)

Not applicable. The project will not affect any stream segment under the Act. There are no wild, scenic, recreational or developed recreational rivers within the Project Study Area.

Federal Endangered Species Act of 1973 (P.L. 93.205),

New Jersey Endangered and Non-Game Species Conservation Act (NJSA 23:2A-1 et seq.)

Of the twelve threatened or endangered species identified in the environmental baseline, only the peregrine falcon has been observed within the proposed site boundary (the former Keegan Landfill area). The remaining species utilize the wetland areas along Belleville Turnpike and in the Kearny Marsh as habitats. These areas are considered excellent waterbird habitats, including extensive tidal flats and marshes. The peregrine falcon is not known to nest or breed within the District nor within the Project Study Area. Activities of the peregrine falcon are not limited to these wetland areas. The peregrine falcon apparently regularly uses the adjacent landfills. The greatest use of the District by the peregrine falcon is by migrating and wintering birds rather than breeders from surrounding areas.

Because the project site is utilized for migratory and wintering uses, the construction of the landfill is not expected to adversely impact the peregrine falcon. The adjacent Kearny Marsh offers a suitable alternative to the landfill habitat.

Wetlands and Coastal Resource and Development Policies (NJAC 7:7E)

The proposed facility will be built on top of the former Keegan Landfill, which consisted of two small islands and a large western plot. To maximize the use of this land, the proposed facility incorporates use of the area between the islands and the western plot as landfill area.

Approximately 6.5 acres of the area to be filled are mapped as freshwater wetlands. The water bodies which make up this area will be filled prior to landfill operations.

Remediation of the landfill and the impacted wetlands is considered a greater benefit than the lost wetland area due to landfilling. Wetland functional values in this area are low due to the adverse impacts of the Keegan Landfill leachate. An alternative design (Section 6.3) could protect the wetlands and retain the remedial component by building individual leachate collection systems around each former landfill area: each island and the western plot. However, the additional cost and the loss of landfill volume associated with this alternative make it less cost-effective. Tipping fees generated by the project will pay for the remediation of the landfill. The alternative design reduces the amount of tipping fees while at the same time increases the remedial capital and operation costs. An evaluation of the proposed project and the alternative design is presented in Section 6.3.

Air Quality Non Attainment Areas (NJAC 7:27-18.1 et seq.)

The proposed facility will be located in Hudson County. Hudson County is a Non Attainment Area for Total Suspended Particulates (TSPs), Carbon Monoxide and Ozone. Based on the air quality impacts addressed in Section 3, the generation of TSP (PM-10) by the landfill operation may result in a net emissions increase in the concentration of TSP (PM-10). A quantitative air impact analysis would determine if the net emission increase from the facility would cause the ambient air concentration to exceed existing standards (an annual average of 1.0 ug/m3 and a 24 hour average of 5 ug/m3 of TSP and PM-10). The results of this analysis would determine if control measures are necessary to reduce emissions of fugitive dust for the landfill.

Acoustical Impacts to Residential and Commercial Properties (NJAC 7:29)

HMDC maximum sound level for a residential zone is 65 dBA. There are, however, no residential zones in the portion of the Project Study Area within the District.

Noise impacts due to operation of the landfill will not exceed the NJAC maximum noise level of 65 dBA at the nearest residential and commercial properties. Adjacent industrial properties will be slightly affected by elevated noise levels during landfill operations but industrial properties are not subject to the NJAC 65 dBA level.

Water Quality (NJAC 7:15)

Water quality in the area will be significantly improved due to the implementation of this project. Soil erosion and sedimentation control measures will reduce degradation of water quality during construction at the site. In addition, the project will include a remedial component designed to prevent discharge of contaminated leachate from the former Keegan Landfill. The cutoff wall design coupled with the leachate collection system will improve surface water quality.

Agricultural Retention and Development Act (NJSA 4:1C-11 et seq.)

Not applicable. The State Agriculture Development Committee has not certified any lands in the Project Study Area as agricultural development areas.

Surface Water Quality Standards (NJSA 7:9-4)

Not applicable. Watershed area in the Project Study Area drain to surface water bodies classified as SE3 water bodies.

Sole Source Aquifer Designation (Safe Drinking Water Act of 1974 P.L. 93-523 Section 1424(e))

Drinking water to the municipalities in the project study area is provided by the North Jersey District Water Supply Commission which draws its water from the Wanaque Reservoir in Northwest New Jersey. The aquifer beneath the Project Study Area is not the sole nor principal source of drinking water in the area. If contaminated, no serious public health threat would be expected. High concentrations of chloride in the formation make it unsuitable for municipal purposes. There are no municipal potable water wells within three miles of the site.

The property is located within the Class II-A aquifer area, which has a primary designated groundwater use for potable water and secondary uses for agricultural water and industrial water. If a discharge of hazardous substances occurred on the property and any of the groundwater standards for Class II-A aquifer were violated, monitoring and/or remediation is required until the applicable standards are met. Because the standards are not currently being met due to the natural groundwater quality, localized effects of pollution from the Keegan Landfill and local industry, the aquifer can be established as a Classified Exception Area (CEA).

Critical Water Supply Area; Water Supply Management Act (NJSA 58-1A-1 et seq.)

Not applicable. The proposed project is not located within either of the state's two critical water supply areas.

National or State Register of Historic Places (NJSA 13-1B-15.128)

Not applicable. Implementation of the proposed project will not encroach upon, damage or destroy any area site structure or object included in the National or State Register of Historic Places. The closest National and State Historic site is the Highland Hose Company #4, 7,000 feet from the site boundary.

Airport Runway

Not applicable. The facility is not within 10,000 feet of any airport runway which is equal to or greater than 3,000 feet in length and that services turbo-engine planes. Likewise, the facility is not within 5,000 feet of any airport runway which is less than 3,000 feet in length and that services prop-engine planes. Newark International Airport is approximately 20,000 feet away. Teterboro Airport is approximately 36,000 feet away.

Recreational Impacts

Both Harvey Field and Gunnel Oval Park west of the site could experience temporary minor impacts from the proposed facility. Because of the proximity to the site, these municipal recreational facilities will be impacted by short-term construction noise and aesthetic impact due to the vertical expansion. Due to operational controls, fugitive dust emission during operations are not expected to impact the recreational facilities. Because the project will remediate the landfill and protect the surrounding wetlands from further landfill contamination, it will have a beneficial impact on the Kearny Marsh, located north and east of the site.

Environmental Cleanup Responsibility Act (ECRA NJSA 13-1K-6 et seq.)

Not applicable. ECRA was amended in 1993 and is now titled the Industrial Site Recovery Act (ISRA). Regulations have not been promulgated based on this new law. Current regulations, based on ECRA, state that operations or transactions of closed solid waste facility are not subject to its provisions. Because ISRA did not change this component of ECRA, it is assumed that the regulations based on ECRA still apply.

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Section 5
Unavoidable Adverse Environmental Effects

The proposed solid waste complex will have no adverse impact on many of the environmental parameters discussed in Sections 3 and 4. Furthermore, in most cases where an adverse impact is anticipated, the assessment recommends or describes a mitigation that will eliminate the effect or reduce its consequences.

An important part of the Preliminary EHIS process, though, is to identify those adverse environmental effects that are unavoidable. That is, regardless of the mitigation measures, and even if the best design and operating procedures are used, these effects, however small, are still likely to occur.

This chapter extracts the short list of unavoidable adverse effects from the longer descriptions in Section 4. Note that even these adverse consequences are small enough to be well within the limits of public health and safety and environmental protection.

Topography and Soils

Subsurface materials in the area to be landfilled or otherwise developed will be disturbed during construction. Temporary increases in soil erosion will result. The overall impact is not expected to be substantial.

The existing topography will be substantially altered. Elevations will be increased an average of 80 to 95 feet with a maximum elevation of 100 feet above mean sea level at the time landfilling is complete. The final outer sides of the landfill will be sloped to a maximum 3 to 1 (ratio of horizontal to vertical).

With the completion of landfilling, soil cover will be altered from existing; soil cover will consist of sufficient soil to establish a vegetative cover to control site erosion and improve site aesthetics.

Landfilling operations, especially construction of haul roads and site work on sloped areas, will result in a minor increase in soil erosion.

Biological/Ecological Environment

The proposed project will fill in 6.5 acres of wetland in areas not formerly filled at the Keegan Landfill. This will impact the terrestrial and aquatic wildlife which utilize this area. In addition, the ecological equilibrium and the functional value of this wetland will be lost. Eliminating this wetland area from the proposed landfill would increase the capital cost of construction while reducing the revenues to be generated by the landfill. The remedial component to be funded by the proposed project offsets the minor loss of wetlands.

Surface Water Resources

Because of the proximity of the landfill site to Frank's Creek and the unnamed creek, the potential exists for contaminated surface runoff to reach these streams. This potential is addressed and mitigated by the soil erosion and sediment control plan. The proposed landfilling

operations make relocation of Frank's Creek necessary. Frank's Creek currently crosses the site in areas proposed for landfilling. Portions of the unnamed creek will be filled during construction of the landfill.

Air Quality

During construction, dust emissions and on-site vehicle emissions (such as CO and NO_x) will produce a minor and temporary impact on the ambient air quality near the site.

During operation, air pollutants, primarily dust, will be released. With watering of unpaved roads, dust emissions should not cause a significant air quality impact.

Heavy truck and auto traffic to the site will increase vehicular emissions in the area, but they are expected to be below the applicable National Ambient Air Quality Standards.

Odors/Landfill Gases

Construction of the landfill may unearth areas of the former processible Keegan Landfill. This may produce temporary detectable odors on-site. Landfill operations are not expected to produce any odors due to the non-putrescible construction and demolition nature of the waste. Cover will effectively eliminate any minor odor that may develop.

If necessary, landfill gases from the former Keegan Landfill will be vented to keep gas concentrations below the levels at which explosion, fire or health effects occur.

Noise

Construction noise levels at some residential, recreational and commercial locations may, for brief periods, have a moderate to significant noise impact. Landfill operations and truck traffic noise will have a minor impact on industrial facilities immediately adjacent to the proposed site.

Traffic

Construction of the proposed facility will result in certain short-term traffic impacts of minor significance. Construction worker automobiles and construction trucks can be readily accommodated without significantly affecting traffic operations.

Traffic generated by the proposed landfill during operations will have a minimal impact due to the slight overall increase in total traffic on Harrison Avenue. Improving the access road from Harrison Avenue and the widening of Harrison Avenue (NJDOT) from Schuyler Avenue to Route 280 will further reduce the impact.

Terrestrial Environment

On-site vegetation (trees, shrubs and ground cover) will be removed over an approximate 110 acre area.

Community Services

The Kearny Fire Department is not equipped to fight a landfill fire. Provisions for on-site firefighting equipment or outside contracting service should be included in the facility operational plan

Visual Resources

The current topography across the site ranges from 5 to 20 feet AMSL. When the landfill is closed after 10 years, the permitted maximum level will be 100 feet AMSL. This increase will impact visual aesthetics of the area. The industrial buffer between residential properties and the landfill will mitigate this impact. The view from the Harvey Field and Gunnell Oval Park, however, because of its proximity to the facility, will be impacted by the landfill's vertical expansion.

Recreational Impacts

Both Harvey Field and Gunnel Oval Park west of the site could experience temporary minor impacts from the proposed facility. Because of the proximity to the site, these municipal recreational facilities will be impacted by short-term construction noise and aesthetic impact due to the vertical expansion. Due to operational controls, fugitive dust emission during operations are not expected to impact the recreational facilities. Because the project will remediate the landfill and protect the surrounding wetlands from further landfill contamination, it will have a beneficial impact on the Kearny Marsh, located north and east of the site.

Economics

The landfill and recycling facility will employ about 20-30 salaried and hourly personnel.

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Section 6
Project Alternatives

6.1 Introduction

This section presents a description and comparative evaluation of the reasonable alternatives to the proposed project. The evaluation considers the benefits, costs and environmental impacts of each alternative.

The alternatives to developing a landfill at the proposed site in Kearny can be categorized into three groups:

- Continued transportation and disposal of wastes out-of-state
- A similar landfill at an alternative site in the District
- A landfill incorporating an alternative design

This section discusses each of these alternatives to the proposed project and the impacts resulting from implementation of each of the alternatives.

6.2 Continued Transportation and Disposal Out-of-State

Proposed federal legislation may make out-of-state disposal for New Jersey either prohibitively expensive or legally impossible. Individual states have imposed restrictions over the past several years that have added to the cost of solid waste transfer operations. More importantly, the reliance on out-of-state disposal as a solution to the State's solid waste crisis will keep solid waste costs on an upward spiral, while increasing truck traffic and air pollution. Reliance on out-of-state disposal is not a feasible long-term alternative. Out-of-state disposal is inconsistent with the state's goal of self-sufficiency.

6.3 Alternative Sites

In 1988, officials from HMDC, Hudson County, Bergen County, Essex County, New Jersey Department of Environmental Protection, and the State Board of Public Utilities met to discuss several regional solid waste disposal initiatives.

Over a period of a year, data was gathered and several regional options were explored. The most cost-effective option pointed towards establishing a regional non-processible landfill in the Meadowlands. One of the assumptions included in the regional study, was that the non-processible landfill had to be approximately 100 acres in size and have a capacity of at least ten years. Sites under consideration included the Malanka Landfill in Secaucus, the MSLA 1-D Landfill in Kearny, the Erie Landfill in North Arlington, the Avon/Viola Landfill in Lyndhurst, the old Rutherford Landfill in Rutherford, and the Keegan site in Kearny. A review of the other potential "orphan" landfills (inactive but not closed sites in the District), indicated that the Keegan site was the only site large enough to satisfy the criteria.

The former Keegan Landfill is considered the best site for a regional non-processible landfill and recycling operation for a number of reasons. First, the site is ideally located near major highways including the New Jersey Turnpike, Interstate Route 280 and a major Hudson County

road, Harrison Avenue. Second, the site is a former landfill that presents a serious environmental concern to the area. Without the proposed landfill, the full cleanup as proposed by HMDC will never be realized. Third, HMDC is proposing to absorb all closure and post-closure liabilities from the Town of Kearny for the Keegan site and the MSLA 1-D Landfill. Lastly, in order to recoup adequate closure and post-closure money for these sites, a site had to be at least 100 acres. This would provide a minimum 10 year site life at 1500 tons per day. Along with the costs for closure of the sites noted above, the tipping fees at the proposed landfill will include provisions for host community benefits to the Town of Kearny that will exceed $2 million per year.

6.4 Alternative Design

An alternative design is evaluated because of the impact the proposed project will have on wetland areas on the site. Under the proposed project, approximately 6.5 acres of wetlands in the area between areas formerly used for the Keegan Landfill (the two islands and the western plot) would be filled. The alternative design shown on Figure 6-1 would not fill any portion of the wetland area but will use only those areas formerly filled at the Keegan Landfill.

On the one hand, the alternative design would benefit the biological/ecological environment in comparison to the proposed project plan. The affected wildlife habitat would be retained. The limited functional value of the wetland would be preserved. Water bodies that make up the area would not be filled. Water quality, impacted by the contaminated leachate, will be improved by the leachate collection systems to be installed around the landfill. Because the alternative design utilizes basically the same footprint as the proposed design, impacts to the physical/chemical, cultural and socioeconomic environment are expected to be very similar to the proposed design.

