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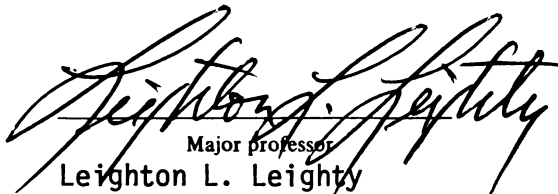
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Under Michigan's Hazardous Waste Management Act:
The Case of Sumpter Township

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SITING OF HAZARDOUS WASTE MANAGEMENT FACILITIES
UNDER MICHIGAN'S HAZARDOUS WASTE MANAGEMENT ACT:
THE CASE OF SUMPTER TOWNSHIP

By

Barbara Jean Grabowski

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ABSTRACT

SITING OF HAZARDOUS WASTE MANAGEMENT FACILITIES UNDER MICHIGAN'S HAZARDOUS WASTE MANAGEMENT ACT: THE CASE OF SUMPTER TOWNSHIP

By

Barbara Jean Grabowski

The siting of hazardous waste management facilities is fraught with conflict. Local communities desire a voice in how facilities are located and constructed, while the disposal industry wishes to establish facilities in an efficient manner, without obstruction from local communities.

This study analyzes the Site Approval Board review of the application for a hazardous waste landfill submitted by Environmental Management Systems, proposed to be located in southwestern Wayne County, Michigan. The Board ruled, in October 1982, to deny the application. A case study approach was used.

At Sumpter Township, the Site Approval Board review process was only partially successful. The conflict between the community and the applicant confounded the review process. The Board's denial was based on uncertainty rather than a conclusive finding that the facility was unacceptable.

The study closes with a list of recommendations which address issues raised at Sumpter Township and which strengthen the site review process established within the Act.

Dedicated to my mother, Margaret Christie McDonald,
my maternal grandmother, Margaret Money McDonald,
and the proud Scotswomen who came before them.

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Writing a thesis is a solitary journey: no one but the writer can decide the topic, develop it, research the matter, interpret the findings and present them. The writing of this thesis was no different. Nevertheless, there are many who helped this writer tread the occasionally perilous, frequently exciting course that led to this finished work. I would like to take this opportunity to thank the following for their varied and much appreciated assistance.

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TABLE OF CONTENTS

LIST OF TABLES	vii
LIST OF FIGURES	viii
INTRODUCTION	1
STUDY PURPOSE	3
 CHAPTER 1 AN OVERVIEW	 5
Hazardous Waste in Michigan	5
The Hazardous Waste Management Act	6
The Hazardous Waste Management Plan	9
The Site Approval Board	11
Analysis of the Site Approval Board	16
Changes in the regulatory process	17
Economic analysis	18
Notes	26
 CHAPTER 2 THE SITING CONTROVERSY	 29
Literature Review	30
Discussion	38
Economics	38
Facility vs. community	40
Intra-community conflict	41
There are two parts to facility siting	42
Notes	43
 CHAPTER 3 THE SUMPTER TOWNSHIP EXPERIENCE	 44
Study Approach	44
The Setting	46
The Site	52
Historical Perspective on the Controversy	53
The Actors	57
The Proposed Project	60
The Site Approval Board	67
Discussion	69
An Attempt at Mediation	81
The Site Approval Board Meetings	83
The Site Approval Board Decision	96
Discussion	99
The Township's Role	104
The Applicant's Role	105
Notes	108

CHAPTER 4 THE SITE APPROVAL BOARD'S PERFORMANCE	109
As Measured Against the Model	109
As Measured According to Resolution of Conflict	112
Notes	115
CHAPTER 5 SUMMARY AND RECOMMENDATIONS	116
Recommendations	119
APPENDICES	
A. Cover Letter and Survey Questions	121
B. Survey Results	125
SELECTED BIBLIOGRAPHY	132

LIST OF TABLES

TABLE 3.1	SUMPTER TOWNSHIP SITE APPROVAL BOARD	68
TABLE B.1	RATING OF CRITICAL ISSUES BY SITE APPROVAL BOARD MEMBERS	128
TABLE B.2	RATINGS OF TEMPORARY AND PERMANENT SITE APPROVAL BOARD MEMBERS: COMPARED	130

LIST OF FIGURES

FIGURE 1.1	SITE APPROVAL BOARD CONCEPTUAL MODEL	23
FIGURE 3.1	LOCATION OF SUMPTER TOWNSHIP	47
FIGURE 3.2	LOCATION OF THE LANDFILLS IN SUMPTER TOWNSHIP . . .	53

INTRODUCTION

Hazardous waste disposal is one of the most critical environmental policy issues facing us in this decade. Love Canal and the discovery of countless chemical waste dumps like it brought the reality and the seriousness of hazardous waste disposal to the forefront of the public consciousness (1). In response to public outrage and an absence of regulations that govern hazardous wastes, Federal and State legislation designed to regulate the disposal of those wastes was enacted. In Michigan, full implementation of the State's program for hazardous waste management remains incomplete due to an inadequate number of properly designed disposal facilities. Existing sites are not always suitable for disposal of hazardous waste and disposal demand exceeds the number of available sites (2). Public opposition is a substantial barrier to the establishment of new sites. In the public's eye, hazardous waste disposal is unacceptable no matter how well regulated or how well designed.

Having recognized the existence of improperly disposed waste, we now face the problem of locating and building disposal facilities which will not replicate the errors of the past. This last step in the regulatory process is the most crucial and the most difficult. There is general agreement among agency staff, public officials at both local and state levels, public interest groups, and industry, that a critical problem exists in the need for proper disposal of these wastes. Where they differ is in choosing the proper approach to solving the problem.

Establishing new waste disposal sites is fraught with conflict. Local officials and local communities are concerned that they will be denied a voice in how or where those facilities are located. Industry seeks uniform and reasonable regulations with little interference from local communities. They wish to locate their facilities where market forces direct them and while they acknowledge local community concerns, they want to be able to locate and construct facilities without obstruction.

The Michigan Hazardous Waste Management Act (Act 64 of the Public Acts of 1979, as amended, being M.C.L.A. § 299.501 et seq. hereinafter Act 64) addresses the problem of local opposition to siting facilities through the establishment of a Site Approval Board (hereinafter SAB, or Board). That nine-member Board has final authority to approve or deny a construction permit application for a waste disposal facility. Construction permits are required of all new disposal facilities: in that application process, the Department of Natural Resources (DNR) initially reviews the application and recommends approval, based on technical merit. The application then passes to the Site Approval Board (SAB) for final action.

The Act specifically prohibits local communities from limiting the disposal or transportation of wastes within their boundaries. Although the state preempts local regulation and control over disposal sites, there is statutory language that requires local concerns, ordinances and regulations be given consideration by the Board as part of their review. The community's optimal power lies in its ability to force the Board to consider local concerns and to mitigate them through permit stipulations.

STUDY PURPOSE

This work examines the Board's review of a hazardous waste landfill in a semi-rural township in Wayne County, Michigan. The landfill was the first commercial facility, proposed by a private firm with the intention of accepting wastes from numerous industrial sources, to be considered by the Board. The landfill was proposed to be located adjacent to an existing landfill which had been accepting solid wastes from throughout Wayne County for several years. The proposed facility and the Site Approval Board's review illustrated several dimensions of the siting conflict and raised a number of questions that are relevant to the Site Approval Board and Michigan's hazardous waste management program. At Sumpter, the credibility of the site operator was in question as the existing landfill had been operated poorly in the past, the suitability of the site was questioned, the Township is poor and the facility was located in a black farming community. There are no hazardous waste generators, no industry and only limited commercial development in the township. The Township was adamantly opposed to the new landfill; the Supervisor was politically committed to fighting it.

The Site Approval Board's review of the proposal was examined using two performance measures. First, the Board review process was described as a conceptual model, and the Sumpter Township Board's review and their vote to deny the application were compared with that conceptual model. The second performance measure examines the extent to which the Board was able to resolve the conflict between the Township and the applicant.

Each Site Approval Board is designed to be unique and to deal with the particular impacts of a facility on a particular community at a given time. Therefore each Board will face a different set of circumstances and actors. The conclusions drawn from the Sumpter Township Board are not representative of all Boards. However, an understanding of the kinds of issues raised, the way those issues were addressed and the factors that contributed to the outcome is important. They illuminate the ways in which the process works, or fails to work. The review process at Sumpter Township raises questions that future Boards, especially those reviewing commercial facilities, may wish to consider in the course of their review.

CHAPTER I

AN OVERVIEW

Hazardous Waste in Michigan

Michigan is one of the top ten generators of hazardous wastes in the United States. The Environmental Protection Agency estimates that 4.6% of the total wastes generated in the country can be attributed to Michigan (3). The Department of Natural Resources (DNR) estimates that 452,000 tons of hazardous waste were generated in Michigan in 1982 (4). That figure is derived from manifest records covering the period from November 1981 through January 1982, extrapolated to yield an annual figure. It does not take into account the effect of the recession, seasonal fluxes in the production of wastes or errors in reporting. The figure may be higher.

The hazardous waste generated in Michigan falls into several categories: solvents (11,000 tons generated), plating waste (22,000 tons generated), pickle liquor and other corrosives (42,000 tons generated), ignitable (10,000 tons generated), and EP Toxic (5) (10,000 tons generated) (6). Hazardous waste is not only the by-product of industry; other sources include contaminated soil and debris from clean-up of abandoned sites as well as residuals from pollution control equipment. More complete knowledge of the hazardous waste stream in Michigan awaits further data collection and review.

The Hazardous Waste Management Act

The 1970's were characterized by the discovery of chemical waste dump sites throughout the state. Reports of illicit dumping, abandoned sites and such facilities as Berlin and Ferro, near Swartz Creek, Rose and Springfield Townships in Oakland County, Ankerson Development in Pontiac and the contamination of White Lake by Hooker Chemical Company made it clear that the state needed some regulatory framework for bringing suits against the parties responsible and guarding against similar disasters in the future. In response to intense public concern, the Legislature, under the leadership of then-House Speaker Bobby Crim, established the Special Committee on Hazardous and Toxic Waste Management. The committee, over a period of eight months, took testimony, held public hearings, consulted with industry, citizens and conservation and environmental groups and developed Michigan's Hazardous Waste Management Act.

The Act was passed by both houses of the Legislature with little opposition and took effect on January 1, 1980. Administrative Rules were drafted throughout 1980. They were approved by the Natural Resources Commission in November 1980 and by the Joint Administrative Rules Committee in early 1981. The rules went into effect on April 17, 1981. Minor amendments were made to the Act in 1980.

In April 1982, Representative Tom Mathieu initiated Oversight Hearings under the aegis of the House Appropriations Committee to review progress under Act 64 and to consider amendments to the Act. The outcome of that committee's review, was further amendment issued as HB6123 which passed in December 1982 as Act 486 of the Public Acts of 1982.

Those amendments took effect on April 1, 1983. In part, the changes made were in response to the DNR's effort to secure Environmental Protection Agency authorization to implement the Federal Hazardous Waste Management regulations issued as Subtitle C of the Resources Conservation and Recovery Act (RCRA, being P.L. 94-580, 42 U.S.C. 6921 et seq.). The amendments are fairly extensive, although the basic structure and scope of the Act remain in place. Only the changes made which affect the Site Approval Board process will be discussed here. Those changes are:

- *Section 17: renames the Site Approval Board the Site Review Board.

- *Section 17(2)(a): allows the permanent members who represent the state agencies to be reappointed to a second term and allows for the extension of a present member's term to allow for completion of the Board's review when the review process extends beyond the term's two year time limit.

- *Section 17(2)(b): allows for the nomination of more than one geologist and chemical engineer to the Public Member permanent position in order to form a pool of prospective candidates; and allows for reappointment to the position as well as the extension of a member's term to allow for completion of the Board's review when the review process extends beyond the three year time limit.

- *Section 19(5): If the DNR Director intends to deny the construction permit application on technical merit, the Director must begin a public participation process that is equivalent to that required by Title II of the Resources Conservation and Recovery Act. Following that review process, the Director reviews the comments made and recommends approval or denial based on those comments. If recommended for approval, the application is sent to the Site Review Board (formerly the SAB) for review.

- *Section 20(3): gives the Site Review Board 20 days to hold the initial meeting rather than the 10 days previously required.

- *Section 29(10) and (11)(a): Establishes further review and public participation in the review process. The Board must still make a decision by the 120th day, and if the decision is to reject the application, the Board must state its

reasons in writing and indicate the changes needed to make the application acceptable. However, if the Board approves, the Department prepares a draft permit application which is put through the RCRA public participation process. The DNR reviews the comments made during those hearings, and decides to issue the permit, revise and issue the permit, or reconvene the Board for further review. The Board has 30 days to re-review the permit application if reconvened. They then must vote to reject, revise and re-review the application according to RCRA requirements, issue, or revise and issue the permit (7).