Preliminary volume calculations for the proposed design and the alternative design were performed to evaluate the amount of revenues that would be forfeited if the alternative was selected. Assuming that 20 percent of the landfill at post closure was cover material, 5.7 million cubic yards of construction and demolition waste would be accepted by the proposed design compared to 3.9 million cubic yards for the alternative design. At 1500 pounds per cubic yard (construction and demolition waste) and 75 dollars a ton, implementation of the alternative design will result in approximately 100 million dollars in reduced revenue. The reduced revenues from the lost landfill volume will adversely affect the remediation plan for the site and for the MSLA 1-D landfill. As noted earlier the excess revenues from the facility will be used to close the MSLA 1-D landfill.

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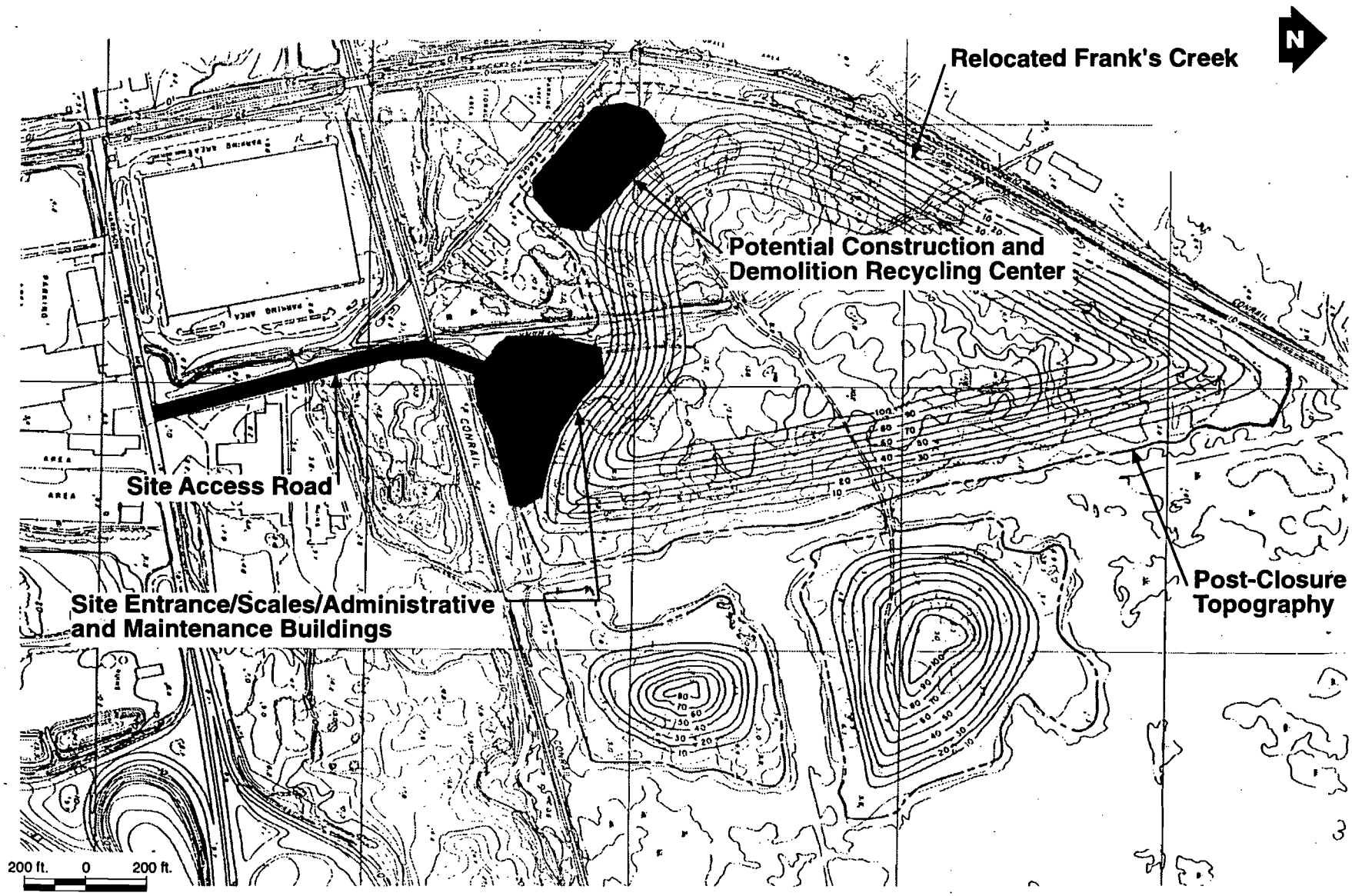

CDM Camp Dresser & McKee

Figure 6-1
Alternative Design
HMDC Materials Handling Complex - PEHIS

TIERRA-D-000515

Section 7
Short-Term Use of the Environment and the Maintenance and Enhancement of Long-Term Productivity

7.1 Short-Term Use of the Environment

The in-flow landfill design includes a cutoff wall, keyed into a natural clay layer beneath the Keegan Landfill, and a leachate collection system. This system is designed to prevent leachate from impacting the groundwater and surface water surrounding the landfill. As landfill areas reach permitted elevation, they will be graded and revegetated. This will reduce the possibility of contaminated surface water runoff from the site and reduce leachate production. At a waste generation rate of approximately 1500-tons-per-day, the landfill will meet the region's non-processible waste disposal needs for a minimum of ten years.

7.2 Maintenance and Enhancement of Long-Term Productivity

As landfilling operations are completed within each phase, the landfill will be covered and revegetated to stabilize the cover layer. The most feasible reuse alternative for the landfilled portion of the site is that of passive open space and habitat for wildlife. In addition, those areas that were previously undisturbed have the potential to be returned to their former uses.

There are no other projects in the immediate vicinity of the proposed landfill that would have the potential for a significant cumulative effect when considered with the proposed project.

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Section 8
Irreversible and Irretrievable Commitment of Resources

Beginning with the preliminary site preparation and continuing through the entire project life, several irrecoverable resources will be consumed. During site preparation, the vegetative cover over the work areas of the site will be removed. Once preparation is complete, land resources will be committed to the landfilling of solid wastes. While the landfilling operations are underway, those acres dedicated for solid waste disposal will be unavailable for alternative uses.

Even after landfill closure there will be limits to the types of development that may occur on the disturbed portion of the 110-acre site. The active fill area and land used for ancillary structures may not be suitable for certain land uses due to physical constraints. Use of the area for landfilling, however, does not represent a permanent commitment of resources because the site will be covered and reclaimed when landfilling is completed. The revegetation of the mound will most likely consist of grasses and shallow rooted vegetation. A future use plan will be developed identifying possible passive land uses of the landfill site after it has been closed for landfilling.

Additional resources to be consumed as a result of the proposed project are described below:

- Fossil fuels will be expended during landfill operations by the equipment used on-site and also by the solid waste collection vehicles. During construction, an irretrievable commitment of fuel will be used for vehicles and equipment.

- Preparation of the site will involve the irreversible and irretrievable commitment of clay, gravel, sand, and other construction materials that will be utilized to construct the cutoff wall, leachate collection systems, and other facilities. Recycled soils under the state Soil Reuse Plan will be used for cover material. These commitments of earth resources are not considered significant because of the relatively small amounts of material involved and the general availability of such material.

- Installation of a site cutoff wall to collect leachate commits the use of natural materials. The cutoff wall is a permanent measure to preserve the integrity of regional groundwater. Therefore commitment of materials for its construction is considered essential and positive.

Of the above resources, land is the most important resource to be committed. However, the commitment of land has already occurred and will serve a necessary function of waste disposal for the region. This function is critical considering the present need for landfill space. The active landfill area will be covered and reclaimed, making it suitable for certain passive land uses after landfilling operations are complete. After closure, the land will retain the same function it has today: passive open space over landfill.

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Section 9
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HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION
One DeKorte Park Plaza • Lyndhurst, New Jersey 07071-3799
Administrative Offices: (201) 460-1700 Environment Center: (201) 460-8300
Fax: (201) 460-1722

June 7, 1995

Mr. John A. Castner, P.E., P.P.
Chief, Bureau of Landfill Engineering
840 Bear Tavern Road, CN 414, First Floor
Trenton, New Jersey 08625-0414

Re: HMDC Materials Handling Complex
Former Keegan Landfill Site
Kearny, Hudson County, New Jersey

Dear Mr. Castner:

We are pleased to forward to you at this time, 20 copies of the Preliminary Environmental and Health Impact Statement (PEHIS) prepared by CDM and dated June, 1995 for the non-processible landfill proposed for the former Keegan Landfill in the Town of Kearny, New Jersey.

As you know, the Department certified the inclusion of this facility as part of the HMDC Solid Waste Management Plan on December 2, 1992. Unfortunately, legal proceedings prevented the HMDC from preparing the PEHIS until now. As proposed, this HMDC facility will bring the State substantially closer towards self-sufficiency and away from reliance on out-of-state disposal.

In order to expedite your review and approval process, we ask that you contact our Office to schedule a meeting with the review team. Once approved, the HMDC can move forward with property acquisition and commence engineering field and design tasks. In the interim, please contact me if you have and questions.

Thank you in advance for your time and effort.

Very truly yours,

Thomas R. Marturano, P.E., P.P.
Director of Solid Waste/
Engineering Operations

cc: Anthony Scardino, Jr.
Gary Sondermeyer

TOWN OF KEARNY
DEPARTMENT OF PUBLIC HEALTH
WALTER J. NICOL HEALTH CENTER

645 Kearny Avenue
Kearny, New Jersey 07032
(201) 997-0600
FAX (201) 997-9703

Edward Grosvenor,
Health Officer

September 3, 1995

To: Robert M. Czech

From: Kearny Health Department

Re: Keegan Dump Fire

Dear Bob:

The fire on Keegan Dump has been at this time classified as a Subterraneanal Fire by the Kearny Health Dept., Hackensack Meadowland Development Commission, Hudson Regional Health Commission, Kearny Public Works and Kearny Fire Department.

This fire has been active for over a week, despite the efforts of the Kearny Fire Department.

Because of the severity in damage and possible cost to the Town, we believe the Emergency Management Team be assembled to assess and recommend to the Town Administration, the appropriate action needed to address this situation in a safe and timely manner.

Sincerely,

Ed

ED GROSVENOR
Health Officer

EG/jc

CAA000026

HUDSON MEADOWS
Urban Renewal Development Corporation

F16 25

March 22, 1994

Mr. Edward Grosvenor
Health Officer
Town of Kearny
Kearny, NJ 07032

Dear Mr. Grosvenor:

I urge you to recommend the Mayor and Council to oppose the HMDC Solid Waste Management Plan Amendment which proposes to re-open the Keegan Landfill to accept 1,500 tons of non-processible garbage per day, 300 days a year, for the next 20 years.

This plan has been opposed by local, regional, and state environmental groups. This site is continguous to the largest fresh water marsh in the HMDC district which is a habitat for some endangered species. The non-processible materials handling complex will be close to a school and residential communities. It will be accepting asbestos and other contaminated materials.

HMDC has done no site analysis and there are currently more suitable sites both within and outside the HMDC district. There is another community that is willing to host this proposed landfill.

Hudson Meadows Urban Renewal is currently in litigation with the HMDC on the matter and have been joined by the Town of Kearny and the Hackensack Meadowlands Mayors Committee comprising of 14 towns in the HMDC district.

In addition, the following is a summary of some other reasons why this plan must be opposed:

1. Despite the fact that the Hackensack Meadowlands Mayors Committee opposed this plan, the HMDC over-rode the opposition of the mayors committee without the required 5/7 commission vote to do so. (The vote was 3 in favor and 2 opposed.)

2. The main reason for HMDC to re-open the Keegan landfill is in order to generate the funds to close it and a second landfill known as 1D. However, Hudson Meadows Urban Renewal has proposed a commercial development plan that addresses the environmental issues while providng high quality utilization of this valuable site along with jobs, ratables, and environmental enhancement.

CAA000027

525 Riverside Avenue, Lyndhurst, New Jersey 07071 • (201) 460-8904 • (201) 460-0088

3. The HMDC's administrative record was grieviously flawed. A statute governing the HMDC was violated and there was evidence of mis-representation by the HMDC to the Mayor of Kearny, the people of Kearny, and Hudson Meadows Urban Renewal.

4. Kearny has been a dumping ground for many undesirable uses such as the county jail, county incinerator and rehab facility. Continued negative utilization of Kearny's precious resources and environment will forever prevent Kearny from quality upscale development such as presently enjoyed by other communities in the HMDC district.

We are committed to preventing further dumping in Kearny and protecting Kearny Meadowlands from environmental destruction while preserving and enhancing their existing natural resources.

We urge you to act now because with a new Governor and new administration, we believe there is hope to change Kearny's image. We will be petitioning our new Governor to oppose HMDC's Solid Waste Management Plan Amendment. Your support is greatly needed.

Sincerely,

HUDSON MEADOWS URBAN RENEWAL

Jeryl Turco Maglio

JTM:eg

HUDSON REGIONAL HEALTH COMMISSION

215 HARRISON AVE., HARRISON, NEW JERSEY 07029
TEL. 201-485-7001 FAX 201-485-1251

Richard Censullo, President

Robert Ferraiuolo, Director

MEMO

TO: Edward Grosvenor, Health Officer
FROM: Robert Ferraiuolo, Director
DATE: September 18,1995
RE: Keegan Landfill
Landfill ID (Southeast of Drew Chemical)

Over the past several days we have been monitoring conditions at both sites referred to above. Although the Fire Department and Cali Contracting have done an excellent job in extinguishing and/or controlling the fires, I am concerned about potential long term consequences of not properly closing both sites.

We are aware that a number of historical, legal and political factors have served to severely complicate long term remediation scenarios. We are further aware that proper closure could potentially cost tens of millions of dollars for the ID site alone, thus beyond the financial capability of the Town of Kearny.

We made inquiry into possible sources of funding assistance for which the Town might be eligible. The results were not encouraging.

We contacted Pat Ferrara of the DEP as well as other knowledgeable parties and were advised that there were generally no such funds available for such assistance, most particularly where there was a responsible party. There is a Bill (#1111), presently pending, which would provide assistance for the closure of municipal landfills where such landfills were not operated for a profit. From what I understand about the operation of the ID site under the terms of a lease with the Town, this legislation, if adopted, would probably not apply. To the best of our knowledge, neither the 'Keegan' nor 'ID' sites were ever on the 'Superfund List'. Neither are on the most current listing of known contaminated sites maintained by the NJDEP.

CAA000028

RECOMMENDATIONS

It would seem of enormous economic benefit to the Town to have the HMDC assume responsibility for closure of both sites. While it is not within my purview to influence the outcome of negotiations and litigation which have arisen from their proposal, the HMDC might be on top of a short list of entities capable of and willing to take on the substantial burden of closure.

Another option might be to seek assistance from our legislative representatives.

We will continue to monitor conditions at both sites and hope that the Fire Department and contractors engaged by the Town can have continued success in controlling outbreaks. However, even these actions can be quite costly and might ultimately prove futile.

In my opinion, the landfills are an unfortunate legacy of shortsighted environmental management. Only through proper closure will their potential consequences be obviated.

For your further information, I have enclosed a copy of a study of the 'Keegan Site' done by the NUS Corporation in September of 1989.

If I can be of further assistance, please advise.