For purposes of this study, the term Site Approval Board will be used, rather than Site Review Board as the former was in use during the Sumpter Township Board review process. The reader should note that terms are synonymous.

Scope

Act 64 is a comprehensive statute which establishes a regulatory framework for the management of hazardous waste generated, hauled and disposed in the state. Briefly, the Act: provides for a state Hazardous Waste Management Plan; establishes a Site Approval Board for each new facility which is proposed for construction which has final authority to grant or deny the permit application; requires that a facility sponsor obtain two permits, one for construction and one for operation of the facility before the facility can accept wastes; establishes legal liability and responsibility for proper management of hazardous wastes; establishes reporting requirements and a tracking system; establishes criteria for what constitutes hazardous waste; provides for the licensing of haulers; establishes standards for disposal facilities; requires proof of financial capability on the part of haulers and disposers; limits the authority of local communities to prohibit or overly restrict the transportation or disposal of waste within their boundaries.

The Act is intended to meet the needs of four principle interest groups - the regulatory agencies, the manufacturing industry, the disposal industry, and local communities. It gives the regulatory agency legal authority and standards for granting permits and enforcing the Act. It is designed to result in the construction of properly designed disposal facilities thereby meeting the needs of industry for disposal capacity. It gives the disposal industry uniform standards for construction and operation of those facilities. It provides an avenue through which local communities can have a voice in how the facility is constructed and operated via the Site Approval Board (8).

The Hazardous Waste Management Plan

The Hazardous Waste Management Plan was mandated by sections eight and nine of the Hazardous Waste Management Act. It's principle function was to provide for a geographic distribution of disposal sites throughout the state, and to serve as an over-all guiding document managing hazardous waste in the state. As part of that planning effort, the committee was to investigate the technologies and incentives available for re-use, recycling and reduction of wastes, inventory the kinds and volumes of hazardous wastes generated in the state, the disposal technologies used, and make a determination of future waste disposal needs. The plan was also required to include the economic, administrative and legal mechanisms that would be needed to fully implement Act 64 (9).

The Plan was drafted over a period of eight months by a committee established within the Department of Natural Resources. It's membership consisted of representatives from the Departments of Natural Resources,

Public Health and Commerce, City, County and Township government, conservation and environmental organizations, a hazardous waste hauler, a hazardous waste generator, a hazardous waste facility operator, and three public members.

The Plan went into effect in February 1982. As listed, the Plan's goals are:

" . . .to encourage methods of hazardous waste management that are environmentally sound, and which encourage resource conservation and create a climate which is conducive to siting and operation of socially acceptable, environmentally sound and economically sound hazardous waste management facilities and which meet the needs of industry and responds to the concerns of business, government, citizens and communities. . ." (10)

In the Plan, considerable attention was given to the issue of siting, public opposition and community involvement in the siting process: the Final Report of the Planning Committee devotes an entire section to this issue. The Plan strongly encourages the development of Citizen Information Committees and public education programs to educate and inform communities about the issues relating to hazardous waste disposal and to provide guidance for community involvement in the Site Approval Board process. The Plan also requests that the Department of Natural Resources assist communities in the development of local hazardous waste management plans. Such community involvement is not required, however, nor is funding provided by the State for communities to initiate the process on their own. The Committee assumed that communities with sufficient interest in the SAB process would be able to secure funding on their own initiative.

The Plan does not provide an inventory of wastes generated within the state, nor does it address or project future disposal needs. In addition, the Plan doesn't provide for a geographic distribution of disposal sites in the state; rather, it relies on private enterprise to develop necessary facilities, based on market forces and incentives. The DNR is given responsibility for assuring that sites selected by private industry conform to standards established in the rules.

The Site Approval Board

The Site Approval Board (SAB) is the primary vehicle for public involvement and consideration of construction permits for hazardous waste management facilities in the state. The Board has final authority to grant or deny the permit application and is given broad powers to review construction permit applications, revise the draft permit, and add stipulations which address local community concerns. The Board has one representative from each of three State agencies and two public members, all considered permanent members, and four locally appointed members who serve as temporary members. The State agency representatives are appointed by the Directors of the Department of Natural Resources, Public Health and State Police, respectively. They each serve terms of two years. The two public members serve three year terms and are appointed by the Governor with the advise and consent of the Senate. By law, one is required to be a geologist, the other a chemical engineer; both must serve on the faculty of a State university or college (11). The four temporary members serve only on the Board to which they are appointed; their term expires once the Board has made a final decision. Two of the members must be residents of the county in

which the facility is located, one of whom must be a resident of the municipality in which the facility is located. They are appointed by the County Board of Commissioners. The remaining two temporary members must be residents of the municipality where the facility is located and are appointed by the governing body of that municipality (12).

Scope

Generally, the Board is a vehicle by which social impacts of the proposed facility on the community can be considered. The Board is designed to be flexible and to respond to the conditions and concerns unique to each site. Given the limited number of times the Board has been convened and the overall youth of the hazardous waste management program it is expected that the Board's role and function will become more clearly defined over time. According to DNR staff and others involved in the development and implementation of Act 64, the range of authority granted the Site Approval Board is broad: social and economic impacts, environmental impacts, technical concerns and characteristics unique to the community are all within the penumbra of the Board's review (13). The only restriction on the Board, to date, is one against the ordering of compensation to the community. The first Site Approval Board, established to review the application by the Dow Chemical Company at Midland, Michigan for a hazardous waste landfill, asked if compensation could be required of the applicant. The Department, in consultation with the Attorney General's office, determined that the Board could not order compensation by itself; only when the applicant offers payment of compensation voluntarily can it be incorporated into the permit as a stipulation (14).

Standard of review

The Board is guided by language in Act 64 which establishes minimum standards of review. Those standards are broad, and are found at sections 20(7) and 20(8) of the Act. They read as follows:

(7) "The Board shall consider, at a minimum:

(a) The risk and impact of accident during the transportation of hazardous waste.

(b) The risk and impact of contamination of ground and surface waters by leaching and runoff from the proposed disposal facility.

(c) The risk of fires or explosions from improper storage and disposal methods.

(d) The impact on the municipality where the proposed disposal facility is to be located in terms of the health, safety, cost and consistency with local planning and existing development. The Board also shall consider local ordinances, permits or other requirements and their potential relationship to the proposed disposal facility.

(e) The nature of the probable environmental impact, including the specification of the predictable adverse effects on the following:

(i) The natural environment and ecology

(ii) Public health and safety

(iii) Scenic, historical, cultural and recreational value

(iv) Water and air quality, and wildlife

(v) An evaluation of measures to mitigate adverse effects.

(8) The Board also shall consider the concerns and objections submitted by the public. The Board shall facilitate efforts to provide that the concerns and objections are mitigated by establishing additional stipulations specifically applicable to the disposal facility and operation at that site. The Board also shall to the fullest extent practicable integrate by stipulation the provisions of the local ordinances, permits, or requirements.

History

As of April 1983, five Site Approval Boards have been established.

The first SAB was established to consider an application by Dow Chemical

for a hazardous waste landfill to be located on their property in Midland for wastes generated at the Midland plant. The initial Board formed for the Dow facility was disbanded due to the finding of a conflict of interest on the part of two of the local members, and the Department of Natural Resources representative who at that time was the chief officer of the Office of Hazardous Waste Management, and in charge of the permit application (15). The Board was reconvened, with new local members and DNR representative, in June 1981. The Board ruled to grant the construction permit in September 1981.

The second SAB was established in late 1981 to consider an application for an incinerator proposed by the FBC company in Muskegon for destruction of a process waste generated on site. The application was approved by the Board in November 1981.

The third SAB established was at Sumpter Township, the subject of this case study. It was the first commercial facility to be reviewed by the Board and was also the first application to be denied.

The fourth SAB convened in October 1982 to review the application by the ERES corporation for an incinerator to be located in Pontiac Township, Michigan. This application was the second commercial facility to be reviewed, and also was the second application denied by the Board. The Board's vote to deny came in December 1982.

The fifth SAB was established in January 1983 to consider the application by the Stablex corporation for a commercial processing facility in Oakland County, Michigan. They proposed to treat industrial sludges and then landfill the material on site.

Operating procedures

The Site Approval Board is required to follow established operating procedures. There are requirements for notice and public hearing. In addition, the DNR has developed a list of procedures which each Board follows: some are required by the Act, others have been adopted over the course of Board proceedings.

The Act requires the Board to abide by the Open Meetings Act (Act 267 of the Public Acts of 1976, being M.C.L.A. § 15.261 et seq.) and the Freedom of Information Act (Act 442 of the Public Acts of 1976, being M.C.L.A. § 15.231 et seq.). Robert's Rules of Order are followed at meetings. The Board follows a timetable, established in the Act: the Director of the DNR notifies the Board Chair by the seventy-fifth day of the initial 120 day technical review period whether the application will be recommended for approval by the Department. The municipality and county in which the facility is proposed to be located are notified at that time that they must appoint local representatives to the Board. By the 120th day of the technical review period, the Board is considered formed. The Board must then meet within twenty days to establish the Board's schedule for review of the permit application (16). The Board must hold at least one public hearing; notice must be published at least 30 days in advance which includes a description of the facility, a map showing where it is located and tells where a copy of the application can be reviewed, and must appear in a newspaper having major circulation in the area of the proposed site. Comment and input can be presented at the public hearing and for a period of fifteen days following. Final action of the Board must come within 120 days after it is formed (17).

Although the Act only requires one public hearing, the DNR has adopted the policy of scheduling at least five Board meetings. There is an initial meeting, where the Board is officially convened, followed by an information meeting where the public and local community are afforded the opportunity to ask questions about the proposed facility so they may formulate a list of comments which will be presented at the public hearing. The public hearing is held at the mid-point of the review process. This is where proposed stipulations, local ordinances, regulations and other information which the community wishes to have considered are presented. After the public hearing, there follows a series of Board meetings at which the SAB deliberates and discusses the issues which have been raised. These discussions are critical; they are where the draft permit, presented at the information meeting, is revised and where stipulations are considered and integrated into the permit. At all meetings, the public is granted opportunity to comment.

Analysis of the Site Approval Board

An understanding of the Site Approval Board's structure and function is important for drawing conclusions from the performance of the Board at Sumpter Township. This analysis examines the scope of the Board's review and pinpoints the changes in the regulatory process brought about by Act 64 and the Site Approval Board. An economic analysis drawn from the public choice theory of economics illustrates the ways property rights, transactions costs and incentives to reduce conflict are altered and affected by Act 64. A conceptual model is developed which predicts possible outcomes of the Board review process. The SAB model is used as a performance measure later in this study.

Act 64 expands the scope of review beyond the kinds of issues usually considered by an agency when a permit application is reviewed. The Board is instructed by Act 64 to consider six areas of actual or potential impact: transportation of wastes; contamination of ground or surface waters; fires and explosions from storage of waste; impact on the municipality; consistency with local planning and development; environmental impact, including public health and safety, water and air quality; mitigation of adverse effects on scenic, cultural or recreational values; and the concerns and objections raised by the public (18).

Changes in the regulatory process

The Board changes the regulatory process in two ways: it opens the review process to both a broader public and a broader range of issues, impacts and concerns. Under most permit-granting schemes, public input is limited to technical information. However valid a local community's concerns may be surrounding the social impacts of a particular action the agency cannot base a denial on those grounds except in rare circumstances. In addition, Act 64 provides for direct local community participation through the four temporary members. These four positions offer the local community the power to force consideration of local concerns and stipulations and to have them integrated into the construction permit. If the community chooses to oppose the facility, and does not identify any terms for compromise, then four votes to deny are assured, and the community needs only to convince a fifth member to vote to deny the application. In either case, the SAB provides the

public with unprecedented power and opportunity to influence the regulatory process.

The regulatory process is also changed by Act 64 by providing the opportunity for agency approval of a given action to be reversed. The DNR has sanctioned the facility on the basis of technical merit when it passes the application to the Board. The SAB then reviews the application in light of technical as well as social and economic impacts. The Board may also question the conclusions drawn by the Department. The Board is not bound to agree with the DNR; as such it allows for the previous decision to be reexamined and possibly reversed.

Economic analysis

Schmid (19) has said that as long as individual's tastes differ, and human beings are interdependent in the economy, there will be conflict. Whether that conflict is resolved is a function of the degree and kinds of property rights and power each individual possesses. Property rights are created, changed, distributed, and eliminated in numerous ways in the economy and through the political system. Industry's right to pollute is tempered by the public's right to clean air and water. Communities enjoy the right to govern the use and development of land and to control human behavior within their boundaries. They also have the power to tax and spend those revenues. Those rights can be challenged by property owners who wish to exercise their right to self-determination, to use their land as they like, and be taxed at a lower rate.