EXHIBIT I

HEARING OFFICER'S REPORT

1.0 EXECUTIVE SUMMARY

The HMDC, through it's enabling legislation, has been involved with regional disposal of solid waste since our inception. We recognize at this time, that there are certain regulatory processes in the making, that will in all likelihood have a serious impact on the State's ability to send solid waste out-of-state. Proposed federal legislation will make out-of-state disposal for New Jersey either prohibitively expensive or legally impossible. Individual states have imposed restrictions over the past several years that have added to the cost of solid waste transfer operations. More importantly, the reliance on out-of-state disposal as a solution to the State's solid waste crisis will keep solid waste costs on their upward spiral, while increasing truck traffic and air pollution.

In 1988, officials from the HMDC, Hudson County, Bergen County, Essex County, New Jersey Department of Environmental Protection, and the State Board of Public Utilities met to discuss several regional solid waste disposal initiatives.

Over a period of a year, data was gathered and several regional options were explored. The most cost effective option pointed towards establishing a regional non-processable landfill in the Meadowlands. Computer modelling indicated that there would be a savings on the order of $500 Million to the region over a twenty year planning period. Proportionate savings would occur with the proposed Keegan site with it's minimum ten year estimated life.

One of the assumptions included in the regional study, was that the non-processable landfill had to be approximately 100 acres in size and have a capacity of at least ten years. A review of the other potential "orphan" landfills (inactive but not closed sites in the District), indicated that the Keegan site was the only site large enough to satisfy the criteria. Other sites under consideration were the Malanka Landfill in Secaucus, the MSLA 1-D Landfill in Kearny, the Erie Landfill in North Arlington, the Avon/Viola Landfill in Lyndhurst, and the old Rutherford Landfill in Rutherford.

The Keegan site also has excellent regional access to service the targeted solid waste districts not found with the other sites. Finally, the remediation of this site will stop the environmental degradation of the adjacent Fresh Water marsh. It should be noted that this is the largest fresh water marsh in the District, and that it was formally protected by the Commission in 1985.

After discussions and site visits with representatives of the New Jersey Department of Environmental Protection and Energy, the HMDC decided to proceed with the first step towards formally proposing the Keegan site as a regional materials handling complex that would include the non-processable landfill as well as a construction/demolition recycling facility. This action was also prompted by the recommendations included in the Governor's Task Force report on solid waste, particularly concerning regionalization and construction & demolition waste recycling.

The first of two public hearings was held on January 7, 1992 at the offices of the Commission. A second public hearing was held on February 19, 1992 in the Kearny High School.

1.1 WRITTEN COMMENTS

Prior to the public hearings, written comments were received that requested that the record be held open, another hearing be held, and that the HMDC should consider alternative development for the site. Additional written comments were received from the Bergen County Utilities Authority(BCUA), the Hudson County Improvement Authority(HCIA),and the Town of Kearny. Responses to these comments are addressed at length in the full Report.

The HCIA commented that the HMDC must include any proposed solid waste facility in the Hudson County Solid Waste Management Plan. The HMDC believes that the Solid Waste Management Act is clear and that as a Solid Waste Management District, facilities in the HMDC do not have to be entered into the Hudson County Plan, nor are Interdistrict Agreements required as they had described.

The **BCUA** comments related to financial impact, waste flow orders, and facility capacity. Responses are addressed herein.

The Town of Kearny passed a resolution on March 11, 1992 "... that the Mayor and Council of the Town of Kearny do formally, and unequivocally, oppose any further landfill operations within the Town of Kearny including specifically the proposed regional solid waste materials handling complex which has been the subject of the proposed amendment to the HMDC solid waste management plan..."

The alternative development proposal by **Hudson Meadows Urban Development Corporation** included an office complex, shopping mall, hotel, etc. The developer owns approximately 34 acres, and has a developmental lease for another 384 acres with the Town of Kearny. A portion of the proposed development would occur on top of the landfilled portions of the Keegan property, roughly the same area designated by the HMDC for the non-processable landfill. It should be noted that Hudson Meadows has had this property under lease for more than 13 years. No response to a nine-page preliminary findings letter from the HMDC dated May 15, 1987 was ever received.

To date, no action has been taken to develop or remediate this site. The financial implications of remediating, financing, and developing an old landfill site of this size are obvious and help explain why no development has occurred. The HMDC could simply wait no longer to stop the degradation of the surrounding area.

Hudson Meadows had extensive questions, and provided lengthy testimony as to why their proposal should go forward. This included that the public notice process was defective for several reasons. The HMDC has in fact complied with the public hearing process as specified in the Solid Waste Management Act.

In addition, it was stated that the HMDC failed to consider alternative sites for the proposed facility along with an impact assessment. The HMDC response is that after evaluating the existing "orphan" landfills in the District, the Keegan site offers the most capacity of any of these "orphan" landfills. This is based on staff knowledge of the District. Further, access to the site is ideal since the Keegan Site is located adjacent to two major State highways, with the proposed access along a major Hudson County route.

The HMDC has designated 421 acres for the proposed facility. However, the bulk of the property is the Kearny Freshwater Marsh which cannot be disturbed. Landfilling would only occur on top of the existing landfilled portions of the site, or about 110 acres.

The landfill would accept bulky wastes (Type 13), and non-hazardous industrial wastes (Type 27) which includes asbestos. The majority of the waste flow is anticipated to be the non-processable wastes that are redirected from resource recovery facilities, transfer stations, and recycling operations. No incinerator ash will be accepted at this facility, which by design will not be able to accept ash. Waste will only be accepted from New Jersey sources.

A March 3, 1992 letter from **Hudson Meadows Urban Development Corporation** attached additional comments that were supposed to be submitted in evidence at the February 19, 1992 public hearing. Many of these issues were repeated from earlier correspondences and/or testimony. One question, was whether reopening the landfill was the only means to achieve the HMDC's environmental objective. Clearly, our proposal is the only means to close both the Keegan and MSLA 1-D landfills <u>and</u> maintain them for a minimum 30 year post closure period.

An interesting comment, was that "...if a commercial development were constructed, the Kearny "closure" would not likely require an income stream greater than $1.5-2.5 million/year over a ten year period. This revenue stream could easily be generated from local taxes on the commercial development that could be dedicated to closure costs." Obviously, this would reduce the potential ratables by 50 percent from what has been promoted by Hudson

Meadows.

Another comment was that development of other areas of the Meadowlands has been at the expense of Kearny. The Kearny portion of the Meadowlands is somewhat unique in that a large percentage of the area is wetlands. The next largest area, unfortunately, has been landfills that predated the existence of the HMDC. Because of the disparities for Kearny as well as areas that have received the bulk of the development over the years, the HMDC set up an inter-municipal tax sharing formula. In 1992, Kearny will receive $2,568,471 from the tax sharing fund, and to date has received $21,215,252. Host community benefits from the landfill operations have totalled $1,512,741 since the host community benefits began to be collected.

While Hudson Meadows stated that we have no basis to conclude that significant adverse environmental impacts are occurring, one only has to walk the site to see that there is leachate flowing from the site, that the color of the water in Frank's Creek gets progressively greener as it flows through the site, and that numerous underground fires over the years have scarred site vegetation. Further evidence of site contamination was found by the USEPA in their investigation of the site.

1.2 PUBLIC COMMENTS

Traffic that would be generated by this proposal was one of the most frequently voiced concerns. Kearny residents believe that their roads are already at capacity, and that there is too much truck traffic. The HMDC has estimated that site operations would generate 200 trucks per day, the majority of which occurs at off-peak hours. The HMDC prepared a traffic modelling report that enables us to predict the impact from a proposed development. Use of this model indicated that the proposed facility would not change the Level of Service of the feeder routes (Harrison Avenue or Belleville Turnpike). In addition, the site is located about one-half mile west of the intersection of Route 280 and the New Jersey Turnpike at the 15W Interchange. It is anticipated that trucks will utilize the major arteries, ie. Harrison Avenue and Belleville Turnpike to access the site. The estimated 200 trucks per day are in stark contrast to the development proposal which would have in excess of 7,000 vehicles per day. It should be noted that the only current access to the site is via a dirt road.

Many residents asked why the site use could not simply be a park instead of either a landfill or another development. The HMDC responded that based on the history of underground fires at the site, leachate emanating from the site, etc. there would have to be a substantial cleanup of the site before any park development, with no viable funding source available.

A September 29, 1989 report commissioned by the USEPA Superfund Division recommended the site for Medium Priority for further action. Further, that a fence should be installed around the site to limit access, and that additional sampling was needed to assess the full extent of pollutants from the site.

Cleanup could not be effected by simply covering the site with several feet of dirt. A perimeter cutoff wall and leachate collection system, as proposed by the HMDC, would be required along with adequate capping of the site before any recreational uses could be contemplated. Obviously, these improvements would require a substantial investment that neither the Town nor the HMDC could make.

The **financial impacts** of the proposed project were also questioned by several people at the hearings. The HMDC has projected that the landfill will accept 1500 tons per day,300 days per year, with a tipping fee of approximately $75 per ton. Using the current State taxes of $24.35 per ton, taxes would account for 33 percent of the tipping fee. Assuming that the operations at the proposed facility cost the same as the present Baler contract, 28 percent of the funds collected would go towards operations. Closure and post-closure costs for the Keegan and the MSLA 1-D site would account for an additional 36 percent. This would leave 3 percent for contingencies and administration.

Property values were of great concern to the residents of the Town, and especially nearby residents. The HMDC has seen a number of large and small scale developments near landfills in the District and elsewhere. Hudson Meadows pointed out at the public hearing that the Loew's Glenpointe development in Bergen County was built adjacent to an old landfill. The Bellemead Development Corp. has built a number of office buildings in the Meadowlands near old landfills. Housing continues to be built near landfills, most recently in North Arlington within several thousand feet of the Bergen County Landfill.

In addition to the above,and the fact that the area surrounding the Keegan site is largely heavy industrial in nature, the HMDC does not believe that the proposed landfill will negatively impact Kearny properties.

Asbestos will be disposed at the non-processable landfill much the same as it is today at the HMDC Baler. To date, there have not been any incidents of asbestos spills from solid waste vehicles. Asbestos is one of the most highly regulated industries and solid waste streams in the country.

Prior to any asbestos being removed from a demolition project, the licensed asbestos removal company must certify that all asbestos has been removed from the building. At that point, the removed asbestos is wet down and packaged in two 6 mil plastic bags

prior to disposal. At the Baler, the asbestos hauler must make specific arrangements for the time and place of disposal. The same procedure would be followed at this facility. Providing a reasonably priced in-state method of disposing of asbestos is critical to the safe timely removel of this material from our environment.

1.3 RECOMMENDATION

The HMDC staff recommendation, based on our review of the available information, the submitted documentation and public testimony, is that the proposed use of the site as a materials handling complex is the best use of the site.

2.0 FINDINGS

The HMDC is proposing to establish a regional materials handling complex in Kearny with access from Harrison Avenue through Bergen Avenue, to be located on Block 205, Lots 18, 19, 24,27, 28, 29, 30, 31,32, and 33. This facility would include a non-processable landfill and construction/demolition recycling operation which would accommodate wastes that have traditionally been landfilled, and which have more recently been transferred out-of-state. These wastes either cannot be recycled or cannot be processed in a resource recovery facility.

The HMDC has discussed the feasibility of establishing such a facility over the last several years with the NJDEPE, Bergen, Hudson and Essex Counties. A Tri-County initiative study conducted in 1988, indicated that if such a facility were established, that the region would stand to save an estimated $500 Million over a twenty year period.

The proposed non-processable landfill would be located on top of the existing landfilled portions of the lots noted herein. This site is generally referred to as the old Keegan Landfill, or the MSLA 1-B Landfill. The goal of the HMDC is to remediate the old landfill thereby containing and controlling the existing pollutants from the site, while siting a much needed non-processable landfill for the region. Only New Jersey waste would be accepted at this facility.

Tipping (disposal) fees would pay for site remediation and landfill design, construction, operation, closure, post-closure and end-use plans. Additionally, the Hackensack Meadowlands Development Commission intends to collect funds for closure and post-closure for the MSLA 1-D landfill in Kearny.

The proposed construction and demolition recycling facility would accept concrete, wood, brick,etc. from construction and demolition sites. This facility would also serve as a consolidation center for this material. Concrete and brick would be processed into gravel for road base, admixtures, fill, etc. pursuant to State specifications. Wood would be processed, shipped to a secondary processor, or landfilled if it is non-processable (such as pressure treated or creosoted wood). Metal would be magnetically removed and brought to a scrap metal processor. Residual soils would be used as landfill cover whenever possible. Accessory uses may also include a tire shredding/chipping operation.

The old Keegan landfill is approximately 110 acres and this defines the lateral site limits. However, the ultimate capacity of the facility will be determined by extensive geotechnical investigations, wetlands delineation, and design constraints. If certified by the NJDEPE, this amendment to the HMDC Plan would

permit the HMDC to pursue the required engineering and environmental studies necessary to develop the site, to remediate the site, and to develop the new landfill on top of the site.

On January 7, 1992, the HMDC held the first of two public hearings. Public notices were placed in the Bergen Record and the Jersey Journal pursuant to the Solid Waste Management Act.

This document will address the two public hearings, written comments etc. separately. It should be noted that Classic Sanitation/Industrial Haulage removed their application for an amendment to the Plan shortly before the public hearing due to site plan problems.

2.1 JANUARY 7, 1992 HEARING

Written comments were received from: **Gary Bennett**, attorney for the Town of Kearny requesting that the public hearing be adjourned or that the record be left open and the public hearing be continued at a later date due to a conflict with a Town council meeting; **Hudson Meadows Urban Development Corporation** submitted a preliminary soils report prepared for Hudson Meadows by Melick-Tully and Associates dated March 30, 1987; a January 2,1992 letter from Hudson Meadows to Mayor Kenneth Lindenfelser objecting to the proposed facility; a January 6,1992 letter from Melick-Tully and Associates to Hudson Meadows ;and a letter from **Thomas Stukane** of DeCotiis and Pinto, attorneys for Hudson County Improvement Authority requesting that the public comment period be held open until January 20, 1992.

Hudson Meadows Urban Development Corporation

Hudson Meadows submitted written comments on January 7,1992 along with several attachments. Among these attachments was a January 6, 1992 letter from Melick-Tully & Associates that highlighted their March 30, 1987 soils report. Their study "...revealed that the majority of ...(the site)... had been previously filled with trash containing wood, grass, newspapers, rags, organic materials and other refuse. The fill had been placed directly over the original surficial organic marsh deposits. The total thickness of the fill and organic deposits varied from approximately 8 to 23 feet. Medium dense to dense sandy silt and sandy silt were encountered beneath the organic deposits and ranged from approximately 28 to 36 feet in thickness. The silt/sandy soils were underlain by soft to very stiff varved silt and clay which extended to depths ranging from approximately 75 to 150 feet beneath the ground surface. Dense competent glacial till and/or shale bedrock was encountered beneath the varved silt and clay.

The development of the site as proposed by Hudson Meadows includes an office complex, shopping mall, hotel and other related

and support structures. This report recommends a variety of necessary improvements for construction. This includes the following:

1) All high-rise structures must be supported on piles. Piles would have to be driven to depths ranging from 90 to 150 feet below the existing ground surface. Low to mid-rise structures could be supported by either a controlled fill alternative, or low to moderate capacity piles.

2) Excavation and disposal of unsuitable materials from within areas to be developed, controlled fill installation within building areas, the importation of general fill to raise grades within building areas if piles are utilized.