The structure of the Site Approval Board establishes two decision rules. First, local authority to control land use, a traditional and

established power of communities, is expressly pre-empted by the Act. Communities cannot prohibit the disposal or transportation of hazardous wastes in or through their municipal boundaries (20). It is inferred in the Act that communities have some limited authority to control waste disposal and transportation but those ordinances cannot explicitly or implicitly prohibit those activities (21). Second, the Board structure is designed to lead to the approval of disposal facilities. The Board review process is an opportunity for mitigation, and a balancing of interests between the community and the applicant. While the Board has the power to deny the application for a construction permit, it must provide, in writing, its reasons for the denial and indicate the changes needed to make the application acceptable, should the facility operator re-apply (22).

Property rights

Act 64 changes the property rights of both industry and individual communities in several ways. The Act creates a market in the disposal business by establishing uniform standards and forcing industry to meet those standards. Previously, waste disposal was a loosely regulated and relatively cheap means of getting rid of materials which lacked economic value. By regulating industry, the waste acquires a value, and those involved in generating those wastes are legally bound to use an acceptable disposal method. A firm has the right to enter the disposal market so long as they meet the standards and pay the appropriate fees.

The right to enter the disposal market is balanced by the municipality's rights to tax profits, real and personal property and levy other reasonable fees. Under the Act, while a community's police

power over waste disposal is pre-empted, they have a limited right to regulate the facility. Those regulations must be well documented, designed to protect an identified local need or interest and easily incorporated into the construction permit without conflict (23).

Transactions costs

A local community incurs high transactions costs if they wish to become fully involved in the SAB process (24). Communities who wish to develop stipulations and ordinances for presentation to the Board must do so well in advance of the Board's conveneing. They must survey local conditions, solicit the involvement of technical and resource people, citizens and community leaders. They may hire a consultant to review the application. They may hire an attorney to analyze or draft local ordinances and regulations that will meet SAB standards. Two guidebooks, designed to provide communities with the information needed to respond to the Site Approval Board, Sobetzer and Corson (25) and Tombouljian (26) require substantial investment of time, effort, coordination and leadership. While the guides are instructive and meet the needs of local communities, they also illustrate the high transactions costs that local communities incur under Act 64.

Research has shown that communities are capable of amassing considerable resources to oppose a facility (27). It seems, then, that communities can overcome the high transactions costs. But a community which feels strongly enough about opposing a facility might spend as much time and capital on developing their strategy to oppose as they could to support it or work towards a compromise: particularly if the

community leaders face political opposition from constituents who perceive those efforts to work for compromise as support for a facility which has little or no public support.

Incentives to reduce conflict

Previous work has documented the conflict that exists between communities and facilities (28). The resolution of this conflict is related to each party's respective property rights, the amount of power each has, and each participant's willingness to work to resolve the conflict.

Communities have lost certain property rights, but retain the power to tax and regulate to a limited extent. The potential benefits which can be expected to accrue to the community are limited - property tax income and possibly other compensatory payments. The social costs the community can be expected to bear include potential loss of community identity, some risk to public health and damage to the environment. These social costs are often reflected in decreased property values (29). A community has few incentives for promoting a new facility: waste coming to the site is generated elsewhere, the community may not generate hazardous wastes at all, the community probably does not identify any benefits which will accrue to them should the facility be constructed and elected officials and other community leaders are under intense pressure to oppose facilities.

The company has invested considerable funds in site selection, site assessment and the application procedure. They are subject to some

community control, but are largely protected by state pre-emption of local veto power. The company therefore has an interest in and is committed to receiving the Board's approval. Some form of local community approval is desirable; communities have closed existing facilities and the potential for extra-legal actions on the part of some residents may be high. The company usually wants to be a good neighbor and to be able to operate the facility without obstruction.

If the conflict between these two parties is to be resolved, it requires that communities perceive that there is something for them in having the facility constructed and operating in their backyard; they need incentives to, if not openly endorse the facility, at least be able to come forward and work out a compromise. The facility must have sufficient interest in garnering community support and have sufficient doubt that the permit is not readily forthcoming in order for them to consider terms of compromise or negotiation.

The Site Approval Board as a model

The Site Approval Board's review process can be described in terms of a conceptual model. The actors in the review process are: the local community, including both elected officials, residents, and adjacent communities, the applicant, the Department of Natural Resources and other state and county agencies, and the Board itself. The information used by the Board includes the permit application, other technical data, local community input, general public comments, the draft permit and any stipulations which have been added to the draft permit (Figure 1.1). The Board aims to reach a compromise between the community and the applicant.

SITE APPROVAL BOARD CONCEPTUAL MODEL

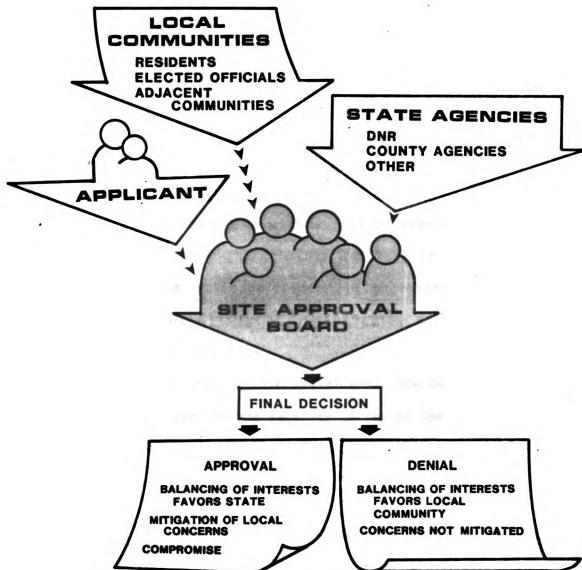


FIGURE 1.1

SITE APPROVAL BOARD CONCEPTUAL MODEL

The application comes to the Board on recommendation by the DNR that it be approved - the application meets technical and statutory standards. There are two possible outcomes from the subsequent review process: a denial or an approval. An approval connotes a balancing of interests between the community, the applicant and the State interest in hazardous waste disposal. It is presumed there is a mitigation of local concerns and impacts, reflected in permit stipulations adopted by the Board. A denial suggests the Board decided that, when balanced against the applicant's or the State's interest, the local community concerns were considered of greater importance, or that local concerns and impacts could not be mitigated.

Act 64 is silent on criteria for denial. Sec 21(2) requires the Board to provide the applicant with a list of remedies which will address the application's shortcomings and make it acceptable. The committee which drafted Act 64 believed that the Board itself should determine the acceptability of a particular site, based on the circumstances unique to that site.

Some theoretical grounds for denial are: the determination that the risks or impacts posed by the facility in any of the areas outlined in Sec 20(1) - (7) couldn't be mitigated and pose a threat or risk of harm to the community, or that the facility conflicts with land use or long range plans in a way which is incompatible. Perhaps the strongest ground for denial would be the finding that the application violates Act 64 or some other statute or rule. The likelihood of this occurring is slim, however, given the previous review for just such conflict or violation by the Department. The Board would have to interpret a

particular rule or section differently than the DNR and be able to defend it. The Board could find that the facility conflicts with the goals of the Hazardous Waste Management Plan. Sec 15 of the Act prohibits the DNR from issuing a permit or license under Act 64 until the Director has determined that the action is consistent with the Plan. The Director follows the directive of the Site Approval Board; by inference, the Board is thus bound by Sec 15 as well.

On more tentative grounds, the Board could deny an application if the need for the facility had not been established, the applicant's credibility was in question or because the Board lacked confidence in the facility operator's ability to manage the facility as planned. These justifications would undoubtedly be ancillary to other more definitive grounds for denial, given the difficulty in providing the applicant with the kinds of information required to make the application acceptable, as is required by law.

In looking at possible outcomes of the SAB process, it is important to understand the over-all context in which the Board operates. In pre-empting local control, the Act places the State's interest in properly managed hazardous waste, and new, properly designed facilities over local community's interests in controlling land use within their boundaries. This, coupled with the believed need for additional disposal capacity, creates a strong incentive for Boards to approve construction permit applications. Given the lack of incentives for local communities to present terms for compromise, the high transactions and political costs associated with doing so, and the difficulty of providing substantial and defensible grounds for denial, suggests that the most likely outcome of the SAB model is approval.

NOTES

1. Levine, Adeline Love Canal: Science, Politics, and People (Lexington 1982). In her book, Levine documents the experience of the Love Canal Homeowners Association. Among her other findings, Levine identified a fundamental change in the public's attitudes towards both industry and the governmental agencies charged with monitoring those industries. Levine asserts that Love Canal serves as a bench-mark for both public awareness of chemical waste disposal as well as public lack of faith in government's ability to deal with the problem.
2. Michigan Toxic Substances Control Commission Toxic Substances Control in Michigan: Review and Recommendations (August 1982). Page 18
3. United States Environmental Protection Agency Everyone's Problem: Hazardous Wastes, Office of Water and Waste Management, Washington D.C. 20460, SW-826. Page 14. Data in this publication was drawn from the U.S. Environmental Protection Agency's Draft Environmental Impact Statement for Subtitle C of the Resources Conservation and Recovery Act November 1979.
4. Joan Peck, Chief, Waste Evaluation and Manifesting Unit, Technical Services Section, Michigan Department of Natural Resources. Personal communication February 2, 1983.
5. EP toxic wastes are those listed in rule 315, table 303 of the Act 64 rules (being R299.6315). EP stands for extraction procedure, a method of determining if waste contains toxic materials such as heavy metals or pesticides.
6. *ibid.*
7. Senate Substitute for HB 6123: An Act to amend Act 64 of the Public Acts of 1979. Michigan House of Representatives, December 1982.
8. Michigan House of Representatives Report of the House Special Committee of Hazardous and Toxic Waste Management July 1979. Page 6.
9. M.C.L.A. § 299.509.2(a) through (g).
10. Hazardous Waste Management Planning Committee Hazardous Waste Management Plan for Michigan February 1982. Page 3.
11. M.C.L.A. § 299.517.2(a) and (b).
12. M.C.L.A. § 299.517.2(c) and (d).
13. Interviews were conducted with the following individuals who were involved in the development or implementation of Act 64 and the Site Approval Board concept: Jeffrey Dauphin, Executive Director, Waste Systems Institute of Michigan, Inc. (June 29, 1982); William Marks, Assistant Deputy Director, Michigan Department of Natural Resources, (September 2, 1982); Al Howard, Chief, Technical Services Section, Hazardous Waste Division, Michigan Department of Natural

Resources (September 20, 1982); Donna Stine, Legislative Liason, Michigan Department of Natural Resources (September 24, 1982); Alice Tombouljian, legislative sponsor of Act 64 (October 26, 1982); Stewart Freeman, Assistant to the Attorney General for Environmental Affairs (September 29, 1982).

14. Stewart Freeman, Assistant to the Attorney General for Environmental Affairs. Personal communication, September 29, 1982.

15. State of Michigan, Attorney General Opinion #5864, March 17, 1981. Page 13.

16. The amendments made in the Senate Substitute for HB 6123 have extended this time period to twenty days from the ten day time period initially required in the Act.

17. M.C.L.A. § 299.520.3

18. M.C.L.A. § 299.520.7(a) - (f).

19. Dr. Alan Schmid, Professor of Agricultural Economics at Michigan State University in Property, Power and Public Choice (Praeger Special Studies 1978) at page 9.

20. M.C.L.A. § 299.524.

21. Corson, Lynn, and John Sobetzer Hazardous Waste Management in Michigan: A Guide for Local Government and Citizens (Community Development Programs, Lifelong Education Programs, Michigan State University 1982) at page 35.

22. M.C.L.A. § 299.521.2

23. *ibid.* page 28.

24. Schmid describes transactions costs as those costs involved in dealing with others in the economy. Transactions costs including costs of gathering information and data, negotiating agreements, settling contracts, and the like. See page 88 in Property, Power and Public Choice, above.

25. Sobetzer, John and Lynn Corson Hazardous Waste Management in Michigan: A Guide for Local Governments and Citizens (Community Development Programs, Lifelong Education Programs, Michigan State University 1982).

26. Tombouljian, Alice and Paul Hazardous Waste Siting Response: A Handbook for Michigan Citizens and Local Government (Michigan Environmental Policy Institute, East Michigan Environmental Action Council, 1983).

27. United States Environmental Protection Agency Siting of Hazardous Waste Management Facilities and Public Opposition (November 1979).

28. Ibid.; O'Hare, Michael, Debra Sanderson and Lawrence Bacow Facility Siting and Public Opposition (draft manuscript 1982). Publication forthcoming.

29. Bacow, Lawrence S. and James R. Milkey, "Overcoming Local Opposition to Hazardous Waste Facilities: the Massachusetts Approach" 6 Harvard Environmental Law Review 268 (1982).