3) Design techniques that include ramps to enter structures; exaggeration of surface slopes to develop surface sheet drainage and minimize construction of drainage piping; the use of flexible connections for all utilities.

4) The construction of either a passive of active methane venting system for all structures depending on the concentrations of methane found in the fill materials.

Hudson Meadows also submitted the following major written objections to the proposed amendment:

1) The site designation by the HMDC constitutes a taking.

2) The site designation denies Hudson Meadows due process.

3) The public notice is defective because it fails to tell the public about the Hudson Meadows proposal.

4) The public notice is defective due to the HMDC reversing its historical opposition to regional facilities and a shift in waste flows.

5) There is no substantial evidence.

6) The HMDC fails to consider alternative sites in the District, and elsewhere in the county and state.

7) The HMDC failed to assess impacts to wetlands, surface water, groundwater, and ambient air quality.

8) The site designation is premature because the HMDC cannot obtain a Clean Water 404 permit, nor comply with state wetlands and buffer zone requirements.

RESPONSE

The HMDC provided adequate public notice in two daily newspapers in the region and in the format and timing pursuant to the State Solid Waste Management Act. There are no provisions that require the HMDC to list other potential developments on the effected properties.

As this site is a former landfill operation, there are certain known environmental and engineering liabilities. The HMDC is proposing to absorb all these liabilities through collection of closure and post-closure funds with the tipping fees.In addition, the HMDC will also absorb all liabilities for the MSLA 1-D landfill.

For the HMDC to undertake detailed engineering or environmental studies at this time, would be inappropriate. Sufficient background data exists to support the planning process as conducted to date. This work is proposed to be performed after the NJDEPE certifies this HMDC Amendment. Preliminary discussions with the Army Corps of Engineers indicate a willingness to cooperate with the HMDC in order to eliminate the degradation of the Kearny Freshwater marsh by the leachate from the Keegan Landfill.

For the reasons noted above as well as the other environmental concerns with this site, the HMDC has proposed what we believe to be the only alternative for site development. The development of this site as a landfill will remediate the site, while providing the region the much needed landfill capacity for non-processable solid waste. Additionally, the HMDC proposal addresses the closure of the 1-D landfill as well.

Hudson Meadows has not demonstrated, either in written or oral presentations that they intend to remediate the site to the level that the HMDC is proposing and which we believe will contain the pollutants leaching into the adjacent Kearny freshwater marsh.

The January 2, 1992 letter to Mayor Lindenfelser of Kearny dealt solely on the benefits of the proposed Hudson Meadows development and does not require a response in this document.

PUBLIC COMMENT

The responses to the major questions raised at the public hearing are as follows:

Traffic and Access

There were several questions and concerns raised about traffic and access to the site. The residents wanted to avoid

compounds in various sediment samples. Several inorganic compounds, including mercury, lead, and chromium were detected in surface water samples collected in Frank's Creek.

It was also noted that a member of the Kearny Police Department had worked as a truck driver for DuPont Chemical in Newark in the 1960's. He reported that every morning a least one truck with approximately forty 30-gallon drums went to the Keegan tract. These wastes included chromate and bichromate slurry, pigment wastes, and organic wastes. However during site investigations by the NUS Corporation, no drums were found.

The summary report concluded that the site poses a potential threat of contamination to surface waters. Downstream water samples indicated concentrations of chromium significantly greater than upstream samples. The same could be said for the sediment samples. It was also indicated that there was a potential for direct contact with hazardous substances present on site. In fact during recent inspections with the NJDEPE on the site, there were always people fishing or hunting on the site. Further, there is significant evidence of routine dumping throughout the site.

The report went on to say that "...based on recreational targets from the Hackensack River and the potential for direct contact, the site is recommended for a MEDIUM PRIORITY for further action. A fence should be installed around the site to limit access to the landfill. Note that this report is on file with the NJDEPE Hazardous Waste Division.

A July 2, 1987 letter from Edward Londres, Assistant Director of Enforcement for the NJDEP required that as an immediate, short term remedial measure, be prepared to mitigate the constant fires at the site. Next, a closure plan for the site was to be submitted, to preclude similar events from occurring in the future. It was further recommended that fire access roads be constructed to facilitate fire vehicle entry. Finally, it was recommended that measures to prevent public access to the site, such as fences and/or periodic patrols be put in place. To date, none of the improvements recommended by either the NUS Corporation or the NJDEP were implemented, including submittal of either the conceptual proposal or closure plan.

Ownership

The majority of the site is owned by the Town of Kearny (384 acres), with the remainder of the site in private ownership. Hudson Meadows Urban Development Corporation also has a leasehold interest in all of the Kearny owned land, as well as having direct ownership of about 34 acres. The total area that the HMDC has designated for this facility is 421 acres. Of that amount, only 110 acres are proposed for landfilling. The remaining acreage is the fresh water marsh which will ultimately be incorporated into the reuse of the

additional traffic on local roads which they feel are already congested. The HMDC has proposed that the access to the site be limited to a feeder road on the south of the site, ie. from Harrison Avenue, a major County road that links Harrison to Jersey City and where Route 280 and the New Jersey Turnpike meet at Interchange 15W. This intersection is approximately one-half mile east of the proposed site entrance. We have estimated that about 200 trucks per day will use this facility.

Another question raised related to the proposed extension of Route 17 south from Lyndhurst to the 15W interchange and/or Route 280. This proposal has been talked about for the last 20 years. The final alignments proposed by the NJDOT would not interfere with our proposed facility. In addition, we understand that the NJDOT has abandoned this project due to environmental concerns.

Present Site Conditions

It is believed that landfill operations began on the site in the 1940's or earlier. Operations continued until 1972 at which time disposal was concentrated onto a number of other larger sites. The site was operated by Municipal Sanitary Landfill Authority (a private company) as the MSLA 1-B Landfill under a lease arrangement with the Town of Kearny.

Since the landfill was closed prior to the Solid Waste Management Act, there are no environmental improvements at the site. The HMDC has estimated that there are approximately 65 million gallons of leachate being produced on-site each year. This leachate enters either the Kearny Freshwater Marsh, or Frank's Creek which bisects the site and flows south to Newark Bay. Frank's Creek has often been described as an open sewer, that usually has a green color. Leachate seeps are evident along the banks of the creek and the perimeter of the site.

The site has had a series of underground fires over the years that have caused air pollution problems for local residents. This has forced the town to hire outside contractors to put out the fires at a cost of about $40,000 per year. The method of putting out the fire is fairly standard. A bulldozer or other heavy equipment are brought in to dig up the fire. Then large quantities of water are pumped onto the exposed area until the fire is out. The last fire in November, 1991 required an area the size of a football field to be disturbed, with water being pumped onto the site for over a week. Obviously, where there are underground fires there is methane, and there are no controls to prevent lateral migration of methane into adjacent structures.

A September 29, 1989 report prepared by the NUS Corporation/Superfund Division for the United states Environmental Protection Agency indicated the presence of mercury, lead, chromium, polychlorinated biphenols (PCBs) and several semivolatile

site as a passaive wildlife refuge.

Waste Flow Components

The HMDC is proposing to accept bulky wastes (ID 13), and non-hazardous industrial wastes including asbestos (ID 27). In addition any non-processable wastes directed from either resource recovery facilities, transfer stations, materials recovery facilities, etc. will also be accepted (these are assumed to fall into an ID 13 or 27 category). It is anticipated that much of the cover material that will be used on the landfill will be soil generated from an on-site demolition recycling operation, or from similar sources from the State sponsored Soil Reuse Program.

Waste will be accepted only from New Jersey sources. It is anticipated that the four or five northeastern counties that historically dumped in the Meadowlands will send their non-processables to this facility. No incinerator ash will be accepted at this facility. In fact, by State regulation, a landfill must be specifically designed and operated to accept incinerator ash. The proposed non-processable landfill will not be able to meet those requirements which include dual synthetic liners, double leachate collection systems, etc.

Operations

The HMDC is proposing to operate this facility Monday through Saturday, from 6:00 AM to 4:30 PM. The landfill operations will be conducted in accordance with standard industry practice. Asbestos operations will be conducted separately from other landfill operations, but asbestos waste will only be accepted between the hours of 7:30 AM to 1:30, Monday through Friday.

The site life is estimated to be a minimum of 10 years to an elevation of about 100 feet.

Utilities

There are currently no sewers in this area of Kearny. The HMDC has, however, built a leachate force main from the 1-E landfill on the north of the Keegan site, to the 1-A landfill on the east. This force main will eventually be hooked up to the Kearny south pumping station that will feed directly into the Passaic Valley Sewage Commission facility in Newark, New Jersey. The HMDC is proposing to construct a force main from the Keegan site that would also service the adjacent industrial buildings in Kearny that are now on septic or holding tanks.

Closure Costs

The closure costs for the Keegan site are estimated to be $30 million, with the post-closure costs estimated to be an equal amount. The HMDC has also proposed to collect enough funds through the tipping fees to provide for the equally costly closure and post-closure of the former MSLA 1-D landfill, owned by the Town of Kearny, and located about one-mile east of the Keegan site. If this proposal is approved by the NJDEPE, the HMDC would absorb all liability from the Town of Kearny for these two sites.

Wetlands

The HMDC proposal includes the Kearny Freshwater Marsh because it is within Block 205, Lot 19. However, the HMDC does not have plans to fill in any portion of the marsh. In fact, in 1985 the Commission passed a resolution forever protecting the marsh from development.

This proposal by the HMDC will have a positive impact on the marsh because it will stop leachate from entering the marsh, as well as the upland pollutants that enter via Frank's Creek. This Creek will be rerouted around the landfill to its present terminus.

Hearing Process

There were several references made that the public hearing process did "...not meet the minimum standard for the process as envisioned by to Solid Waste Management Act and the implementing regulations." This included not having an available record for the public to review.

Pursuant to the Solid Waste Management Act, the HMDC did in fact provide all required notices in two papers in general circulation in the area, specifically the Jersey Journal and the Bergen Record. Notices were placed in these papers once a week for two weeks, with the second notice at least ten days prior to the date of the hearing as prescribed by law.

The record at the time of the public hearing, included site aerial and topographic maps, listing of effected property owners, basic site information, and substantial quantities of background documents. This information included several borings and test pits on the site. Traffic data was also available from a proposed development on Harrison Avenue about one-half mile east of the proposed access road to the Keegan site. Additionally, the HMDC has a traffic model of the entire District which was used to evaluate potential impacts.

The HMDC has maintained that to conduct extensive engineering and environmental studies prior to the initial public hearings and prior to any NJDEPE approvals would be inappropriate. Non site-specific data from other landfills in the District provides adequate baseline data for the Commission to render a decision as to the preliminary acceptability of this site, costs involved with closure and post-closure, traffic and other impacts. The HMDC will proceed with the extensive geotechnical, environmental and other related engineering studies only after the NJDEPE has certified this site for the uses as described in our proposed amendment.

2.2 FEBRUARY 19, 1992 PUBLIC HEARING

A second public hearing was held at the Kearny High School auditorium on February 19, 1992. Public notices were placed in the Jersey Journal, Bergen Record and the Kearny Observer.

Many of the speakers and the questions raised were covered in the original public hearing and were already addressed in this report or Findings. The following topics then relate specifically to the second public hearing. Written comments will be addressed first:

Town of Kearny

The Mayor and Council of Kearny passed a resolution on March 11, 1992, "...that the Mayor and Council of the Town of Kearny do hereby formally, and unequivocally, oppose any further landfill operations within the Town of Kearny including specifically the proposed regional solid waste materials handling complex which has been the subject of the proposed amendment to the HMDC solid waste management plan..."

The resolution also stated that "...the Town has conducted an independent evaluation of the subject site disclosing that it is possible to develop this property using current construction practices; however, this would involve substantial closure costs...". In addition, that "... the Town of kearny would prefer commercial development as opposed to the continued obliteration, devastation and ruination of the Kearny Meadowlands area..."

Hudson Meadows Urban Development Corporation

A January 10, 1992 letter from Hudson Meadows requested information relative to the proposed amendment under the New Jersey Right to Know Law. This information included: environmental impacts of past landfill operations; site remediation costs; site remediation alternatives; economic benefits analysis; feasible commercial development alternatives; traffic impacts; Town of Kearny liability; and wetlands impacts.

In addition, there were eight specific items that were mentioned in the January 10, 1992 letter which the HMDC responded to in a February 5, 1992 letter. They are addressed separately as follows:

1) **Wetlands Contamination** - The HMDC estimates that approximately sixty-five (65) million gallons of leachate per year are contaminating the groundwater and surrounding wetlands on the Keegan site. This figure is based on a depth of twenty to thirty feet of putrescible and industrial waste on site, 40 inches of

precipitation per year, the fact that there are no environmental controls on site and relatively gentle topography.

The quantity of leachate has a particularly detrimental effect on the adjacent fresh water marsh because it is not tidal and does not exchange large volumes of water twice a day. These contaminants tend to stay in the system. Evidence of site contamination can be seen by the results and recommendations in the USEPA report.

2) **Site Remediation Costs** - The HMDC has estimated site remediation costs on the order of $31 million, not including any post-closure costs. These conflicted with the estimates of Hudson Meadows engineers who stated that costs were more on the order of $4-5 million. A copy of all correspondences are attached to the HEARING OFFICER'S REPORT including a detailed breakdown of estimated costs. (It should be noted at this point, that these same engineers stated at the second public hearing that the HMDC closure costs were accurate).

3) **Revenues to Kearny** - Hudson Meadows stated that the development that they proposed for the site would generate about $5 million per year in revenues to the Town. The HMDC stated that the proposed Materials Handling Complex and landfill would generate about $2 million per year. This is based on the landfill operating 300 days per year accepting 1500 tons of non-processable waste per day, and with a host community benefit of $4.50 per ton. It should also be restated that the HMDC will absorb all closure and post-closure liability for this site and the MSLA 1-D landfill , a number that is not figured into the revenues to the Town.

A final letter received on March 3, 1992 also stated that the tax revenues to the Town of Kearny would in fact be $1.5-2.5 million less per year to cover site remediation costs.

4) **Commercial Site Development** - This comment was directed to the HMDC Engineering Division which oversees development in the District. Hudson Meadows has never submitted the required environmental, engineering, traffic, and financial data to support their development. No response to our nine page preliminary findings letter dated May 15, 1987 was ever received. This letter requested information which would be necessary to proceed with the first phase of our zoning application process.

5) **Traffic** - A December, 1990 traffic modelling report prepared for the Commission enables us to predict the traffic impact from a proposed development onto existing roadways. The result of the analysis indicated that there would be no impact on the roadway from truck traffic.

6) **Town of Kearny Liability** - The HMDC stated that as the property owner of the majority of the Keegan site, the Town would be jointly and severally liable for the closure and post-closure

costs. This is consistent with the position taken by the State on other landfills.

7) **Slurry Wall Remediation** - The engineering consultant for Hudson Meadows questioned whether the slurry wall containment as proposed by the HMDC is the only viable remediation control for the Keegan site. While there may be other technologies that have been used elsewhere, the HMDC believes that slurry wall technology coupled with a perimeter leachate collection system, is the most cost effective remediation control available. This system as employed at other similar sites with great success, and creates an inflow condition the precludes the outward flow of leachate. Geotechnical data from several landfills within the District, indicate that a naturally occurring clay layer extends beneath these landfills to bedrock. This clay, up to 300 feet thick in some places, has a very low permeability on the order of 1x10-8 cm/sec. This permeability is less than that generally recommended in standard engineering practice. With the "keying in" of the slurry wall to the underlying clay layer, you essentially create a bathtub to collect leachate.