CHAPTER 2

THE SITING CONTROVERSY

"We don't want it. It's too close to the peoples."

-Dan Welch, Sumpter Township

"We need these sites; this facility meets the standards. The Board needs to fulfill its larger responsibility to the state."

-Robert Ufer, Attorney, Environmental Management Systems

These statements, made at the final meeting of the Sumpter Township Site Approval Board for a proposed hazardous waste landfill, represent the polar positions adopted by opponents and proponents of hazardous waste management facilities. The Township's position is based on the feeling that they are being victimized by the State and the company. They speak in terms of social impacts: lost property values, increased risk of ground or surface water contamination, the noise, dust, odors and other nuisances associated with landfills, and loss of community control. They see much risk and little benefit. They are leery of the applicant's credentials and ability to manage the site properly. They are equally suspicious of the State agency charged with granting the permit and enforcing the regulations; the agency is perceived as being in collusion with the applicant or at minimum, to sanction the facility.

The applicant believes that the facility will provide a needed service to the State as a whole by providing a safe, well-managed, disposal site for wastes generated by industry. The applicant speaks in technical terms; the facility complies with standards established under the Act, it is technically sound, they will monitor it closely, every

precaution is taken against accidents and unlike the dump at Love Canal, or the Berlin and Ferro incinerator, this facility is well designed, and managed by a reputable company.

Taken together, these contrasting and conflicting views are the backbone of the siting controversy. They form the political and social climate which surrounds the administrative, legislative, environmental, technical and economic realities of hazardous waste in Michigan. It is in this climate and format, that the Site Approval Board is formed, acts, and decides.

Literature Review

The controversy over siting hazardous waste management facilities and methods for resolving that controversy is just beginning to be explored. Hazardous waste disposal is one of a family of "socially undesirable" activities - locating homes for the mentally impaired or retarded, prisons, and elderly citizen apartment complexes are near cousins. Research in those areas and in the areas of energy facility siting and nuclear waste disposal provides some insight into the hazardous waste facility siting controversy.

The literature surveyed for this case study falls into three categories: research which focused on why communities opposed facilities, and the reasons cited for their opposition; work which critiques the decision-making process; and studies which examine the social and economic reasons for community opposition to sites. One analysis of community opposition to hazardous waste facilities describes the roots of public opposition and the factors which contribute to that opposition (Environmental Protection Agency 1979).

One finding was that citizens are capable of mustering considerable resources and expertise in order to close existing sites or prevent the construction or operation of new ones. In addition, they found several factors which contributed to community opposition to a given facility. Those factors, not always common to every site are: failure to inform the local community that their community was being considered for a hazardous waste management facility; a misleading or negative public relations program; no credibility on the part of either the facility sponsor or the regulatory agency involved in permitting and monitoring the site; the facility's lack of success in being accepted in other communities; national publicity about hazardous waste; the facility's interest in accepting political wastes such as PCB's, dioxin contaminated soil, and waste materials from the clean-up of abandoned sites; a poor operating record at other sites; the political character of the community - whether it is favorable to industry or has a history of citizen activism or a desire to retain local control; questions about the adequacy of the siting process; whether siting criteria exist and if they are seen as valid and sufficient to protect public health; the degree of public involvement available to the community; transportation of wastes through the community and the risks associated with that transport; the kinds of wastes the facility expects to take and their source; questions about the need for the facility; the effect the facility will have on community image and surrounding land uses; economic disbenefits to the community and loss of community control. These factors were not weighed or rated in terms of importance. They were only identified as characteristic of the siting controversy.

Another study which attempted to discern public attitudes towards hazardous waste disposal was conducted by the League of Women Voters at a workshop in June 1981, as part of their effort to determine the most effective means of public education about hazardous waste disposal (League of Women Voters 1981). At the conference, participants were asked a series of questions which were clustered into nine factors relating to siting hazardous waste facilities. Those factors included: the need for hazardous waste management facilities; concern about the decision process for siting facilities; concern with the health or safety risk involved in hazardous waste disposal; protection of community rights; economic benefits; concern for community image and welfare. The results of the survey showed that while there was overwhelming recognition of the need for hazardous waste disposal sites, the group had little confidence in the decision-making process. They doubted whether the public would be properly represented. They were concerned about the health and safety risks posed by facilities, particularly landfills. They were also concerned about protecting the rights of the community especially when it came to boundaries and distance limits as well as for compensation for diminished property values. There was considerable doubt that economic benefits to the community would be realized. They weren't particularly concerned, however, about community image and the affect a facility might have on it. The League's sample included representatives from a number of different disciplines, age groups and educational levels. It was not heterogeneous, comprising 38 men, 31 women, over three quarters of whom

had college degrees at the bachelors or higher level; engineers, public health and public works professionals were represented as well as volunteers, and government officials.

A second report (Krawetz 1979) focused on the social concerns related to hazardous waste management and the structure of public involvement programs designed to aid in the siting of facilities. Based on a review of case studies of proposed incineration of PCB's, disposal of radioactive wastes and other industrial disposal facilities, the study identified six major public concerns associated with locating and constructing disposal facilities. Unlike the EPA study, Krawetz's six factors were ranked in order of emphasis given by the public. Those concerns were:

*Effect on human health

- the precise impact in terms of both chronic and acute effects
- the probability that exposure to hazardous substances will result in malformation, cancer, genetic damage, birth defects and miscarriage

*Effect on the environment

- potential damage to the food chain
- potential damage to the water supply
- effects on wildlife or crops
- effectiveness of the proposed treatment process; whether contaminated effluent will be released or emitted.

*Risk and safety

- possibility for human error-effectiveness of personnel training
- possibility of equipment failure, mechanical error
- fire hazard
- storage and handling problems
- spill control
- evacuation plans for the facility and the community
- site security
- perpetual care - site monitoring, post-closure
- adequacy of the treatment process proposed

*Policy issues

- justification of need - why this facility here, were alternatives considered
- boundary issues - what is the area to be served by the facility, is the local community being asked to solve a regional or state problem.
- location - what siting criteria were used.
- what role does the public play in influencing the decision-making process.
- can government guarantee public safety
- who is liable for violations or if something fails or goes wrong

*Site planning factors

- are usually expressed by the local community and concerns include: decreased property values, land use conflicts, nuisances such as odors, dust, noise, local benefits versus local costs, increased traffic and related congestion

*Quality of life concerns

- are site-specific and subjective perceptions of the impact of the facility on the community.

Krawetz also noted four criticisms of the public involvement program: public opposition arose when citizens did not perceive that the facility would address a local problem; the public did perceive that the need to protect human health and the environment from hazardous waste was greater than any financial cost to the facility and therefore benefit:cost analysis was not an issue; the credibility of the sponsoring agency is a critical factor in public acceptance of the agencies information and data; and that information should be presented in a form useful to the audience for whom it is intended, not the agency which produces it.

Of the cases studied, only a few were successful in terms of public acceptance. In those cases, the sponsoring agencies were committed to fostering good community relations and to making information accessible to the public. Government, industry, environmental groups and the public were involved jointly and cooperatively in order to come to terms

of mutual agreement and compromise. Unlike the EPA study, Krawetz's six factors were ranked in order of emphasis given by the public.

The distribution of benefits and costs between communities and the general public and how that pattern affects and influences local opposition has been discussed in recent years (Bacow and Milkey 1982) (O'Hare, Bacow and Sanderson 1982). The benefits of proper management of hazardous wastes - a decrease in the incidence of illegal and improper disposal and resultant reduction in damage to the environment and public health and an increase in disposal capacity, accrue to all the residents of the state. These actions create dispersed benefits: each person benefits a little from proper hazardous waste management. The costs on the other hand, fall on the particular community chosen for a given facility location. That individual community bears concentrated costs in the form of potential risk of harm to public health and the environment, noise and congestion, increased traffic, and the loss of community identity. These costs may be reflected in the form of decreased property values, a decrease in the tax base, and a reduction in market values and real estate sales.

The siting process itself has been criticized (O'Hare, Sanderson and Bacow 1982), in work drawn from research in the area of energy facility siting, but applied to hazardous waste facilities. They believe the failure of the existing facility siting process is rooted in a decision making process which "frustrates the desires of the participants to cooperate or compete constructively." They identify the existing siting process and decision making format as one of "decide-announce-defend", first discussed in work done by Ducsik (1) in the area of energy facility siting. The decide-announce-defend process

starts with the developer's decision, based on a series of technical choices, in consultation with engineering, market and financial analysts, to construct the facility in a particular location. At the announce stage the proposal is presented to the public for the first time, as a single, final and firm choice. Alternatives to the proposed design or location are rarely offered. This sets the stage for conflict. At the public hearing stage, the applicant defends the project. The public approaches the hearings defensively, with questions, concerns and the perception that they have no power to change or alter the proposal - only to delay or stop it.

The process breeds animosity and conflict and the outcome, according to O'Hare et al., is "opposition without constructive means to incorporate concerns or resolve differences." At the core of the process, they see a clash of values and expectations between the facility sponsor and the community. The developer or sponsor expects to have her or his property rights upheld and expects the community to see the facility as beneficial. The community, on the other hand, sees their right to control their own destiny as superior to the developer's or facility sponsor's rights. They expect the facility to have a negative impact on the community.

O'Hare et al. see siting as a two part process: the first focuses on the technical feasibility of a given project and involves an evaluation based on technical merit, the second examines the suitability of the facility's location. This second stage of the siting process is the most critical, and is where the facility siting process most often fails, in their opinion.

The failure of the siting process is the result of inadequate mechanisms for all parties involved or affected to share in the benefits provided society or to effectively negotiate the size of their share of those benefits. They would reform the process to involve more people and create a climate whereby the facility sponsor and community could negotiate their differences. In addition, compensation would be paid to the community to balance the costs which they absorb from the facility.

In the area of social impacts of landfills on communities, one study (Edelstein n.d.) examined the impact on a rural community of an existing landfill which was slated for expansion. The report was drawn from focused interviews conducted in June 1980 and was done for the Town of Goshen, New York as part of the Town's preparation for public hearings held for discussion of the proposed expansion. The researcher, a resident of the town, sought to assess the impact of the existing landfill on the residents within a 7,000 foot radius of the landfill. Edelstein found that: residents perceived the landfill had destroyed or threatened the pride and security of surrounding residents; truck traffic to the site created problems of noise, hazards, and congestion; residents were concerned about other safety issues such as fires from methane generated on the site, and children being able to gain access to the site; and odors. Edelstein also found that residents had experienced increased stress stemming from uncertainty, fear and worry over truck traffic, and a decrease in property values. Further, the community did not identify any benefits which could accrue to them, and there was a prevailing sense that garbage from outside the community was being disposed in the landfill.

Discussion

Based on a review of the work in the field, and discussion with State agency staff, planners and others involved in siting facilities, four dimensions of the siting controversy can be identified:

- * The distribution and kinds of benefits and costs that accrue to a community make it economically rational to oppose a facility.

- * The community and company each speak a different kind of language, and operate from different objectives and sets of values.

- * Within a community, pressure from constituents militates against both their support of a proposed facility and efforts to secure an agreement through a negotiated settlement.

- * Siting hazardous waste management facilities requires consideration of whether the facility meets technical criteria as well as whether the proposed location is suitable.

Economics

The distribution of benefits and costs between the general public, the local community and the facility operator are such that it is an economically rational decision on the part of a local community to oppose a hazardous waste facility. The benefits which result from properly managed waste accrue to the general public and are dispersed. The facility sponsor receives benefits in the form of profits. The community, however, bears the social cost associated with the facility. The community must accept the risk of accident and other damages which may result from mechanical or other failures at the facility. The community may no longer be identified as a safe place to live. Decreased property values result in forgone property tax income. Prime industrial

or development land may be lost along with future property tax revenues. The local community is also forced to bear the externalities stemming from the manufacture of various goods whose production generates hazardous waste. Hazardous wastes are the byproducts of such common everyday items as plastics, synthetic fabric, drugs, fabric dyes, automobiles and the gasoline which powers them, and the chemical fertilizers and pesticides used in food production. However, the wastes themselves are an externality of the manufacturing process; the individual community which has been chosen as a site for the disposal facility absorbs the externality of everyone's consumption.

These costs and externalities are not readily balanced by the benefits which accrue to the community. Those benefits typically include jobs, tax revenue and other forms of income, the ability to retain or attract industry by providing accessible waste disposal and the satisfaction that they are contributing to the solution of the problem of hazardous waste management. Few jobs are generated by a facility. It is not known whether industry is retained or attracted to communities or states with adequate facilities.

It is a rare community which will welcome a waste disposal facility on the basis of principle alone. Communities, like industry, rely on a mix of economic and other factors in deciding where and how they grow and develop (2). In light of this, some researchers believe that only compensation for these social costs, and incentives will convince a local community to accept a facility (Bacow and Milkey 1982)(O'Hare et al. 1982).

Facility versus community

The differences in language and objectives on the part of facility sponsors and local communities is a factor in the siting controversy not because it represents an economic, environmental or legal consideration as much as it represents a social one. The public argues against the facility or permit in question on grounds it will harm people, there is no need for it, or the sponsoring agency or firm cannot be trusted. The public speaks in terms of risk, intangibles, and the impact of activities associated with the facility such as transportation of waste through the community. They may remark on what happened in other communities when waste was accepted there. They may base their comments in reference to existing facilities. Invariably, at hearings held to discuss landfills, someone asks "why are we still landfilling?" Other groups in the community may present data or alternative findings that challenge the facility sponsors statements. The objective, express or implied, is to stop or oppose the facility; at a minimum to be assured by the agency or facility that the burden of proving the facility is safe has been met.

In contrast, the facility sponsor uses terms of reference which are technical, legal or scientific in nature. The facility sponsor's objective is to receive the permit, so evidence presented at the hearing will address the engineering, legal and technical points of the application which show that the applicant meets those protocol. Rarely, if ever, will an applicant address larger issues such as need, past history, or social impacts. This polarity reflects the "clash of values and expectations" described by O'Hare et al.

Intra-community conflict

Within communities, the siting controversy presents another source of conflict. There may be local officials or particular interest groups which support the construction of a facility. Political pressure, real or imagined, can prevent a community from openly supporting a facility. It is deemed political suicide to do so. This is particularly critical when that political pressure stymies efforts to come to terms of agreement or compromise when it is warranted. If a local official has been elected on a platform of opposing landfills or is facing an election in coming months, that individual will be hard pressed to openly endorse a proposed disposal facility, or more importantly, to support discussions aimed towards negotiation with the facility sponsor. Even if the public official feels that that is an appropriate position to adopt, the risk of public opposition is considerable, and is one few politicians seem willing to take. The general public seems to believe that anything but an explicit statement of opposition constitutes an approval or endorsement.

As an example, in Canton Township, Michigan, located in the southwestern quadrant of Wayne County, the Planning Director worked with the Township Board and the operator of a sanitary landfill to negotiate an agreement which called for the operator to pay compensation to the Township and to turn the site over to the Township once closed as a recreation facility. Although the Board agreed in principle with the negotiated settlement, they were unwilling to sign the final agreement, opting instead, to request additional compensation. The Planning Director believes that the Board was concerned about having the

appearance of endorsing the landfill. No one wanted their name on the document, and by analogy, on the landfill's gate (3).

There are two parts to facility siting

O'Hare, Sanderson and Bacow have this to say about the process of locating hazardous waste facilities:

"There is a technically best location for a particular facility, and at least a prima facie case can be made that it ought to be built somewhere. We assume that the . . . site meets criteria for environmental impact. What now should be done to wind up with either a functioning facility on the site in a reasonable time or a decision that the project is ill-conceived? It is in this last stage of the siting process that the most expensive, embittering and divisive failures of the public choice process occur."

O'Hare et al. believe that locating a facility requires the finding that it not only meets technical criteria but must also be in the right place. But what is the "right place?" And how do we determine if we have found it? Under Michigan law, the Site Approval Board is designed to consider the proposed facility's impact on the local community's long range plans, and land use as well as the risk and impact posed by the facility on ground and surface waters, on the environment and the risks posed to the community by transportation of wastes. The inclusion of social impacts and social acceptability in review of actions that affect the environment is new. Social acceptability, by definition, is vague and subjective; what is acceptable to one may be unacceptable to another. Yet, if the conclusions that O'Hare et al. have drawn are accurate, then social acceptability and suitability are the key elements in establishing hazardous waste facilities. And the Site Approval Board is an important addition to the permit application review and approval process.

NOTES

1. Ducsik, Dennis Electricity Planning and the Environment (Ballinger, forthcoming), cited by O'Hare, Michael, Lawrence Bacow and Debra Sanderson in Facility Siting and Public Opposition (draft manuscript 1982) Publication forthcoming.
2. Several studies have examined the variables in plant location decisions, among them: North Star Research and Development Institute Factors Influencing the Economic Growth Rate of the Midwestern States (Minneapolis, MN 1964); Mueller, Eva, Arnold Wilken and Margaret Wood Location Decisions and Industrial Mobility in Michigan (Institute for Social Research, Ann Arbor, MI 1961); Mandell, Lewis Industrial Location Decisions: Detroit Compared with Atlanta and Chicago (Praeger 1975); and Mazza, Jacqueline and Bill Hogan The State of the Region 1981: Economic Trends in the Northeast and Midwest (Northeast-Midwest Institute, Washington D.C. 1981).
3. James Kosteva, Planning Director, Canton Township, Michigan. Personal communication, March 1982.

CHAPTER 3

THE SUMPTER TOWNSHIP EXPERIENCE

Study Approach

This study analyzes one of the Michigan Hazardous Waste Site Approval Board decisions. The Board reviewed the construction permit application submitted by Environmental Management Systems for a hazardous waste landfill located in Sumpter Township, in southwestern Wayne County, Michigan. The landfill, proposed to be located adjacent to an existing solid waste landfill managed by the parent company of Environmental Management Systems, City Sand and Landfill, was intended for disposal of industrial wastes from the Detroit area - largely sludges, plating wastes, and waste oils which would be solidified on site. The Board ruled, in October 1982, to deny the application. In this case study, the Board review process is analysed and measured according to two performance measures. The first compares the performance of the Sumpter Township Board with the expected performance based on a conceptual model of the Site Approval Board. The second performance measure examines whether or not the SAB was able to effectively resolve the conflict which existed between the community and the facility sponsor.

Background information on the Board process and the history of the Hazardous Waste Management Act was obtained through interviews with

individuals involved in the development and implementation of the Act. Historical information was gathered from the Department of Natural Resource's files.

The author attended all of the meetings except for the first, which was a preliminary one. Minutes were received from the DNR of all meetings. These were used to cross reference the author's own extensive notes. The transcript of the Public Hearing was also obtained.

The Site Approval Board members were interviewed, by telephone, over a period of three weeks, from December 1 to December 22, 1982. In advance of the phone contact, each Board member received the survey questions along with a cover letter explaining the purpose of the interview. A copy of the cover letter and survey questions can be found in Appendix A. During the course of the Board's review, personal contact was made with most of the Board members to inform them of the study, and the author's intent to contact them after the Board review was completed for an interview. Three Board members could not be contacted - Eugene Schmitt (Michigan State Police), William Harness (Township representative), and Virgil Humphries (County appointee, Township representative). With the exception of Marci Colling (County appointee, County representative), who only required one phone contact, the respondents required, at minimum, an initial contact to determine if the cover letter and list of survey questions had been received, and to establish a time for the actual interview. Each interview took about one hour to complete. One Board member, William Harness, (Township representative) refused the phone interview (1). Results of the survey can be found in Appendix B.

Information made available from the DNR files included the permit application, internal DNR staff memos from the technical review stage, correspondence between the applicant, the Township and the Department, and the draft permit. Sumpter Township offices provided data on real and personal property tax income and land use. Secondary sources which provided background on the conflict between the Township and the applicant were a series of articles published in the Ypsilanti Press, and a phone interview with a staff reporter.

The Setting

Land Use

Sumpter Township is located in the extreme southwestern corner of Wayne County, Michigan (Figure 3.1). By Wayne County standards, it is rural: large tracts of vacant and agricultural land are found throughout the township. At the same time, it is experiencing an increase in the number of commuters who reside in the northern part of the township and work in nearby Ypsilanti, Ann Arbor or the Detroit metropolitan area (2). Along the main north-south road in the township, Sumpter Road, a diversity of land uses is noticable: modest single family homes, corn fields, small vegetable gardens, a roller-skating rink, a tavern, grocery stores, and gas stations. There are nine churches identified on the 1976 land use plan.

According to the Township Housing Survey which was conducted in 1976 as part of their Land Use Plan revision, ". . .[the Township] is considered rural but has experienced continued population increases in the 1970's and is well on it's way to becoming a bedroom community. . .". (3). This rural quality is reflected in the land use - fully 88.2% of

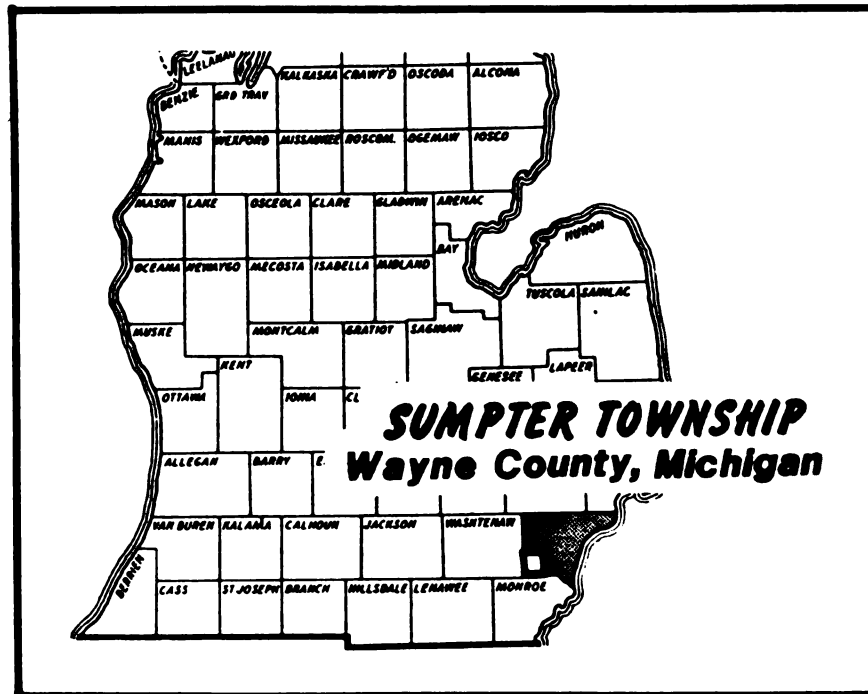


FIGURE 3.1

LOCATION OF SUMPTER TOWNSHIP

the land in the township is classed agricultural, vacant or woodland. Land that is classified as developed, residential, commercial, industrial or public, makes up the remainder, 11.8% (4).

Commercial development in the township includes a hardware store, taverns, a number of gas stations, food markets, beauty salons, and the like. Such development is extremely limited and makes up only 1.1% of the total land use in Sumpter. Development is centered around two or three intersections along Sumpter road. Industrial development in the township consists of two landfill operations and three sand excavation operations (5).

Residential use makes up 43.2% of land use, either as single family dwellings or mobile homes (6). The township lacks municipal sanitary sewer service so multiple family dwellings such as apartments, cannot be constructed, and increased development is limited. Most homes are built on large lots and are scattered along the main roads throughout the township. Agriculture is a significant part of the Township's economy: of the undeveloped portion of Sumpter's land base, agriculture makes up 34% (7). Farms are both owned and maintained by full-time farmers as well as those who hold full-time jobs and farm during the evenings and weekends. Pasture, specialty and field crops are grown. There is considerable inactive and potential agricultural land in the township; use of these lands appears to be limited by inadequate drainage.

Sumpter is characterized by a high water table and soils that are classed as poorly to somewhat poorly drained; in places the groundwater is within a foot of the surface. The land is flat and lacks natural drainage systems. County drains provide some drainage but suffer from inadequate maintenance: some have not been cleaned out in more than a decade. According to township residents, there are times when most of the roads are impassable due to flooding. Water depths to three feet were noted, staying so for weeks at a time. As a consequence, septic system failures are common. Some groundwater contamination has been noted in the form of high concentrations of nitrates; this is attributed to failed tile systems (8).

People

Throughout the 1970's, Sumpter Township experienced substantial population growth. Between 1960 and 1974, the population jumped by 91%,

from 5972 to 11,429 persons (9). The growth rate slowed during the latter part of the 1970's; in the decade between the census, the population grew by 37.3%, from 8091 in 1970, to 11,112 persons in 1980 (10). The low cost of land in the township encourages development of small, first homes and mobile homes for young families and retirees. The large open areas attract those seeking a country setting.

A second dimension to the Township's population is the racial balance. The landfill property is located in the southern part of the township where the bulk of the black community resides. Sumpter Township was apparently near to, or part of the Underground Railroad; following the Civil War, blacks settled in the area, began farming, and formed the present-day community. The 1980 census reports show that 16% of the population is black, .83% Hispanic, and .35% American Indian. However, during the Board meetings, about half of the audience was black. It could not be confirmed, but racial tension between the black community and the landfill operators and the Township Board was allegedly one of the issues in the Township's opposition to the proposed landfill.