8) **Wetlands** - Hudson Meadows questioned the designation of an area that included the Kearny Freshwater Marsh within the Lots designated for the facility. As noted earlier, the Marsh is part of Block 205, Lot 19 which includes a portion of the Keegan Landfill. The HMDC has absolutely no intention to fill in any portion of the Marsh. In fact one of the goals of the reopening of the Keegan site is to stop the uncontrolled release of contaminants from the site.

Since the Keegan site ceased operations before the Solid Waste Management Act, there are no monies available for closure and post-closure. The HMDC is proposing to collect this money through tipping fees at the site. Additional money will also be collected for the nearby MSLA 1-D Landfill that is owned by the Town of Kearny, and was leased out to MSLA for landfill operations.

Bergen County Utilities Authority

A February 19, 1992 letter from Larry J. McClure, Executive Director of the BCUA had the following questions with respect to the project:

1) **Financial** - Requested information on projected tipping fees and closure and post-closure costs. Tipping fees are projected to be in the $75-$80 per to range. Closure costs are estimated to run about $30 Million, with post-closure costs expected to run about the same. Estimates for the cost at the MSLA 1-D landfill are about the same, or a total of $60 Million.

2) **Waste Flow** - Questioned whether or not a generic waste flow order to the facility would be prepared. At this time, the HMDC is not proposing any waste flow orders to this facility. It may be

necessary, however, that controls such as waste flow orders be implemented so that the counties can track non-processable waste flow through their designated disposal facilities.

Additionally, the origin of the waste was questioned. The facility will be only available for waste generated from within the State. It is anticipated that the Northeast counties will be the primary users of this facility.

3) **Financing** - The HMDC will float environmental improvement bonds in order to remediate the site before accepting any waste. Should waste flows fall below the quantity needed to provide adequate closure and post-closure funds for the site, the HMDC will seek waste flow designations to the site.

4) **Residual Soils** - The HMDC will accept residual soils under the State Soils Reuse Program for landfill cover in addition to the soil generated from the proposed construction/demolition waste recycling operations. Soil reuse quantities have been as high as 85,000 cubic yards per year.

5) **Order of Magnitude Study** - Has a study of this nature been prepared to address the capacity of the facility taking into account geotechnical, wetlands, and design constraints? The HMDC has not done the full scale investigations that would be required by the NJDEPE. However, using available data for this site and other District landfill sites, the HMDC has projected that the main portion of the landfill could reach a height of 100 feet. This should provide a site life of at least ten years.

Hudson County Improvement Authority

A February 11, 1992 letter was received from Thomas J. Stukane of DeCotiis & Pinto, attorneys for the Hudson County Improvement Authority with the following comments:

1) Prior to obtaining a permit, the proposed facility must be included in the **Hudson County Solid Waste Management Plan.**

The HMDC disagrees with this statement insofar as the HMDC is a Solid Waste Management District pursuant to the Solid Waste Management Act and the facility would be within the District. This is why Hudson County was not required to enter into an Interdistrict Agreement with Bergen County to utilize the HMDC baler and balefill.

2) No waste may be accepted at the proposed facility from other counties without obtaining an **Interdistrict Agreement** with Hudson County.

For the same reasons noted above, the HMDC disagrees with this statement.

PUBLIC COMMENTS

Mayor Lindenfelser of the Town of Kearny stated that the Town has "...had enough dumped in Kearny, regardless of the financial impact and the financial consequences."

Councilwoman Magenheimer questioned how the proposed facility would fit in with plans proposed by the Hudson County Improvement Authority for regional construction and demolition recycling facilities. The HMDC response is that it would complement the facilities proposed by the County because these facilities need a place to take their residuals. Also questioned was the traffic flow to this facility and the impact on Kearny streets. The HMDC response is that there will be no change in the level of service on streets leading to this facility. If necessary, the HMDC will designate specific truck routes, much the same way they are designated for a resource recovery facility.

Asbestos

There were several questions raised about asbestos coming into the proposed facility and whether or not it is mixed in with the demolition material. Also, how releases of asbestos would be controlled from incoming vehicles, what would happen if there was an accident involving a vehicle carrying asbestos, the carcinogenicity of asbestos, etc.

As noted at the public hearing, asbestos removal is one of the most highly regulated operations in the country. No demolition can take place until all asbestos is removed from a building. The asbestos is then wet down and packaged in double bags as required by the Federal Government prior to it being shipped to the disposal facility. In fact, recent Federal legislation requires that the licensed asbestos removal company put the full address of the origin of the asbestos on the bags.

All asbestos removal companies must be licensed by the State, and are required to complete courses in asbestos removal and control. The air is monitored after an asbestos removal project and sampling performed to be certain that there are no residual asbestos fibers in the building. Then and only then can the demolition of a building commence. To date, there have never been any episodes where vehicles containing asbestos waste overturned and/or presented a threat to the health and safety of residents near a landfill. The HMDC has been registered to accept asbestos waste since we began operating the Baler 1980.

A somewhat related issue was the control of lead paint residues on wood. The concern about lead paint entering a landfill on demolition wood has not been addressed by the NJDEPE to our knowledge. However, any wood entering the recycling facility would be suspect, and may be diverted to the landfill. No creosoted or pressure treated wood would be accepted at the recycling facility, and would be diverted to the landfill instead.

Fires

Another concern at the hearing was the possibility of a fire at the proposed facility and how it would be fought. This concern was obviously due to the long history of fires at the Keegan site, and the desire to control these fires once and for all. In fact, there have been seven major fires at the site in the last eight years.

The proposed facility would be operated as a state-of-the-art landfill, and as such would receive at least six inches of daily cover. In the event of a fire, the operator would be required to dig up the effected area and extinguish the fire. Substantial cover would then be placed on top of the effected area to prevent air from entering.

The asbestos disposal area, as required by State regulations would be separate from the main operating area, and would receive a minimum of three feet of cover.

Siting

There was a comment about the siting of the proposed facility, and why not elsewhere in the District.

The HMDC believes this is the best site for a regional non-processable landfill and recycling operation for a number of reasons. First, the site is ideally located to major highways including the New Jersey Turnpike, Interstate Route 280 and a major County road, Harrison Avenue. Second, the site is a former landfill that presents a serious environmental concern to the area. Without the proposed landfill, the full clean-up as proposed by the HMDC will never be realized. Third, the HMDC is proposing to absorb all closure and post-closure liabilities from the Town for the Keegan site and the MSLA 1-D Landfill. Lastly, in order to recoup adequate closure and post-closure money for these sites, a site had to be at least 100 acres. This would provide an estimated 10 year site life at 1500 tons per day.

Regardless of the testimony presented by Hudson Meadows, they have provided no information that indicates an understanding or ability to cleanup the site. References were made to the

construction of high rise structures on the site supported by piles, and the ability of macadam parking lots as a capping method, and the fact that the NJDEPE is comfortable with construction, excavation etc. on landfills.

Any investigations on a landfill, even for borings and testing requires a landfill disruption permit from the NJDEPE. Any project that would be proposed on top of a landfill receives intense scrutiny by the NJDEPE's landfill engineering group.

No testimony was presented that reflected a willingness on the part of Hudson Meadows to prevent the lateral migration of contaminants from the site. These contaminants are entering the adjacent wetlands as evidenced by the USEPA Study. The HMDC has proposed a perimeter slurry trench cut-off wall and leachate collection system that would effectively isolate the landfill from the adjacent Marsh.

We should also note that at the second public hearing the consultants for Hudson Meadows agreed with the closure costs for the landfill; they estimate closure to be "...in the range of 23 to 33 million dollars."

Sanitary Sewers

There were several questions about the leachate from the site and the use of Kearny sewers for leachate.

The HMDC presently trucks leachate from the 1-A Landfill into a manhole near the Keegan site. The HMDC has entered into negotiations with the Kearny Municipal Utilities Authority to accept leachate from our landfill sites into the Kearny South pumping station, and from there into the Passaic Valley Sewage Commission facility in Newark. The draft agreement would require that the HMDC pay for the entire cost of construction of the sewer lines for the Meadowlands area of Kearny to the pumping station. Currently, there are a number of industrial facilities that are on septic or holding tanks in this area including a major regional post-office facility. The HMDC is proposing that all these buildings be hooked up to the sanitary sewer.

Liability

In addition to the information from the first public hearing, liability issues were raised at the second public hearing. This included comments that the State of New Jersey should pay to close the dumps.

The HMDC as a State agency is proposing to effectively close and maintain both the Keegan site and the nearby MSLA 1-D landfill.

There are no other relative funding mechanisms available to close these sites. Both sites ceased operations prior the Solid Waste Management Act. Therefore, no money was put in escrow for this purpose. Further, monies collected for closure and post-closure at the other District landfills has been budgeted and is needed at those sites. As an option, we assume that the Town of Kearny as the landowner could apply for either Spill Fund money and/or Closure Tax money for these sites.

Financial

Several people questioned the amount of money that would be collected through the tipping fees at this facility. Since the HMDC is proposing a facility that would accept 1500 tons per day, 300 days per year, and at a cost of $75 per ton, the HMDC would collect approximately $337,500,000 over a ten year lifetime. Where does this money go?

The HMDC responded that a large portion of the tipping fee goes to taxes. Currently, $24.35 per ton in taxes are collected for Type 10 (Municipal) waste. Assuming no increases in the taxes before the facility begins operations, this translates to 33 percent of the total tipping fee. Included in this amount is a $4.50 per ton host-community benefit.

Additionally, there will be the operational contract for the landfill. The present contract with GROWS/Waste Management costs about $775,000 per month or $9,300,000 per year. Assuming that the contract amount for operations at the Keegan site was the same, this would translate to 28 percent of the total money collected. Closure and post-closure for the Keegan and MSLA 1-D sites accounts for an estimated $120 Million or about 36 percent of the total money collected. So far, this adds up to 97 percent, or about $1.0 Million per year remaining. Some of this amount would include the cost for the operations of the Construction & Demolition recycling operations, site access improvements, permitting, contingencies and administration.

As noted at the public hearing, the HMDC is a utility, and must file and justify all base rates and increases with the State. Further, all expenditures are subject to State review and approval.

End Use

The HMDC is proposing that once the facility is at capacity, the site would be capped and become part of a passive open space recreational area in conjunction with the Kearny Freshwater Marsh. Perimeter site improvements will have been completed prior to site operation. Therefore, the environmental quality of the adjacent area will be substantially improved before park conversion.

Property Values

For the residents that live near the proposed site, there was a concern about property values once the landfill is opened.

The HMDC believes that there will be no negative effect on property values in the area for a number of reasons. First, the Keegan site is already a landfill, however it has no environmental controls. There are numerous underground fires annually that require heavy equipment, and there are no security controls. The uses surrounding the Keegan site are primarily heavy industrial, including Port-O-San (a portable toilet storage and repair facility), a construction/demolition recycling operation, solid waste haulers storage yard, junkyards, Town DPW yard, and a number of warehouses.

The HMDC is proposing to remediate the Keegan site, control the underground fires, control the leachate and prevent the unauthorized entry onto the site. The one disadvantage to our proposed vertical expansion of the Keegan site, is the visual impact that a 100 foot landfill would have on the area. This is something that the HMDC cannot control. However, a thousand feet of industrial buildings and an existing railroad embankment that is 20 feet high will provide limited visual screening of the landfill.

We should note that adjacent to the Bergen County landfill and the BCUA Transfer Station, a developer is building 15 two family homes. Obviously, a developer would not build new homes if no one were willing to live there.

The HMDC maintains, however, that the proposed park end use with all the other environmental improvements, will in fact add considerably to a site that the USEPA has designated as Medium Priority for cleanup.

SOLID WASTE ADVISORY COMMITTEE

The Hackensack Meadowlands Municipal Committee is the designated solid waste advisory committee for the HMDC. The Municipal Committee is made up of the mayors of the fourteen towns which form the Meadowlands District.

On February 3, 1992, the HMDC discussed the proposal of the regional materials handling complex with the mayors. Mayor Lindenfelser of the Town of Kearny took exception to Kearny's responsibility in re-opening the landfill, and stated that the municipality objected to the proposal. He also commended the HMDC staff on the manner in which they had presented their position to the citizens of Kearny. P.J.McIntyre of the Town of Kearny objected to the proposed height of the landfill and the traffic that it would generate. The advisory committee took no formal position on this plan amendment.

Additional Written Comments

Written comments were received following the second public hearing from Hudson Meadows Urban Development Corporation. The Comments largely reflected comments received earlier, and testimony made at the two hearings. However, they will be addressed as follows:

1) **Closure** costs were proposed to be recouped by the developer from tax revenues at a rate of $1.5-2.5 Million per year over a ten year period. Aside from the fact that this conflicts with previous statements for Hudson Meadows regarding tax income to the Town of Kearny, these revenues will fall far short of the estimates made by the HMDC and Hudson Meadows' own consultant for the proper closure and post-closure of the Keegan site.

2) **Impacts** from the proposed materials handling complex have been addressed elsewhere in this report in a preliminary nature as required by the planning process. Once certified, the HMDC will undertake all necessary investigations.

3) The **scope** of the project is very clear as to the wastes that the HMDC will allow into the facility. No hazardous wastes will be permitted to enter the site. Although not necessarily hazardous, incinerator ash will not be allowed at this facility, and in fact the landfill will not be designed for ash.

4) **The income** to be generated for this facility will be sufficient to cover all costs associated with the two sites. Estimates provided so far will be fine tuned only after full environmental and engineering studies are conducted. No excess money will be collected and the HMDC will substantiate all costs to the NJDEPE before the rate is set.

TOWN OF KEARNY
DEPARTMENT OF PUBLIC HEALTH
WALTER J. NICOL HEALTH CENTER

645 Kearny Avenue
Kearny, New Jersey 07032
(201) 997-0600
FAX (201) 997-9703

Commissioners,
Kearny Board of Health:
James C. Connors, President
Victor Rudomanski, M.D., Vice President
Chester Kozlik
Archie Barber
William Myre
Katherine Salmon
Mary Bartiromo

Edward Grosvenor,
Health Officer

July 30, 1993, Friday

Mayor and Administators made aware of fire in Keegan Dump via a letter from Hudson Regional Health Commission.

Condition defined as emergency.
Cali Company hired to put fire out.

July 31, 1993, Saturday

Equipment on site
- Two bulldozers
- Two pumps
- Several hundred feet of 10" hose

Major area closest to road, worked on first

August 1, 1993, Sunday

More equipment brought to site with additional manpower.
See film to view condition of fire site.

August 2, 1993, Monday

Emergency meeting and council meeting held to cover administration of this project.

August 3, 1993, Tuesday

Site shows slight progress

August 4, 1993, Wednesday

Cali reports progress
Equipment at site
- 4 - Tack Back Hoes
- 2 - Bulldozers
- 3 - 6" Discharge Pumps
- 2000 feet of Hose
- Flood lights

A dozen men at sight

CAA000030

August 5, 1993, Thursday

Fire under control (see film)

First phase is to stop fire from spreading by making fire brakes and trenches around area.

Second phase is to soak down areas then mix garbage with water inorder to put out underground fire.

Roads are now being made to get the hose and water to the different areas.

Decontamination trailer and decon equipment is being put at site today.