In 1980, a race discrimination suit was filed with the Detroit Civil Rights Commission by a black township resident against then-Township Supervisor Demski. In that suit, Demski was accused of controlling the votes of two black Township Board members. The suit followed a close vote by the Board to renew the operating license for the Act 641 site: in that vote, the sole two white members, and the two black members voted in favor of license renewal. The remaining three black members voted against renewal. It was rumored, but not

confirmed, that Reeves' campaign promise to oppose additional landfills in the Township was, in part, a promise to the black community to secure their vote.

History

The Township's history can be traced to the period surrounding the 1940 war years, when the nearby Willow Run bomber plant opened. Large numbers of workers immigrated from Arkansas, Tennessee and Kentucky to settle in the Sumpter Township/Belleville area. When the plant closed in the early 1950's, the workers stayed on in the auto factories or as small-scale farmers. At present, the township population remains largely blue-collar in character, although in recent years, a professional community has established itself in the northern part of the township.

County versus Township

An important dimension to Sumpter Township is the dichotomy between the township and Wayne County. Sumpter Township, rural and low-income, perceives itself as being on the bottom of Wayne County's list of priorities. Sumpter residents have a strong desire to be self-sufficient and to control their own destiny. Yet they see their taxes going to funds which support county level services such as community colleges, community hospitals, county water service, and metropolitan parks, and receiving few of those services in return. One example cited by the Township is the failure of the Wayne County Drain Commissioner to adequately maintain the county drains. In recent years, the Township has used its Community Development block grants for drain clean-outs. There is a strong feeling of "them", the County, vs. "us", the Township, in

Sumpter. The people of Sumpter feel they are ignored, and in some case, literally, dumped on by the County.

Finances

Sumpter Township faces severe financial constraints. In the words of the Township Supervisor: "We only get by on revenue sharing." The township lacks any industrial base aside from the landfill and sand excavation operation, and its commercial tax base is limited.

Revenue is derived from taxes on personal property, business licenses and fees, State and Federal revenue sharing, and Community Development block grants. The 1983 proposed budget for the Township General Fund lists a revenue balance of \$934,835.00. Of that, 10% is derived from taxes, 2.8% from business licenses, 34% from State revenue sharing, 8.7% from Federal revenue sharing, and 21% from Community Development Block Grants. At present, City Sand and Landfill pays the township a license fee of \$15,000 a year, and provides free disposal service to township residents.

Of the real property taxed, only about 7% accrues to the Township. The remainder is allocated to various County funds. Taxes on personal property accrue to the Township. Revenue also leaves Sumpter when residents go to adjacent communities to shop for goods and services not available in Sumpter. Commercial development is so limited that major purchases must be made in the adjacent communities of Belleville, Ann Arbor, Ypsilanti or the Detroit metropolitan area. Although the Township needs to diversify its tax base, additional expansion is unlikely. The soil and ground water conditions preclude septic tank/tile field systems and so limits the size and density of new housing units. Lacking a municipal sanitary sewer system, commercial development has

limited potential. Flooding during spring and fall also serves to discourage commercial development - the risk of impassible conditions during some portions of the year and the attendant inconvenience and damage to property will make Sumpter less attractive to developers than adjacent communities. Neither can Sumpter afford to construct or tie into a municipal system. A referendum to do just that failed in 1982. The residents did not want to add to their current tax burden.

The Site

The existing landfill and the proposed hazardous waste landfill are located in the southwestern quarter of Sumpter Township. The property is described as the NW1/4 of Section 28 of the township (Figure 3.2) and covers 320 acres. The northern half is developed as the existing, Act 641 landfill. The southern portion is partially excavated: 80 acres of this was designated for the hazardous waste landfill. While the land is zoned agriculture, it is classed commercial.

The area surrounding the site is largely agricultural with homes scattered along the roads which form the western and northern boundaries of the site. The northern boundary is Willow Road, a paved road and one of the principle east-west arteries in the township. Trucks carrying waste to the landfill travel south on Sumpter Road from I-94 via the Belleville exit, then turn west onto Willow Road.

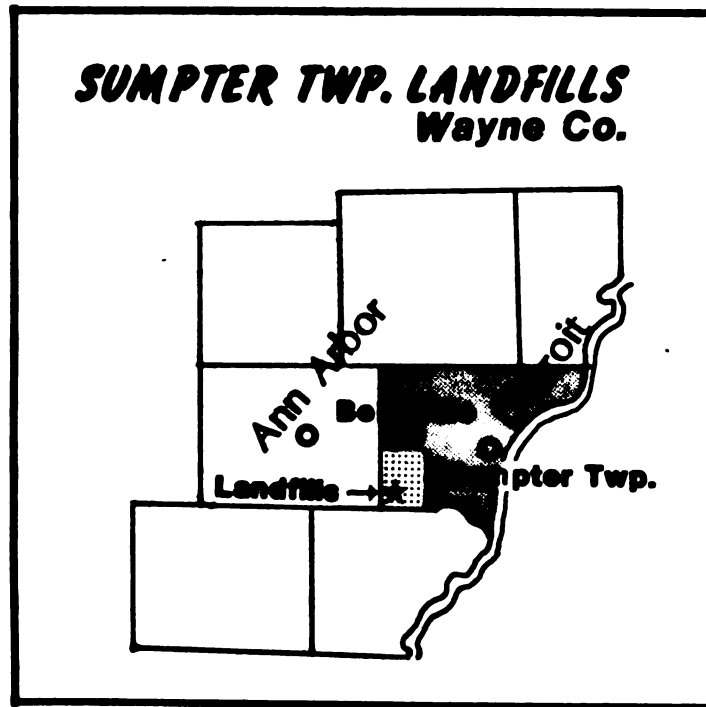


FIGURE 3.2

LOCATION OF THE LANDFILLS IN SUMPTER TOWNSHIP

Historical Perspective of the Controversy

The conflict between the Township and the landfill is rooted in the past poor performance record of the landfill operator, and the Township's perception that they are the dumping ground for the rest of the County. An understanding of the background of this relationship is important for understanding the Township's response to the company's effort to expand and accept hazardous waste. The conflict dates back several years and is deeply rooted in the community.

Principle sources of information were a series of articles in the Ypsilanti Press and personal interviews with the Wayne County Health Department staff. Wayne County has principle authority for monitoring

compliance with State and Federal environmental statutes in the County. That office has been closely involved with the community and landfill operator for several years, and is familiar with the dispute.

The City Sand and Landfill property is in an area of the township which contains extensive deposits of sand and gravel. At some time in the late 1950's sand and gravel was excavated, by an unknown company, from the area which is now the landfill. In 1959, the first in a chain of landfill management firms developed the former sand and gravel pit as a landfill for general refuse. The company operated for over ten years before it was sold to the Sanitas Company in the early 1970's. Sanitas operated the site for a time, going bankrupt in 1975. The current owner, City Sand and Landfill, bought the property from Sanitas in 1975. He inherited a host of problems along with the landfill: at the time of purchase, the landfill was not in compliance with the regulations in place at that time. There were problems of inadequate cover, leachate was not properly controlled, some wastes weren't properly stored on site, and noise, dust and odor created a nuisance for residents of the community. Wayne County and the Department of Natural Resources granted them a license to continue operation on grounds they bring the landfill into compliance. The County needed sites, and they preferred the landfill's problems be corrected by a private firm rather than the State, thereby conserving public funds.

The company was slow to come into compliance. The DNR and City Sand and Landfill negotiated a series of consent agreements in 1975 and 1976. Those agreements called for improvements in landfill operations as a condition of licensure. Compliance was slow and erratic. It wasn't until the DNR commenced license revocation procedures that City Sand

began to come into compliance. The problems and the recalcitrance of City Sand during this time period set the tone for community/landfill relations. The community's lack of faith in the company's ability to manage the site properly, stem from this time period.

In 1980, two issues developed which heightened the tension. The landfill applied for, and received permission from the DNR and Wayne County to accept Detroit's sewage treatment plant sludge for disposal. They also made plans to expand the landfill into the 80 acres immediately south of the existing landfill. Although the DNR and Wayne County had sole authority to approve the disposal, the Township Board tried, in February 1980, to pass an ordinance prohibiting it on grounds it was a violation of the contract between City Sand and Sumpter Township (11). The County banned sludge disposal in April 1980 when it determined that the material was not of the proper consistency for disposal. City Sand challenged that prohibition, and worked with the County to develop guidelines for proper treatment and disposal.

Plans for expansion of the landfill were presented to Wayne County and the Township in May 1980. At that time, the expansion was intended for solid waste, not hazardous waste. The existing site was near capacity, and the Township-City Sand contract restricted the height of landfills to six feet above ground. The DNR tentatively approved the expansion citing the need for additional capacity. The proposal was sent to the Michigan Environmental Review Board (MERB) in April 1980. MERB recommended approval of the expansion, but was concerned about citizen complaints and the management of leachate on the site.

In October 1980, the Township Board narrowly approved the landfill's expansion. It was one of the final actions of this Board: in

the November 1980 election, all but one Board member were defeated in their bid for re-election. Newspaper articles and anecdotal comments of citizens attribute the Board's defeat to their pro-landfill stance and substantial financial backing by the landfill's owner.

In November 1980, the new Board was established. The new Supervisor, James Reeves, had run on a campaign platform of "no more landfills." In its first action, the newly elected Board rescinded the previous Board's approval for expansion. Work on the south 80 acres commenced despite township opposition, under the Act 641 license recently granted by the DNR.

In July 1981, the controversy reached a climax. Wayne County Health Department staff, on site to observe sludge disposal, determined that the material was not of the consistency required, and immediately ordered the landfill to cease disposing. The Township seized this opportunity to close the landfill, saying the contract, which includes a clause requiring the landfill to comply with all local, state and county laws and regulations, had been violated. The Township ordered the landfill gates closed, and voted to rescind their contract. City Sand sought and received a Circuit Court restraining order which allowed them to continue operating the site. The Court also instructed the Township to not interfere with the landfill's disposal operation. The disagreement awaits further court action.

The Actors

Township officials

Sumpter Township was represented by the Supervisor, the Township Engineer, the Chair of the Planning Commission, and the Township Attorney. The Supervisor, Jim Reeves, spoke on behalf of the residents of the township; his position was one of protecting the health, safety and welfare of the citizens. The Engineer, George Wilhelmi, presented technical concerns, primarily those related to flood conditions and the structural integrity of the existing and the proposed hazardous waste landfill. The Planning Commission Chair, Pete Kirchner, presented information and proposed stipulations which addressed the landfill's relationship with land use, zoning, future land use, and the Township landfill ordinance. Together, these three were the primary spokespersons for the township. A black township resident, Dan Welch, who sat on the Planning Commission, also spoke; his arguments focused on the landfill's incompatibility with the township. The Township Attorney, Ronald Whittoff, addressed the relationship of the contract between the Township and City Sand.

The only citizen's group which formed and was represented was loosely organized around the transportation concerns: the spokesperson, Michael Kohut, presented a list of petitions at one of the Board's meetings which asked that the route be changed. A number of citizens spoke regularly against the landfill. No one in the Township spoke in favor of the landfill. The bulk of their comments focused on the concerns and problems they had experienced with the existing landfill.

The Township consultant

Early in 1982, the Township hired a consultant, Geotechnical Materials Consultant's Incorporated (GMC), to review the hydrogeological conditions at the site. GMC presented their findings at the public hearing as well as at subsequent meetings. Their statements were the primary source of technical information; they raised questions of site suitability as well as the adequacy of the proposed monitoring site, and rebutted the findings of the applicant's consultant. They also developed the Township's proposed monitoring program, which was presented to the Board for inclusion into the construction permit. GMC was an advocate for the Township and sought to substantiate its position with technical information aimed at discrediting the applicant's findings.

The applicant

The application for the Act 64 construction permit was submitted by Environmental Management Systems (EMS). The parent company was City Sand and Landfill, which managed the Act 641 site. EMS was formed to manage the proposed Act 64 landfill. The firm was represented by Robert Ufer, their attorney, the Vice President, Tom Handyside, and the site manager, Sid Beckwith. From the outset, Handyside sought to separate EMS's actions from those of the previous management at the Act 641 site. The two companies cannot be completely separated, however. They share corporate officers, letters to the Board and DNR came on City Sand letterhead, and EMS representatives cited civic projects performed by City Sand as evidence of their concern and good faith efforts to work with the community.

The civic projects noted by EMS were described in a letter dated October 27, 1982, and addressed to Supervisor Reeves. In that letter, Robert Ufer, the landfill's attorney, expressed his interest in reconfirming City Sand's commitment to the community. The projects noted by Ufer were performed in 1977 and included: support for the Township representative to the Miss Teen Michigan contest; providing fill material for several construction projects carried out by organizations and churches in the community, including providing the fill for the Township Hall and parking lot; support for "Sumpter Day"; and flowers for Township office staff. In that letter, Ufer also asked the Township to submit a list of ten community projects to the company. He offered to assess the list, and provide money, and services to address those community needs. It is not known if this request was answered.