August 6,1993 Friday
State DEP and Hudson Regional at site for inspection. method of fighting the fire and process being used was gone over. fire is under control. futher work needed to put fire out. Roads being built to get to areas were fire is burning .(see 8/5/93 tape). Dep / HR satisfied with progress.

August 7, 1993 Saturday

Fire brake around major part of area on fire. Very little smoke coming up now. Work continues to get water to needed areas.

August 8th,93 Sunday

Only a few small areas were smoke can be seen . Now underground mixing of garbage and water is to be started.

August 9,93 Monday
No smoke coming off land fill. One pump down . small site to the north needs attention. long range plan should be developed.

August 10,1993
Washing the garbage has begone. Monday Night large under ground area was exposed, most was put out . filming today shows the entire area that was/is on fire. also you can see new roads being put in to get to different spots at the site. also you will see still some underground burning..

Kearny Health DEpt.
Michael Beard

TOWN OF KEARNY
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WALTER J. NICOL HEALTH CENTER

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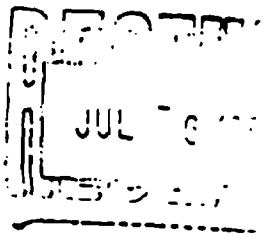
Kearny Health DEpt.
Michael Beard

(29)

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SOLID WASTE MANAGEMENT
CN 414, Trenton, N.J. 08625

Michael F. DeBlasio
Acting Director



July 2, 1987

Honorable Henry J. Hill
Mayor
Kearny Town Hall
402 Kearny Avenue
Kearny, New Jersey 07032

Dear Mayor Hill:

It is our understanding that there was recently a fire at the Keegan Landfill. I am pleased to learn that steps were taken to correct this serious situation.

According to our records, this is a problem which has occurred several times in the past. Such events are usually the result of improper closure of a site. Our Department's closure rules and operating requirements provide specific parameters necessary for the prevention of such occurrences. It is our recommendation, therefore, that the following actions be taken:

As an immediate, short term remedial measure, a conceptual proposal for correction of the existing situation should be prepared. Next, a closure plan for this site must be submitted, to preclude similar events from occurring in the future. Among the requirements for proper closure are; the application of a minimum of 24 inches of final cover, proper grading, slope stabilization and seeding, and development of provisions for groundwater monitoring. In addition, based on past experiences at this site, adequate access roads must be constructed to facilitate fire vehicle entry. Subsequent to the completion of these roads, measures to prevent public access to this site, such as fences and/or periodic patrols, should be put into place. It is recommended that proper disruption approval be obtained from our Department prior to the commencement of any of these activities.

CAA000031

For your information, the following is a list of persons in the Division of Solid Waste Management whom you may wish to consult:

Alfred B. Cherry, P.E.
Assistant Director for Engineering
(609) 292-7019

Edward J. Londres, P.E.
Assistant Director for Enforcement
(609) 292-6724

John Castner, Chief, Bureau of Sanitary
Landfill Closure
(609) 292-7875

Alan Kaczoroski, Chief, Bureau of Inspections
and Investigations
Enforcement Element
(609) 426-0791

Environmental Hotline (For Emergencies)
(609) 292-7172

Any plans or designs should be submitted to Mr. Cherry. Should you need assistance in any area, please feel free to involve us in your endeavor. You may call me at any time with your questions or concerns.

Sincerely,

Edward J. Londres

Edward J. Londres, P.E.
Assistant Director
Enforcement

d
c: A. Cherry
J. Castner
A. Kaczoroski

July 1987

ENGINEERING PLAN REQUIREMENTS FOR DISRUPTION OF LANDFILLS

The following items shall be addressed in the landfill disruption application narrative. Please note that review time can be minimized by numbering the responses and listing them in the same order as shown below.

1. Application Form - Application form C?#1 and Solid Waste supplement must be completed.

2. Engineering Design Review Fee - An application fee of $500.00, made payable to "Treasurer, State of New Jersey", must be submitted.

3. Topographic Map - A topographic map is required which clearly shows the area to be excavated, as well as any areas where waste will be redeposited. Existing and final contour lines shall be shown at two-foot intervals. Boundary lines and numbers of property lots and blocks shall be shown.

4. Extent of Operations - The applicant shall include a statement of the size of the area involved, the depth of excavation, volume of fill to be removed, and lot and block numbers of property on which disruption is to occur.

5. Elevation Drawings - Cross-sections showing depths of excavation or redeposition, required final cover and final grades shall be submitted.

6. Property Deed - A copy of the deed of record is required.

7. Timetable - The Applicant shall submit a timetable or schedule of operations.

8. Cover - The application shall include a description of the means by which all opened surfaces will be covered when excavation procedures are halted. (Daily cover of six (6) inches of clean soil is required when work is interrupted for up to 24 hours; intermediate cover of twelve (12) inches of clean soil is required when work is halted for up to six (6) months.)

9. Removal of waste - A statement is required confirming that no waste material will be stored on-site. In most cases, it shall be removed immediately; however, if only a small area is disrupted and the material can be immediately redeposited, permission may be granted for on-site disposal. The application shall address the off-site disposal destination or the methods used for on site disposal.

10. Purpose of Disruption - The applicant shall provide the reasons for the excavation and a brief statement describing the facility to be constructed (if any)..

11. Water Control - The application shall include a description of measures to provide drainage of surface water and subsurface water to minimize contact with fill.

12. Leachate Control - A description and design shall be submitted showing how leachate in the excavated area will be collected and treated.

13. Odor Control - A description of procedures to be used shall be submitted.

14. Gas Control - The application shall include details of the methane gas intercept system used to protect workers during excavation and construction and to protect any building facility when completed.

15. Rodent, Insect, Fire, Dust, and Litter Controls - A description of measures to be taken shall be submitted.

16. Excavation of Hazardous Waste - In the event that hazardous materials will be disrupted, specific procedures for the disruption, handling, and disposal along with a detailed Health and Safety Plan shall be submitted to the Department for review andshall be implemented upon approval.

17. Utility Lines - A design drawing shall be submitted indicating paved areas, areas for underground utility lines such as water, sanitary sewer, storm drainages, gas, electric and telephone.

18. Soil Borings - Soil borings of the property shall be provided in accordance with the following table:

ACREAGE OF DISRUPTED AREA	MINIMUM NUMBER OF BORINGS
1-10	3
10-50	6
50-100	12
100-200	18
over 200	minimum 24

a. The borings should employ a grid pattern, wherever possible, such that there is, at a minimum, one boring in each major geomorphic feature. The boring pattern shall enable the development of detailed cross sections through the sanitary landfill in order to sufficiently define the geology, hydrology and nature of the fill.

b. Subsurface data obtained by borings shall be collected by standard undisturbed soil sampling techniques for engineering indexes and classification. Diamond bit coring shall be used for rock boring. Samples shall not be composited. The sampling interval for the borings shall be determined by a geologist or geotechnical engineer and be representative of the stratigraphy of the site. It is recommended

that sampling be performed on a continuous basis for the first 20 feet below the lowest elevation of the sanitary landfill.

c. All borings shall be a minimum depth of 20 feet below the lowest elevation of the sanitary landfill. The Department reserves the right to require a deeper minimum depth in areas in which 20 feet is not sufficient to describe the geological formation and the groundwater flow patterns below the proposed sanitary landfill disruption in regard to potential contaminant migration paths;

d. Excavations, test pits and geophysical methods may be employed to supplement to soil boring investigation;

e. Field and final borings shall be submitted for each boring; recording soils or rock conditions encountered. Each log shall include a soil or rock description in accordance with the Unified Soil Classification sampling, the depth of soil or rock, the water levels encountered, the blow counts, the soil tests and date. All depths of soil and rock as described with the boring log shall be corrected to National Geodetic Vertical Datum.

f. All borings, not to be utilized as permanent monitoring wells, and wells within the active disposal area shall be sealed in accordance with NJAC 7:9-9, "Sealing of Abandoned Wells", and excavations and test pits shall be backfilled and properly compacted to prevent possible paths of leachate migration.

19. Departmental Permits - Copies of all departmental permits as may be required or written proof of application for such permits due to flood plain involvement, stream encroachment, discharge to groundwater or discharge to surface water, and copies of all titles for lands involved in riparian lands or wetlands (together with land use permits) shall be submitted. For more information, please contact the Bureau of Flood Plain Management, (609) 292-2372, the Bureau of Stream Encroachment, (609) 292-2402, the Bureau of Ground Water Discharge Permits, (609) 292-0424 or the Bureau of Industrial Waste, (609) 292-0407.

20. Erosion and Sediment Control - The disruption application must include a soil erosion and sediment control plan approved by the regional soil conservation district.

All drawings and other documents prepared by the applicant must be signed and sealed by a New Jersey licensed Professional Engineer.

JAMES C. ANDERSON ASSOCIATES, INC.
CONSULTING ENGINEERS, SCIENTISTS, PLANNERS AND SURVEYORS

385 PROSPECT AVENUE • HACKENSACK, NEW JERSEY 07602 • (201) 343- 2266

July 7, 1987

Mayor Henry Hill & Town Council
c/o Town Hall
425 Kearny Avenue
Kearny, New Jersey 07032

Ref: Health & Safety at
Fire Dousing of Landfill

Dear Mayor & Council:

Thank you for the confidence in our capabilities as expressed by your vote of approval two weeks ago. We greatly appreciated your resolution for our providing health and safety services at the above referenced location. I and the firm are always honored to work for the Town of Kearny.

In order to complete our health and safety monitoring task, we need to complete a number of items. First among them is the use of a temperature probe to detect any remaining "hot spots" within the landfill which may require further extinguishment. We will work closely with the contractor on this item.

Next, we must submit to you and the Town at large our report on the remedial actions taken by the contractor, as seen from our role as 1) serving as the Town's representative and 2) protecting the health and safety of Kearny residents during the dousing of the fire.

Third, we must meet with the Mayor and Council to discuss the range of options open to the Town for prevention of the recurrence of the fire. The long-term resolution of the landfill combustion problem must be addressed from an environmental engineering perspective and an assessment of the existing conditions promoting combustion. Suggested actions include a complete mixing of the waste volume, isolation, insulation and toe-in to ground water. Monitoring stations must also be set up to assure warning of abrupt changes in temperature by location. This perspective is one with which JCAA is completely familiar, having served a consultant to many landfill owner/operators.

Please contact me at the above should you have any questions or wish to review our observations and monitoring at the Keegan site. I look forward to your reply and to meeting with you all in the near future. Thank you for this opportunity to serve the Town of Kearny.

Sincerely,
James C. Anderson Associates

James A. Rogers

James A. Rogers, Principal
Member, Governor's Hazardous
Waste Advisory Council

JAR/cea

7-10-87 - COPIES TO - MAYOR HILL
TIERNEY - J. MECCA
HEALTH OFFICER -
G. GROSVENOR

NEGLIA ENGINEERING
ASSOCIATES
— *Consulting Engineers* —
CIVIL • MUNICIPAL • LAND SURVEYS

205 CHUBB AVENUE · P.O. BOX 426 · LYNDHURST, NEW JERSEY 07071 · PHONES (201) 939-8805 & 8809

JOSEPH E. NEGLIA, P.E., L.S., P.P.

August 28, 1987

Mayor and Council
Town of Kearny
402 Kearny Avenue
Kearny, New Jersey 07032

Re: Keegan Landfill
Bergen Avenue
Our file: - K-Pending

Honorable Mayor and Council:

On July 28, 1987 a meeting was held at the Town's Health Department with the New Jersey Department of Environmental Protection (NJDEP) to discuss the Department's requirements for the "closure" of the recently extinguished sections of the Keegan Landfill. A subsequent meeting was held between my office and the N.J.D.E.P. on August 11, 1987 to discuss the technical requirements for this section of the landfill. Based on these meetings we would recommend that the following remedial actions be taken:

1) The access road should be improved to eliminate the depressions and to provide for a turn around area. This can be accomplished by the use of construction/demolition rubble.

2) Cover the areas of the recently extinguished fires with two (2) feet of cover, compact and seed the area. This is normally done by using clean fill. However, we have had discussions with the Jersey City Water Department to use their water treatment sludge for this purpose. The NJDEP has approved this sludge to be used for landfill cover and Jersey City will make this sludge available to the Town at no cost. Provided that Town and/or its contractor load and transport the sludge.

3) The access road from Bergen Avenue must be secured and the illegal dumping on lots 18, 31 and 32 in Block 205 should be halted. It should be noted that these lots are owned by the Hudson Meadow Urban Renewal Corp. (Mimi Development) and the access road to the Towns property is located on these lots. The Town may wish to secure a roadway easement

from the property owner for this access road if one does not exist. The Town should also determine the southerly property boundry of lot 19 in block 205 in which the landfill is located.

It is estimated that cost of improving access road and covering the landfill with clean fill will be two hundred thousand dollars ($200,000.00). The utilization of the Jersey City sludge may reduce this to one hundred fifty thousand dollars ($150,000.00). We would recommend that plans and specifications be prepared for this work and bids be accepted for the two (2) alternate cover materials.

The Town should also research whether an easement exists for the access road, establish the Town's property boundary and require the owner of lots 18,31 and 32 to secure their property and remove the illegally dumped material. An appropriation should be made of two hundred fifty thousand dollars ($250,000.00) to cover all anticipated costs.

I trust you will find this in order.

Very truly yours,

Joseph E. Neglia, P.E.,L.S.,P.P.
Town Engineer
Town of Kearny

JEN/bjs/js

cc: Kearny Health Dept.
Kearny Fire Dept.
NJDEP-John Castner

HUDSON REGIONAL HEALTH COMMISSION

215 ~~x3t3~~ 213 HARRISON AVENUE
HARRISON, NEW JERSEY 07029

(201) 485-7001 (201) 485-7

July 14, 1987

Honorable Mayor Henry Hill
Town Hall
Kearny Avenue
Kearny, N.J. 07032

Re: Keegan Landfill

Dear Mayor Hill:

I wish to compliment you, the Council and particularly your Department of Health for a job well done in taking prompt and decisive action to remediate the underground fire at the above referenced site. I was personally pleasantly surprised to observe that visible smoke conditions were substantially ameliorated in short order by Mr. Cali and that efforts were underway to minimize the potential for recurrence.

As a result of an inspection conducted on July 13, 1987 it is our determination that visible emissions have been completely eliminated based upon which compliance with our Order of May 18, 1987 has been achieved.

It is the recommendation of the Commission that additional measures be taken by the town to further militate against the potential for recurrence and to facilitate site control. These include:

* A final cover of 24 inches at least over that area recently disrupted.

* Construction of access roads for emergency and patrol vehicles.

* Site security to prevent public access.

Your continuing cooperation is appreciated.

Sincerely,

Robert Ferraiuolo,
Director

Kearny
Department of Public Health
and Environmental Protection

BOARD MEETS
THIRD WEDNESDAY OF EACH MONTH
AT HEALTH CENTER
646 KEARNY AVENUE
KEARNY, N.J. 07032

997-0600

COMMISSIONERS
KEARNY BOARD OF HEALTH

JO-ANN CARRATURA, President
VICTOR RUDOMANSKI, M.D., Vice President
PETER CICCHINO
CHESTER KOZLIK
GORDON FOWLIE
ROBERT KERWIN
JAMES CONNORS

EDWARD GROSV
HEALTH OFFICE

July 21, 19

Honorable Henry J. Hill &
Members of the Town Council
Kearny, New Jersey 07032

Dear Mayor & Council Members:

As of the afternoon of July 9, 1987 there were no visual signs of underground smoldering at the Keegan Site as observed by Mayor Hill and this writer.

In a communication from the Department of Environmental Protection to Mayor Hill, dated July 2, 1987, they were pleased that Kearny took immediate steps to put out the fires. They also recommended that the town take steps to properly close the dump. One recommendation is to cover the entire site with twenty-four (24") inches of clean fill which would cost the town millions of dollars.

We can possibly avoid the spending of millions by taking short term remedial action which includes the following:

1.) Cover with clean fill the area that was on fire.

2.) Build roads to make all areas of the dump more accessible to fire fighting equipment.

3.) Secure the main entrance area and have area patrolled regularly.

A letter from the Town Engineer with our plan for remedial action would be submitted to John Castner, Chief, Bureau of Sanitary Landfill Closure, Division of Solid Waste Management, CN-414, Trenton, New Jersey 08625.

The town should also have the dirt portion of Bergen Avenue's perimeter free of all debris indiscriminately dumped, and signs posted to halt dumping and trespassing on the old dump (see enclosed report).

The Health Department also respectfully recommends that the town sell or lease the property for development. If there are no possibilities, we ought to apply for funding for recreational purposes to the H.M.D.C., Hudson County, State of New Jersey and the Federal Government, who have all had input into the following:

1.) Over fifty (50) years of garbage dumping in Kearny.

2.) Issuing permits to conduct hazardous waste facilities in the Town of Kearny.

3.) Storing 10,000 to 12,000 drums of radioactive solid and debris in Kearny.

4.) In the near future, construction of a 1,000 inmate jail in Kearny.

5.) Contruction of at least a 1,500 ton a day resource recovery unit in Kearny.

6.) And finally, we will probably be host community for the toxic ash from one or more resource recovery plants.

If we do nothing at all, we will probably continue to have underground fires errupt annually creating a public health nuisance for our residents and more seriously we will have the hazardous conditions that could permit serious injury to anyone falling into a burning cavity. Years ago we had one boy lose his legs and another crippled from falling into a burning cavity.

The Kearny Department of Public Health strongly recommends that the Mayor and Council consider our recommendations or develop a plan to remove the potential nuisance and hazard at the Keegan Dump Site.

Sincerely,

Edward Grosvenor

Edward Grosvenor,
Health Officer

EG:el
CC: A. Cavalier
R. Robertson
R. MacMillan

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SOLID WASTE MANAGEMENT
CN 414, Trenton, N.J. 08625

Michael F. DeBonis
Acting Director

August 25, 1987

Mr. John P. Sarnas
Assistant Health Officer
Kearny Department of Health and
Environmental Protection
645 Kearny Avenue
Kearny, New Jersey 07032

Re: Keagan Landfill, Kearny, Hudson County

Dear Mr. Sarnas:

This correspondence serves as a follow-up to your letter of July 30, 1987 and Christina Gerke's letter of August 10, 1987. On August 11, 1987, I met with Mr. Barry Sutherland and Mr. John Edwards, of my staff, to discuss plans for the Keagan Landfill.

It is our understanding that Neglia Engineering Associates will submit a plan to regrade and cover the recently disrupted area of the landfill with twenty four (24) inches of final cover. Among its other attributes, the cover will eliminate ignition sources and should prevent future fires. Although no formal disruption permit or review fee will be necessary, this Division will issue an "authorization to proceed" once a plan has been received and reviewed. Additionally, we will want a copy of a soil erosion and sediment control plan that has been sent to the appropriate district for proper certification.

Eng. fees

All landfills, regardless of age, are subject to a determination as to whether the site should be monitored under the New Jersey Pollutant Discharge Elimination System (NJPDES) permitting program. As such, we will be referring this site to them for such a determination.

Permit Fees!

There has also been mention that it may be prudent for the town to prearrange agreements with contractors to have contingency plans established for the purpose

→ retainer fees

of fighting fires at the landfill. Having authorization in advance, to hire a contractor, would greatly expedite the process of putting out a fire.

I trust this will satisfy your present concerns. However, should you have further questions, kindly contact Mr. Edwards at (609) 984-5851.

Sincerely,

John A. Castner

John A. Castner, Chief
Sanitary Landfill Closure

JTE/smw

c: E. Londres

Kearny
Department of Public Health
and Environmental Protection

BOARD MEETS
THIRD WEDNESDAY OF EACH MONTH
AT HEALTH CENTER
645 KEARNY AVENUE
KEARNY, N.J. 07032

997-0600

COMMISSIONERS
KEARNY BOARD OF HEALTH

JO-ANN CARRATURA, President
VICTOR RUDOMANSKI, M.D., Vice President
PETER CICCHINO
CHESTER KOZLIK
GORDON FOWLE
ROBERT KERWIN
JAMES CONNORS

EDWARD GROSVENOR
HEALTH OFFICER

July 23, 1987

Honorable Henry J. Hill &
Members of the Town Council
Town Hall
Kearny, New Jersey 07032

Honorable Mayor & Council:

It has been brought to our attention that the foot of Bergen Avenue, south of the railroad trestle, has become an illegal dumping area for a few irresponsible violators. Most of this dumping involves washers, dryers, furniture and other various debris.

To improve access of emergency equipment and abate a nuisance along the roadway, this area should be cleaned and debris removed as it presently poses a fire hazard and an unslightly nuisance.

By way of a letter to Town Engineer Neglia, we have requested that town property be delineated before removal begins so town properties can be cleaned.

Once town property on Bergen Avenue is properly cleared, we can begin to have private property in the area properly cleaned and fenced as required by law.

Very truly yours,

John P. Sarnas,
Assistant Health Officer

JPS:el

C-1

Kearny
Department of Public Health and Environmental Protection

BOARD MEETS
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997-0600

EDWARD GROS
HEALTH OFF

REPORT ON FIRES - OLD KEAGAN LANDFILL

An underground fire was observed on the above landfill at 12:30PM on Tuesday December 4, 1984. An on-site inspection showed one ventin hole approximately 1/2 mile inside landfill north of Bergen Avenue. Town Engineer's office was called to help identify property ownership This is very difficult due to no physical or identifiable sites in th surrounding area. The area was eventually identified as belonging to the Town of Kearny. Another visual inspection was made on Wednesday 12/5/84 at 1:00 PM smoke was seen venting from approximately nine different areas. Health officer was informed at 2:00 PM and made obs vation of problem accompained by Richard Ferraioli of the Kearny Wate Department. Councilman McLaughlin, Board of Health liaison and Counc McIntyre, DPW committeemen were informed of the situation at the same time. Approval was sought to use Town equipment to estinguish these underground fires.

4:00 PM 12/5/84, the site was viewed by John Sarnas, Ed Grosvenor and Councilman McIntyre.Due to the nature of the problem, Town equipm was deemed unsuitable to use on these fires. A tract vehicle was the only suitable piece of equipment which the Town does not have. The Town front end loader has tires which would most likely sink in the s terraine.

MSLA equipment and expertice were available and the Health Depart ment made contact to have the work done immediately.

10:00 AM Thursday 12/6/84 D-8 dozer arrives on Landfill, water tr not needed. 1:00PM work done on first big vent. Will take two full days to extinguish fifteen sited vents.

Friday call Eugene Siciliano of MSLA. Cold and wind are disipati smoke before it leaves the weeds making siting difficult if not impos 1:00PM dozer leaving, told to return for two small vents on North sid Put out at 3:00 PM.

Call to Siciliano, I told him that it was difficult to view vents due to weather and though it appears all is out, I will return on Monday for final inspection.

ATTACHMENT C-1

C-2

Monday 9:30AM 12/10/84 no smoke from vents, however large pile debris had been set on fire over the weekend by someone burning wir View site with deputy chief Cody, Kearny Fire Department, he said n truck could reach site, all he has is a two gallon portable pump.

Spoke with Gaglio, DPW who said front end loader has a flat and be available till the afternoon. I said that was sufficient.

2:00PM Dennis Burke on front end loader begins to seperate pile smoldering debris, as he is working open flames are erupting. Fire Department responds to my call and is unable to do anything. Eugen Siciliano stops after siting smoke and said he could handle fire in hours with his equipment at no charge. Front end loader with rubbe going thru hot spots, not advisable.

Tuesday, December 11, 1984, 7:30 MSLA equipment begins to put f out.

Job completed at 10:15AM.

ATTACHMENT C-

REPORT OF INSPECTION

Date: Dec., 3, 1981
Time: 10:00 PM
Site: Bergen Ave. Landfill

An inspection of the underground fires on the above site was conducted by Health Officer Grosvenor, Deputy Chief Cody, Assistant Superintendant DPW Gaglio and myself on the above date.

Three areas were observed venting smoke, indicating underground fires are present.

Past history has indicated the possibility of hazardous materials being present in the area, increasing the seriousness of this problem.

All present agreed that the only means to illiminate this problem was with a trained buldozer operator opening the areas up and smoking the fires. Galgio stated that the town does not have the proper equipment to handle this problem, Cody stated that water is useless in putting-out underground fires. He went on to say the areas were not presently accessable to fire department equipment. (New roads in the landfill would have to be installed)

It was decided to persue outside help, with the mayors consent to have this problem abated, at not cost to the town if at all possible.

Following this meeting, I met with Mayor Hill on Friday afternoon, December 4, 1981. He gave his approval to looking for voluntary help from outside groups.

Department of Environmental protection hazardous waste management was next contacted. I spoke with George Weiss, who indicated that if it can be documented that chemical waste is located on this site, aid might be forthcoming. Despite two or three follow-ups, DEP has been unable to give any positive statement except to say they may be interested.

Spoke with Turco on December 27, 1981, he said he would be unable to aid us as man and equipment will not be in the area for the next month or two.

Submitted by:

John P. Sarnas

ATTACHMENT D

CAA000034

file msen 71-007

Dumping, Drug Center Stir Ruckus in Kearny

By ROBERT NESOFF
Evening News Staff Writer

The Kearny council caucus last night heard complaints about dumping near residential areas and placement of a drug treatment program in town.

Mrs. Margaret Hallaway, ejected by State Police from Gov. Cahill's office in Trenton Monday, was ordered out of the council session for continued disruptions of the proceedings.

She was ordered out by Mayor Anthony J. Cavalier, who had issued her at least a dozen warnings to be quiet, after she stood and accused the council of seeking graft from the local dump operators.

As several policemen approached to escort her out, pandemonium broke loose in the crowd of about 300. She screamed at the policemen to take their hands off her. Cavalier recessed the meeting and the councilme ntook temporary refuge in a back room of the Lincoln School, where the meeting had been moved because of the overflow crowd.

Deputy Police Chief Joseph V. Bellini approached the woman as a peacemaker and won a promise that she she would remain silent. Cavalier relented and she made no more noise.

Residents presented the council with a 2,000 signature petition demanding the closing of the Keegan Dumps off Harrison Turnpike. Their prime complaint is that it presents a health menace because of its proximity to homes.

A newly formed group called Citizens Against Pollution brought in an attorney, George Minish of Nutley, to speak for them. Minish won a promise from the council to seek new methods of closing the Keegan tract, such as by forcing the Hackensack Meadowlands Development Commission to take action.

Mrs. Marie Matus complained that she was manhandled by police while she was picketing Saturday at the dump. A police report said she was pulled from the path of an oncoming truck. Mrs. Matus termed this a falsification.

Joseph Camino complained that a methadone maintenance program recently instituted in town would draw addicts to Kearny. He said he would not be opposed to such a center for treatment of Kearny addicts only.

Daniel Alfieri, program director, told Camino that other programs in other areas are treating Kearny addicts and that the local problem, although not limited to Kearny, would treat mainly town addicts.

The Evening News

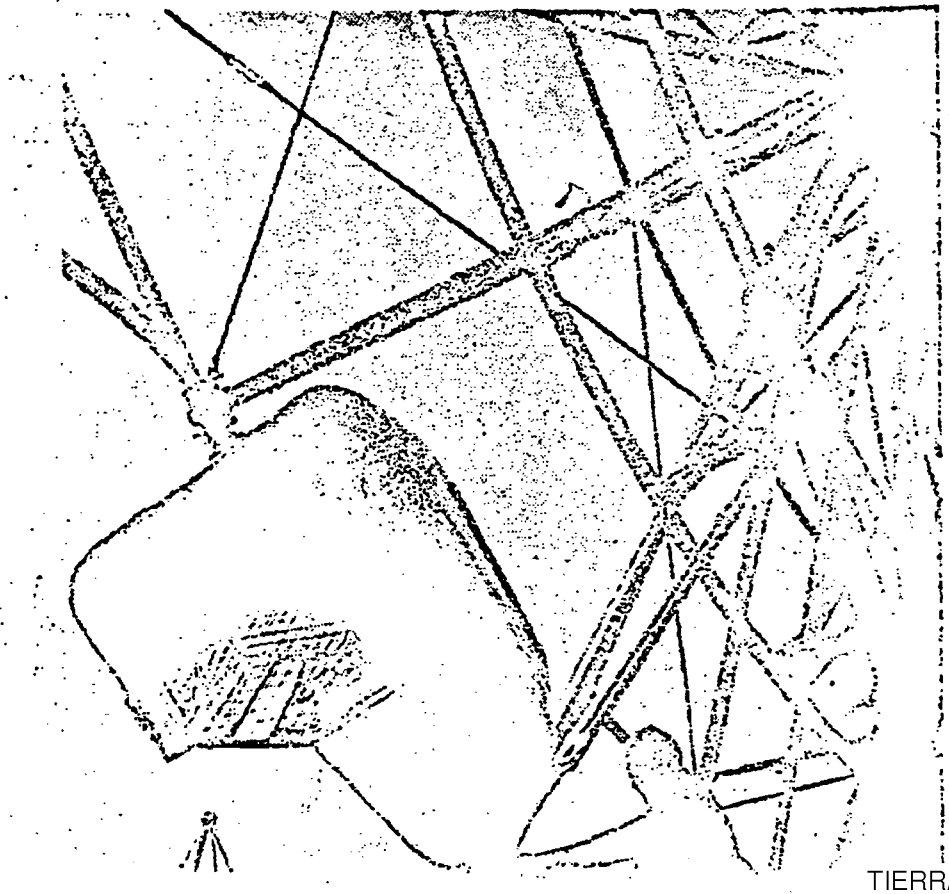
• COMMUNITY NEWS
• EDITORIALS
• COMMENT

Wednesday,
March 24, 1971
Newark, N.J. 21

School Budget Pared

Evening News Staff Writer

WOODBRIDGE—The Board of Education's budget for 1971-72 has been trimmed almost $2 million by the Township Council.



39

HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

OK. Jlood

TELEPHONE CONVERSATION REPORT

Date: 8/24/72 Time: _____ By: MIKE

Name: _____

Organization: _____

Phone Number: _____

Subject: MSLA. GENERAL

Random dumping on Lot 11 has been cleaned up, access off road has been blocked off

CAA000038

HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

TELEPHONE CONVERSATION REPORT

I-B

Date: 1/11/72 Time: _____ By: Mike

GENERAL

Name: _____

Organization: _____

Phone Number: _____

Subject: New dumps Block 284 Lot 31

New dumping of garbage started on Hamilton Ave. West to post office, on west side

17.66 acres

owner

Town of Kearny
402 Kearny Ave
Kearny, N. J.