According to Township tax records, the landfill currently pays approximately \$4,800 in property taxes, an additional \$4,734 in real property taxes and \$15,000 to the Township General Fund. These figures conflict with statements made by Handyside during the SAB proceedings. He stated that City Sand paid some \$10,000 to \$12,000 in taxes to the community in addition to the annual license fee. The author was unable to reconcile the discrepancy in these figures.

The Proposed Project

Environmental Management Systems (EMS) submitted their application to the DNR for the Act 64 construction permit in July 1981, for development of the southern 80 acre parcel on their property as a hazardous waste landfill. A portion of the parcel already had been excavated and partially developed under their Act 641 permit for solid waste: two trenches on the site had already been filled with 641 wastes. EMS proposed to take industrial wastes from throughout the greater Detroit area, such as paint sludges, plating industry waste, sludges from industrial pre-treatment processes, high metal content wastes, auto industry wastes, and debris, soil and other materials from the clean-up of abandoned sites and spills.

The application was ruled administratively incomplete by the DNR Office of Hazardous Waste Management in August 1981. In their ruling, staff noted the absence of an air quality monitoring plan, the absence of an early detection system, the need for clarification of the types and quantities of wastes that would be accepted at the facility, and the need for a statement of financial capability. EMS was instructed to provide the missing information in order for the review to continue,

EMS resubmitted the application in September 1981 with the requested information; it was ruled complete on October 20, 1981. The application was reviewed by technical staff in several divisions of the DNR. Air Quality Division staff reviewed for air quality concerns, such as fugitive dust, volatilization of waste materials on site, and monitoring for waste which might leave the site as contaminated dust or particulates, Resource Recovery Division for hydrogeological impacts and the landfill's compliance with the design standards in the Act 64 rules,

and Water Quality Division for surface water quality concerns. Throughout the 120 day technical review period, there was extensive correspondence and consultation between staff and the applicant. The principle issues and concerns which surfaced during this period centered on the design of the landfill, the breadth of the proposed list of wastes which EMS wished to accept for disposal, waste handling procedures, how leachate would be collected and treated or disposed, and the kind of monitoring program that would be established for detecting leachate and ground water contamination.

In order to review the application, the Air Quality division (AQD) was required to develop guidelines for a technical review of a landfill for air quality concerns. Although familiar with the technical and legal requirements for incinerators, smoke stacks and equipment permitted under the Michigan Air Pollution Act (Michigan Act 348 of the Public Acts of 1965 being M.C.L.A. §336.11 et seq.), they did not have guidelines in place for landfills licensed under Act 64. Staff developed a list of potential air quality impacts and reviewed the application according to those guidelines. One initial concern which AQD, as well as the Resource Recovery Division (RRD) focused on was the applicants intent to co-dispose hazardous wastes with solid wastes. Both divisions were concerned about settling of the waste through decomposition and resultant generation of methane gas. When informed of the DNR's refusal to accept co-disposal as a viable means of disposing of wastes, EMS proposed to treat wastes on site with lime as a way of solidifying the material. To do this, AQD said, would require a Wayne County Health Department (WCHD) permit for the equipment on the lime silo which would mix the lime with waste. EMS began the procedure for

obtaining that permit. A second concern of AQD was the control of dust and other particulate emissions from the site which might be carried into the atmosphere or tracked out on the wheels or undercarriage of trucks. In response, EMS agreed to provide a wheel wash, and to establish an air quality monitoring plan. Other permit conditions agreed to by EMS included separation of vehicles carrying Act 64 and Act 641 wastes, and separating trucks which brought waste to the site from vehicles used on the site to move waste to the active areas of the landfill.

The Resource Recovery Division's (RRD) review focused on landfill design as well as hydrogeological conditions at the site. Initially, the company did not intend to construct a compacted clay liner, nor to include a leachate detection system at the site. The site had twenty feet of natural clay with a permeability coefficient sufficient to meet standards: EMS believed the natural clay to be equivalent to the Act's requirements. RRD did not agree and made inclusion of a compacted clay liner a condition of permit approval. EMS agreed to do so.

RRD was also concerned about several other issues: the applicant's intent to accept the full universe of wastes covered under Act 64; their proposal for management of leachate collected on the site; final grade stability; how the two landfills would be separated; and how storm-water would be handled on site. Staff requested a reduction in the waste listing from essentially all wastes governed by the rules, to at least a list which excluded ignitables, reactives and liquids. EMS responded by saying they wished to be competitive in the market and wanted to keep the list broad so that they could take a variety of wastes, including those which came from site clean-ups and spills. They did agree to not

accept reactive or ignitable wastes unless treated or otherwise rendered non-reactive or not explosive.

Initially, the applicant proposed to collect leachate, treat it, and discharge into the Lords Drain. DNR staff told EMS that such a discharge would require an NPDES permit (12). EMS did not want to have to obtain an additional permit, and so proposed to dispose of the leachate offsite. When that proposal also met with disapproval, EMS decided to treat the leachate on site with lime and dispose of the material in the landfill.

To resolve RRD's concerns about landfill stability, the applicant agreed, after considerable discussion, to construct a five foot clay wall between the two landfills to assure separation as well as stability.

RRD also reviewed the application for the landfill's impact on ground water and the ground water monitoring program. Their review was based on well log data submitted to the DNR by EMS. They did not conduct their own hydrogeological studies. The well logs used were those submitted for the Act 641 application. Staff informed EMS that a leachate detection system was required by the rules, and requested that the epoxy seals on monitoring wells be changed to threaded heads. Water quality testing had revealed small amounts of styrene which was thought to have originated from the glue in the well seals.

In November, one of the staff geologists noted that the piezometric surface at the site was in contact with the landfill. The piezometric surface is a pressure surface; it indicates the height to which the water table would rise, if pressure on the water table were released. By being in contact with the piezometric surface, the landfill violated

Rule 415 of the Act (being R299.6415). Further, saturated clays were present below the landfill. In an internal DNR memo, the reviewer noted that a violation of the rule meant the landfill could not be recommended for approval. The memo went on to list several options that EMS had: the applicant could show that the landfill was not in contact with groundwater; could show that the hydrogeological conditions were different and that the landfill was not in contact with either groundwater or saturated clays; or could alter the landfill design so that it wasn't in contact with the groundwater. In response, EMS told the DNR that while the piezometric surface was in contact with the landfill, the saturated clays beneath did not constitute usable groundwater, and further, other landfills in Wayne County with similar hydrogeological characteristics had approved by the agency.

Rule 415 reads, in part: "(1) A landfill shall be located, designed, constructed and operated so that there is no direct contact between the landfill and surface waters or groundwater." Act 64 defines groundwater in Rule 103(1) (being R299.6103) as: "underground water within the zone of saturation." By strict reading, the landfill was in contact with saturated clays and with the piezometric surface, and therefore violated Act 64.

DNR staff evaluated the rule and the conditions at the site and determined that since similar hydrogeological conditions existed throughout Wayne County, a strict reading meant that these landfills were also in violation of the Act. The question of violation or compliance with Act 64 rules turned on the definition of groundwater. The DNR internally resolved the conflict by viewing Rule 415 broadly, and defining groundwater according to the definition given in Act 641,

the Solid Waste Management Act (Act 641 of the Public Acts of 1978, being M.C.L.A. § 299.401 et seq.). In that Act, groundwater is defined, in Rule 103(e) (being R299.4103) as: "water in the ground that is in the zone of saturation and is derived from a geologic formation, group of formations, or part of a formation that is capable of yielding usable quantities of water." The rule was intended to protect those aquifers which had potential for domestic use, or which yielded potable water, from contamination. According to this definition of groundwater, the clays beneath the site, while saturated, were not "usable quantities", nor were the clays "capable of yielding usable quantities." Viewed in this light, the landfill was no longer in contact with groundwater, and was no longer in violation of Rule 415. The DNR chose to interpret the rule broadly, according to intent, rather than strictly, and in so doing, gave their approval of the landfill.

One factor in the Department's determination that the landfill was not in violation of Rule 415 was the fact that the hydrogeological conditions would protect any usable groundwater sources. The piezometric surface, as a pressure surface, was high enough that should the water table actually rise to that level, the movement of water would be upwards. Any groundwater movement would be from the saturated clays beneath the site into the landfill, and into the leachate detection system. The movement would not be away from the landfill and into groundwater. The DNR believed these conditions to be ideal, since any contamination would be detected and retained on site.

RRD staff were also concerned about the way leachate would be collected within the landfill. Originally, the applicant proposed to connect both the leachate from the collection system and the leachate

detection system at one sump. As such, there would be no way of determining whether leachate collected came from the landfill or from the detection system below the liner. EMS agreed to separate the two systems and put them on separate sumps.

The primary concern of the Water Quality Division (WQD) was that surface water discharged from the site to the Lords Drain might be contaminated. Engineering plans called for surface water to be collected in two on-site storm water retention ponds; one for surface water runoff from the open face and active portions of the landfill, and a second basin for runoff from the closed portions of the site. Water in the first pond would be treated on-site with lime and the material disposed in the landfill. The second retention basin would discharge into the Lords Drain. Initially staff considered requiring the applicant to obtain an NPDES permit for discharge from the second basin. Environmental Management did not believe an NPDES permit was necessary as the water in the second pond was not expected to be in contact with any wastes or to be contaminated. DNR staff and EMS negotiated an agreement which established a water quality monitoring program. The water quality in the Lords Drain would be tested initially for background levels; discharge from the retention ponds would then be tested on a regular basis to detect any excursions from the background water quality parameters. As long as the water quality in the retention ponds did not exceed the background levels of water quality parameters in the drain, an NPDES permit would not be required.

The DNR denied the application in January 1982 because the Wayne County Air Pollution permit had not been granted and Air Quality Division was not satisfied with the air quality monitoring plan which

had been developed by EMS. The application was resubmitted in February 1982. EMS obtained the necessary Wayne County permit, and developed an air quality monitoring program that satisfied AQD concerns. Accordingly DNR recommended approval, and passed the application to the Site Approval Board in June 1982. The recommendation included a list of permit conditions which reflected the technical review and discussion which had taken place over the previous nine months. The applicant had to provide: leachate collection and failure detection systems; on-site stormwater retention and testing; isolation distance between the two trenches with Act 641 waste and hazardous wastes; a five foot compacted clay liner; separation of trucks from the Act 641 site from those carrying hazardous waste; separation of hauling vehicles from the active portion of the landfill; and a wheel wash. The letter from DNR Director Howard Tanner, recommending approval of the construction permit application, was signed on June 16, 1982.

The Site Approval Board

The Site Approval Board at Sumpter Township came into being on June 23, 1982. The four temporary members were appointed by the Wayne County Board of Commissioners and the Sumpter Township Board. The original appointments were made in January 1982, during the initial 120 day technical review period; all were reconfirmed in May and June. The temporary members were: Marci Colling, representing Wayne County; Virgil Humphries, appointed by the County, and representing the Township; William Harness, representing the Township; and Walter Chobat, representing the Township. The permanent members were: Art Bloomer, representing the Department of Public Health; William Marks,

TABLE 3.1

SUMPTER TOWNSHIP SITE APPROVAL BOARD

<u>NAME</u>	<u>REPRESENTING</u>	<u>VOTE</u>	<u>MAJOR CONCERNS</u>
William Marks Chair	Department of Natural Resources	Approve	Environmental impacts, effect on human health, groundwater contamination, transportation
Art Bloomer	Department of Public Health	Approve	Public health impacts, Act 641 site, transportation
Eugene Schmitt	Department of State Police	Deny	Flooding, monitoring, emergency preparedness
Don Anderson	Public member Chemical Engineer	Approve	Technical issues, site security, transportation
Eugene Jaworski	Public member Geologist	Deny	Groundwater contamination, sufficiency of data, effect of Act 641 landfill
Marci Colling	Wayne County	Deny	Environmental impacts, effect on human health, groundwater contamination
Virgil Humphries	Wayne County Township resident	Deny	Lack of community control, some environmental concerns
William Harness	Sumpter Township	Deny	Proper land use, protection of the people
Walter Chobat	Sumpter Township	Deny	Transportation, extent of local control

representing the Department of Natural Resources; Eugene Schmitt, representing the Department of State Police; Eugene Jaworski, public member and the Board's geologist; and Donald Anderson, public member and the Board's chemical engineer (Table 3.1).

The Board was diverse, not only in representation, but also in background, experience, and approach. The members ranged from a self-described "average citizen" to a professor and Department head in a major State university. With the exception of Art Bloomer, who began his tenure on the Board at Sumpter Township, the permanent members had served on the two previous Site Approval Boards and so were familiar with the review procedure and their role in that process. By contrast, none of the temporary members were familiar with the Act or the Site Approval Board process. The County representative, Marci Colling, had background in environmental issues, but not in the area of hazardous waste, or Act 64.