R 1/12

HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

TELEPHONE CONVERSATION REPORT

Date: 3/9/72 Time: _____ By: Mike

Name: _____ General

Organization: SITE I-B

Phone Number: MSLA-71-175?

Subject: Dump, Harrison Ave, Next to Post Office

Dumping of garbage now going on. One truck, Roselle, No 154 dumping on site. 1 dozer on site. No cover material on site. Time 11:40 A.M. I think constant cover should be applied otherwise the post office will be covered with papers blowing around.

4:00 Spoke to Tom - will set up cover program next garbage for next few days as NOAA fed.

D 3/14

TIERRA-D-000578

HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

TELEPHONE CONVERSATION REPORT

Date: 3/14/72 Time: _____ By: Mike

Name: _____

Organization: _____

Phone Number: _____

Subject: MSLA # I-B → GENERAL

Site at Port Jeffrie

garbage being dumped at this site, no cover material on site, a dozer line on site mucking out on westerly side placing material on westerly side of dumping area, probably going to be used for cover.

JK

03/1

TIERRA-D-000579

HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

FILE

TELEPHONE CONVERSATION REPORT

Date: 4/25/72 Time: _____ By: M.K.

Name: _____

Organization: _____

Phone Number: _____ GENERAL

Subject: MSLA Site 1-B - Post Office

dumping on south west side dump pretty well covered. Cover material is of meadow matt obtained with dragline machine out ahead of dumping.

TIERRA-D-000580

HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

FILE

TELEPHONE CONVERSATION REPORT

Date: 6/15/72 Time: _____ By: M. Ke.

Name: _____

Organization: _____

Phone Number: _____ → CENTRAL

Subject: 1h SLA | SITE 1-B | POST OFFICE

There is 2 trailers blocking entrance to site off Harmon Ave 2 signs posted, "U.S. Property No Trespassing. Site closed, no one on site.

SANITARY LANDFILL INSPECTION REPORT

INSPECTOR: Mike Kondratik

DATE: 5/9/72

[ ] B.C. 71-156 [ ] MALENKA 71-157 [ ] MSLA (I-D) 71-175

[ ] VIOLA 71-160 [ ] MSLA (I-A) 71-175

[ ] EGAN 71-159 [✓] MSLA (I-B) 71-175 Fill

[ ] P & M 71-176 [ ] MSLA (I-C) 71-175

CHARACTERISTICS

	RATING GOOD	ADEQUATE	FAIR	POOR
ACCESS ROAD		✓		
DIKE CONSTRUCTION				✓
LEACHATE CONTROL				✓
METHANE CONTROL				✓
FIRE FIGHTING EQUIPMENT				✓
CONTROL OF BLOWING LITTER				✓
DUST CONTROL				✓
RODENT CONTROL				✓
BULKY WASTE DISPOSAL				✓
COVER MATERIAL (AMOUNT)			✓	
COVER MATERIAL (QUALITY)				✓

SIDE SLOPES 30 %

CELL DEPTH 4 FEET

LIQUID WASTE YES ___ NO X

(OVER)

TIERRA-D-000582

Mucking out ahead of dumping site using muck as cover material. Insufficient daily cover. Mud & debris on Harrison Avenue. ~~Suggest daily material~~. Daily cleaning at Entrance to site on road. be maintained.

all members present voting "aye" on roll call:

WHEREAS, the Town of Kearny is the owner of certain meadow lands situate in the Town of Kearny, Hudson County, New Jersey; and

WHEREAS, it is the opinion of this Council that said lands can be reclaimed and their value greatly enhanced by depositing thereon a fill composed of garbage and other refuse, properly maintained and supervised;

NOW THEREFORE, BE IT RESOLVED by the Council of the Town of Kearny, in the County of Hudson, that:

1. The Town of Kearny enter into an Agreement with William A. Keegan to provide for the filling of said meadow lands situated North of Bergen Avenue, and South of Belleville Turnpike and East of the Delaware, Lackawanna and Western RailRoad, and being more particularly described as Lot 4A in Block 291 on the Tax Maps of the Town of Kearny, New Jersey, comprising 596 acres, more or less.

2. The manner in which the filling of said lands is conducted shall be in accordance with the terms and provisions of the said Agreement to be entered into, as aforesaid.

3. The Mayor and Town Clerk are hereby authorized to execute said Agreement on behalf of the Town of Kearny.

4. This Resolution shall take effect immediately.

At this point, Town Attorney Koch reported that the foregoing resolution pertained to the same type of dumping agreement as others recently made for the same purpose except that there will be no replacement clause due to the fact that there is no further land available.

Mayor Gilzean presented the following resolution which was adopted, all members present voting "aye" on roll call:

WHEREAS the Hudson County Board of Freeholders recently approved high salaried appointments to county positions and proposes, within the near future, to grant blanket salary increases to a majority of the 2800 Hudson County employees, which action will increase the Hudson County tax budget by the sum of approximately $1,400,000.00; and

WHEREAS such actions by the Hudson County Board of Freeholders are unwarranted and have been made without regard to the taxpayers of the Town of Kearny; and

WHEREAS such actions are contrary to the current economic trend, inasmuch as many of the citizens of the Town of Kearny have been separated from their employment; and if the policy of such unreasonable increases in an already over-taxed county was pursued, it might not only bankrupt the County of Hudson but each municipality therein, as well;

THEREFORE, BE IT RESOLVED by the Council of the Town of Kearny in the County of Hudson that this Council, on behalf of the citizens of the Town of Kearny, in an effort to protect the citizens of the Town of Kearny from such unwarranted and unreasonable tax increases in an already highly inflated county tax burden, does hereby vigorously denounce the recent action of the Hudson County Board of Freeholders, as aforesaid, and further protests against such unwarranted increases in the share of the county tax burden borne by the Town of Kearny;

AND BE IT FURTHER RESOLVED that Calvin S. Koch, Town Attorney of the Town of Kearny, and William A. Sternkopf, Auditor of the Town of Kearny, are hereby authorized to represent the Town of Kearny in registering its protest to the Hudson County Board of Freeholders, and said Town Attorney and Town Auditor are further authorized to take whatever appropriate action may be necessary to protect the interest of the Town of Kearny in this matter, either before the Hudon County Board of Freeholders or any other agency;

ceived, read, ordered noted and referred to the Mayor and Council as a Committee of the Whole.

Health Officer Amos Field, Jr., submitting a report and recommendations in regards to the matter of refuse being dumped on River Road between Bergen Avenue and Afton Street, was received, read, ordered noted and referred to the Mayor and Council as a Committee of the Whole.

Kearny Council for Youth recommending that action be taken on the licensing of juke boxes and action be taken on outdoor fire-places and camping facilities on the 'Old Soldiers Home' property, was received, read, ordered noted and referred to the Mayor and Council as a Committee of the Whole.

Department of Public Utilities advising that a hearing will be held on the application of the Harford Bus Co. Inc., et al for municipal consents to extend their South Hudson County Boulevard Bus Route from Jersey City to the Federal Shipbuilding & Drydock Co., was received, read, ordered noted and referred to the Transportation Committee.

Department of Public Utilities advising that a hearing will be held on the application of the Marion Bus Transportation Co. Inc., for municipal consents to extend their Jersey City Bus Route to the Federal Shipbuilding and Drydock Co., was received, read, ordered noted and referred to the Transportation Committee.

Milton L. Feuer, D.D.S., requesting that five shade trees be removed from the front of his property located at 839 Kearny Avenue, was received, read, ordered noted and referred to the Shade Tree Commission.

The Town Clerk reported having received the following applications for licenses, all of which were received, read, ordered noted and referred to the License Committee:

Box Lunch	Pasquale Vitale	250 Boyd Ave. J.C.
" "	Preferred Box Lunch	503 Lyons Ave. Irvington
" " (2)	Brody's Box Lunch Inc.	482 So. 12th St. Newark
Milk (4)	Alderney Dairy	26 Bridge St., Newark
Pack Peddler	William D. Ball	76 Green St., Newark
" "	Sam Miller	418 Belmont Ave. Newark
Dumping	Harmon Color Works	1106 Harrison Ave. Ke.
"	L & R Corporation	577 Elm Street, Ke.
"	James Hawkins	326 Highland Ave. Ke.
"	Brixite Manuf. Co.	Jacobus Ave. Kearny
"	Kut-Kleen Lawn MowerCo.	479 Schuyler Ave. Ke.
"	Daniel De Block	209 Devon St. Ke.
"	Frys Roofing Co.	Tidewater Term. JacobusAve

Dumping	Newark Plaster Co.	Jacobus Ave. So. Ke.
Fruit & Vegetable	Carmelo Danzi	671 Chestnut St. Ke.
" "	Harry Pappas	369 Hickory St. Ke.
Taxi Cab Business(3)	David Carlson	526 Elm St. Ke.
Ice Cream	H. Perrine & H. Warmenhoven	408 Kearny Ave. Ke.
Dumping (2)	United Cork Co.	Ft. of Central Ave. Ke.
Open Air Parking Station	Moe Gross	946 Passaic Ave. Ke.

The following reports of Town Officers were then read and action taken on same as hereafter set forth:

Chief Engineer Wandras, Police Chief Hemsley, Welfare Director Brierley, submitting their monthly reports for May 1949, all of which were received, read, ordered noted and filed.

The Ordinance Committee by Councilman Cassin, Chairman, moved that the two following ordinances be passed on first reading, ordered published for hearing, and to lie over to the next regular meeting for second reading and final passage, and on roll call all members present voting "aye", the two following ordinances were duly declared passed on first reading and ordered published for hearing:

> Ordinance appropriating $70,000 for various school purposes and authorizing the issuance of school bonds of the Town of Kearny, in the County of Hudson, New Jersey, to meet said appropriation.
>
> Recital
>
> Pursuant to due action of the Board of Education of the Town of Kearny, in the County of Hudson, New Jersey, and the Board of School Estimate of said Town, taken at and pursuant to meetings of said Boards heretofore duly held, various sums, aggregating $70,000, have been estimated, fixed and determined as the amounts necessary for various school purposes and improvements in the Town, all as more fully appears by the certificates heretofore made by said Board of School Estimate and delivered to this Town Council under dates respectively of June 30, 1948 and May 31, 1949. Said $70,000 amount has not been appropriated by this Town Council and no part of said amount has been raised and paid to the Custodian of School Moneys.
>
> An Ordinance amending Sections 1, 3 and 4 (c) of an Ordinance entitled, "An ordinance for the grading and construction of chain link fence in the playground situated in the south side of Tappan Street, West of Davis Avenue in the Town of Kearny, County of Hudson, to appropriate funds therefor and to provide financing thereof", adopted April 13th 1949.

The Finance Committee by Councilman Ross, Chairman, moved that the minutes of regular meeting held May 25, 1949 be approved as typewritten, and on roll call all members present voting "aye" it was so ordered.

Councilman Ross further moved that the bills and payrolls be not read and on roll call all members present voting "aye", it was so ordered.

Councilman Ross further reported having examined the following

required by law owing to the fact that members of the Council are members of this Post.

The Town Clerk further reported having received the following applications for licenses all of which were received, read, ordered noted and referred to the License Committee:

Dumping	Kearny Scrap Metal	17 Stover Avenue, Ke.
"	Gold Star Market	611 Elm Street, Ke.
"	Hyprod Service, Inc.	600 Forest Street, Ke.
"	Gorman's Catering Service	616 Elm Street, Ke.
"	West Hudson Landscape Gardeners	27 Grand Place, Ke.
Pack Peddler	James Graham	244 Highland Ave. Ke.
Junk	Ike Law	113 Goodwin Ave., Nwk
"	Louis Fattorusso	96 Malvin Street, Nwk
Fruit & Vegetable	Joe Borruto	26 Cuozzo Street, Belle.
Box Lunch	William Strickland	292 Morris Ave., Newark
Gasoline	Klein Bros. Steel Corp.	936 Harrison Ave. Ke.
Restaurant	John Batts	460 Elm Street, Ke.
"	Louis J. Carbone	1 Kearny Ave., Ke.

The following report of Town Officers was then read and action taken on same as hereafter set forth:

Building Inspector Warren submitting his monthly report for May 1949, was received, read, ordered noted and filed.

The Ordinance Committee by Councilman Cassin, Chairman, moved that the two following ordinances be passed on second reading and final passage, ordered engrossed in the Ordinance Book, signed by the Mayor, attested by the Clerk, and published according to law, and on roll call, all members present voting "aye", the two following ordinances were duly declared passed on second reading and final passage and so ordered:

> Ordinance appropriating $70,000 for various school purposes and authorizing the issuance of School Bonds of the Town of Kearny, in the County of Hudson, New Jersey, to meet said appropriation.
>
> An ordinance amending Sections 1, 3 and 4 (c) of an ordinance entitled, "An ordinance for the grading and construction of chain link fence in the playground situated in the South Side of Tappan Street, West of Davis Avenue in the Town of Kearny, County of Hudson, to appropriate funds therefor and to provide financing thereof", adopted April 13th, 1949.

Councilman Cassin further moved that the three following ordinances be passed on first reading, ordered published for hearing and to lie over to the next regular meeting for second reading and final passage, and on roll call all members present voting "aye", the three following ordinances were duly declared passed on first reading and ordered published for hearing:

> An ordinance to regulate the growth of brush, hedges and other plant life growing within 10 feet of any roadway and within 25 feet of the intersection of two roadways in the Town of Kearny, Hudson County, New Jersey, and providing penalties for violation thereof.

Peter King, holder of Meat Peddler's License for the Town of Kearny, advising that unlicensed vendors are operating in the Town of Kearny and requesting that Police Department check on same, was received, read, ordered noted, and referred to the License and Police Committees.

D. & M. Contracting Company advising that they requested the United Cork Company to eliminate the dumping of cork and that fires caused by said dumping have been extinguished, was received, read, ordered noted and referred to the License Committee.

D. & M. Contracting Company advising that all fires on the dumping grounds have been eliminated and further requesting that they be notified before permits are given to industrial concerns to dump in order that a program might be worked out with the owners for dumping, was received, read, ordered noted and referred to the License Committee.

United Cork Companies advising that they will cooperate with custodian at dumping grounds as to dumping of cork, and therefore requesting their 1949 Dumping Permit be issued, was received, read, ordered noted, and referred to the License Committee.

Max and Norman Root making application for transfer of Plenary Retail Distribution License D-17 now owned by Leonard and Sheridan Gersten, at the same licensed premises, 545 Kearny Avenue, was received, read, ordered noted and referred to the License Committee.

The Town Clerk reported having received the following applications for licenses, all of which were received, read, ordered noted and referred to the License Committee:

Used Car Lot	River Road Service Co.	9 Passaic Avenue
Restaurant	Regent Theatre	413 Kearny Avenue
Restaurant	Carmela Duca	414 Kearny Avenue
Dumping	Clear Air Furnace Co.	68 Stewart Avenue
"	Anthony Catena	242 Highland Avenue
"	Antonio Dutillio	281 Bergen Avenue
"	Michael Miller	29 Arlington Avenue
"	Patrick Choffo	17 Archibald Terrace
"	Gaffney Products	407 Schuyler Avenue
Meat Peddler	Peter Knizickwich(King)	253 Hoyt Street

The following reports of Town Officers were then read and action taken on same as hereafter set forth:

Building Inspector Warren, Chief Engineer Wandras, Police Chief Hemsley and Welfare Director Brierley submitting their monthly re-