Board Members

Marci Colling

A County appointed member, Colling brought an extensive background in environmental issues to the Board. The former Executive Director of the Rouge River Watershed Council, she had experience both as a scientist and as an activist. Colling was recommended to the County Board of Commissions by the County Board of Health, through a process initiated by the County Health Department. Anticipating the need to appoint County representatives to Site Approval Boards, the Health Department developed a procedure for soliciting potential Board members and selecting a pool of potential candidates. Individuals are selected and recommended on the basis of several criteria: experience and

background with environmental issues; familiarity with the waste disposal issue; interest and education. When the County is asked to appoint a member, a candidate is selected, interviewed, and recommended to the Board of Commissioners, who has the authority to appoint County representatives.

Colling's role, as she saw it, was to look at the potential environmental impacts of the proposed site: groundwater contamination, air pollution, flooding and impacts on the health and welfare of the community. The Board as a whole, in her opinion, provides an opportunity for review and consideration of issues which are usually outside the realm of the DNR. The Board provides for greater community access to the decision-making process: something community leaders and the general public do not enjoy under other statutes. Colling does not place any limit on the kinds of issues that the Board can address. She feels the Board can address "whatever issues are brought up that they feel is important." When it comes to emotional issues, Colling feels that they need to be considered by the Board, although she would rate them differently than engineering or technical concerns.

Colling was aware of the local community's opposition and knew that there was concern for possible groundwater contamination, but tried to avoid knowing more about the site or the application before beginning the Board's review. She wanted to "go in with a clean slate." While prepared for her role as a Board member, she was surprised both by the degree of public opposition and the volume and complexity of the information presented that required review and consideration.

Her principle concern was that the site was, in her terms, "over-engineered." She felt that the operator was relying too much on

using "engineering solutions" to address hydrogeological concerns and handle day to day operation of the landfill.

When asked if she would serve again, Colling said no; citing the heavy responsibility and amount of work involved.

Virgil Humphries

Virgil Humphries was the Township representative appointed by the County and was one of two black members. He was recommended by the County Commissioner for his district; the criteria used for the appointment is not known. He brought a concern for and extensive knowledge of the community to the Board. Humphries had served on the Township School Board, served one term as a trustee on the Township Board, and was running for a second seat on the Township Board at the time the Site Approval Board was considering the application by EMS.

Humphries felt strongly that the local community was limited in its input, adding that he believes the law (Act 64) "denies the right of self-determination." He identified strongly with the citizens; he saw his position on the Board as an opportunity to "do something for the citizens." He was critical of permanent members who had authority to vote to grant the permit even though they "do not have to live next to it the way the local Board members do." He thinks waste should be placed in areas distant from populated areas, not "next to where people live." Humphries thought the language in the Act which requires the Board to tell the applicant what needs to be done to make the application acceptable when the application is denied guarantees that facilities will be approved and constructed, regardless of the local community's concerns or opinions. While he did not state that he was opposed to the facility, it seems a reasonable conclusion that he was,

and expected to deny the application from the beginning. His comments also reflected a concern that the DNR and other State agencies made decisions that went against the Township's interests without giving the Township any recourse.

Although he was very concerned about a number of issues raised during the SAB review, including groundwater contamination, flooding, and transportation, he based his denial on the fact that the community was not in favor of the landfill.

Humphries has a strong commitment to service to the community. He spoke of "we" and "us" referring to the community rather than "I" or "me" when interviewed. When asked if he would serve on another Board, he replied: "I would try to do what I could."

William Harness

William Harness, the other black Board member, was appointed by the Township Board upon recommendation of Supervisor Reeves who believed him "to be a fair man." Less is known about his background and perspective on the Board as he did not wish to respond to questions over the phone, preferring, instead, to answer in writing. In his written response, Harness noted that he did not know why he was selected. He wrote that he has experience with rail-road transportation and United States Department of Transportation hazardous materials transportation regulations.

Like Humphries, Harness saw the DNR, other State and County agencies and the permanent Board members as advocates of the proposed facility. He wrote: "the permanent members seem in a big hurry to have done with the matter and to issue the operating ([sic] meaning construction) permit."

He saw his role as "hearing the voice of the people"; the issues he considered in reviewing the application were proper land use and "protection of the people." This affiliation with the Township residents was reflected in his statement that citizen comments were the most helpful and the application was the least useful to him in deciding to deny the application. Also this statement: ". . .our Township Engineer was able to disprove many of the operator's statements."

Harness was excitable, and at times seemed unclear about the Site Approval Board process and what the Board could or could not do. He was very concerned with seeing that the Township was a third party in any permit or other agreement between the applicant and the DNR, and requested that the Township receive manifests and other records as a condition of the construction permit. Harness did not say whether he would serve on another Site Approval Board.

Walter Chobat

Also a representative of the Township, and appointed by the Board upon recommendation by the Supervisor, Chobat described himself as "an average citizen." He did not bring any experience either with environmental issues or as a member of a committee or board, other than some work with other Township residents on a land use plan for the Township. He does not know why Reeves appointed him to the Board. He saw his role as one of "bringing a common sense view to the Board."

Chobat's concerns focused on transportation - especially questions about the kinds of vehicles which would be used to haul waste to the site, methods of determining vehicle contents, and spill clean-up procedures. He was unable to bring the Board's attention to bear

on these issues as they fall under the purview of hauling regulations, rather than those governing disposal.

Chobat's comments about the Board review process reflect the Township's perception that Sumpter is bearing the brunt of waste disposal in the County. While he sees the Board as having a great deal of power, he had this to say about the review process: "...I can't stress it enough [the importance of the subject]...I recognize the problem but I feel they're rushing it: not covering everything they should, not taking consideration of the municipality. They're forcing it." He disagrees with the format of the review procedure. He believes that a SAB type review of site suitability and compatability should take place before the technical review of the application takes place. As one example, Chobat noted the extensive flooding which occurs on the site as a factor which should have been known to the DNR before they commenced their technical review, but evidently was not.

When asked if he would serve again, he said no, emphatically, saying: "there is too much politics, too much motivation to have sites."

Art Bloomer

Art Bloomer, the Department of Public Health representative, began his term on the Site Approval Board at the Sumpter Township site. As Division Chief of the Epidemiology Studies Division with the Center for Environmental Health Sciences, Bloomer brought experience in long term health effects research, human health concerns associated with pesticide use and a broad experiential background to the Board. Work in the biological sciences and first hand knowledge of how government works added to his credentials. Bloomer replaced Lee Jager, the previous

Public Health representative, whose term had expired at the request of then-Department Director Bailus Walker.

Bloomer believes the SAB plays a "very important part" in the siting process by bringing agencies other than the DNR and local communities into the review process. In his opinion, the Board can examine a broad range of issues. Those of particular concern to him are the environmental impacts, potential for human exposure to hazardous materials, and the public health impact of a site. At Sumpter Township, he was interested in the history of the existing Act 641 site, whether problems at that site had been resolved and whether the proposed site was adequate. He visited the site, consulted with Wayne County Health Department officials, and examined the health records of the community. As the Board's review progressed, transportation also became an issue.

While placing a high value on the comments recieved by residents, he was frustrated with the absence of what he termed substantive remarks. He criticized the community for not presenting social impact concerns sooner, and believes that residents confused issues related to the existing site with potential hazards and impacts which would stem from the Act 64 site. He was concerned that the community thought that denial of the Act 64 permit application would resolve disputes related to the existing landfill. He said that he was impressed with the solidarity of the community.

Bloomer feels he was still learning at Sumpter Township: he found he needed a "breaking in" period to become acquainted with his role, the Act's requirements and the issues and concerns related to the Sumpter Township SAB. He still has mixed feelings about being on the Board. He sees it as a mixed blessing: it requires a great deal of work, but

yields considerable satisfaction. Bloomer isn't certain if he would serve a second term. He is concerned that a person would become cynical or insensitive to issues if required to review too many sites.

William Marks

As representative of the Department of Natural Resources during the development of Act 64, and having been closely involved in the implementation of the Act, Marks brought a thorough knowledge of the Act, as well as the Hazardous Waste Management Plan and the State's environmental policies to the Board. Marks was appointed by DNR Director Howard Tanner, in large part because of his experience.

Marks sees the Board's role as outlined in the Act, and as an intermediary between the community and the facility. As an individual member, representing the DNR, he sees his foremost responsibility as assuring that the Board follows their statutory mandate, that Board business is carried out and that all the appropriate issues are addressed. Marks believes the Board can consider a range of issues, both social and technical - essentially, whatever is brought before the Board.

His concerns about the landfill at the beginning of the review process focused on groundwater and surface water quality, traffic and safety, and hours of operation. Marks sensed the frustration in the community with its roots in the fact that no jobs were going to be created by the facility and the historical animosity between the operator and the community. This animosity made for some heated moments during the Board's discussion. Marks said that it was more pronounced at Sumpter Township than at any other site, making Board discussion that much more difficult. He believes that decision making needs to take

place in public, but is concerned that the intensity of feeling at Sumpter made it hard for the Board to "chew through" all the issues without interruption.

Like Bloomer, Marks believes the existing facility and the operator's track record made discussion that much more difficult, and that the community confused the Act 641 issues with those related to the Act 64 site. Due to potential litigation over the Board's decision, he declined to say why he voted to grant the permit, or to discuss his decision further. When asked if he would serve again, he quipped that he did not think he had much choice as it is part of his job. He did note that he found it a "difficult assignment, and a challenge."

Eugene Schmitt

Eugene Schmitt represented the Michigan Department of State Police. As Detective Lieutenant in the Fire Marshall's Division, Schmitt brought five years of experience in dealing with hazardous materials storage and handling to the Board. He had some experience with hazardous waste site clean-up. His knowledge of hazardous materials handling, transportation and storage were the principle reason for his presence on the Board.

More than any other Board member, Schmitt was surprised at the outcome of the Board's review. When the review process began, he didn't anticipate any major controversy: he thought the review procedure would be straight forward, given the existing landfill on the site. As the Board progressed in its review, he became concerned about flooding, the monitoring program, and the adequacy of the applicant's emergency preparedness procedures. Schmitt also expressed concern over the fact that information from the Township which listed their concerns and stipulations which would address those concerns were late in coming. He

recommends earlier involvement of local officials so that the Board has sufficient time to adequately review all the information.

Schmitt felt that being a Board member was a worthwhile experience and would serve on the Board again, provided he did not have to serve on more than one Board at any given time.

Eugene Jaworski

Like Marci Colling, Eugene Jaworski brought an extensive background of training and experience in environmental issues and problems to the Board. The bulk of his research has focused on the value and function of Great Lakes coastal wetlands. This work has been complemented by research in the area of coastal zone management and the Great Lakes. He is assistant professor of Geography and Geology at Eastern Michigan University. In addition to teaching and research, he has experience in the public hearing process.

Jaworski is one of the two public members who serve three year terms on the Board. Appointed by Governor Milliken in July 1980, he was recommended by Lieutenant Governor Brinkley, as a result, according to Jaworski, of their contact during Brinkley's term as President of Eastern Michigan.

Jaworski has given considerable time and thought to the SAB process. He sees the Board as a dynamic entity; as an open forum for discussing whatever issues are raised by the community and whose range will change and expand over time. The Board, according to Jaworski, has the job of examining local issues as well as "getting the community and the applicant to talk to one another." He also sees the Board review as a process of education, mediation, negotiation and mitigation. He takes a broad view of the Board and sees a large range of issues which are

open to Board scrutiny: the availability of alternatives to the proposed operation; the feasibility of the proposed design; adequacy of monitoring programs and closure plans, among others; including determining the need for the facility.

The issues he was concerned about at Sumpter Township were: groundwater contamination from the existing site; direction of groundwater flow in the aquifer; whether a sufficient number of soil borings had been taken; whether there was sufficient knowledge of hydrogeological conditions at the site; the extent of flooding at the site; how the landfill fit into the land use/zoning/master plan for the township; and the routes used by trucks carrying waste to the site. One additional, and major concern, was the effect of the existing Act 641 landfill on the proposed landfill. Jaworski came into the Board review knowing there was considerable animosity between the Township and the applicant and that the Supervisor was politically committed to opposition of the site.

Jaworski found he "had to work harder" on the Sumpter Township Board than on any other Board. He felt rushed to make a decision by the 120 day deadline. His decision was based as much on lack of time to adequately consider the application and draft permit, as for other concerns: flooding, hydrogeologic conditions and the DNR interpretation of Rule 415.

When asked if he would serve again, he said yes, adding that as a University professor, he enjoys and believes it is important to "rub elbows with the outside."

Don Anderson

Don Anderson, the second public member, brought a background in air pollution modeling and the skills of a chemical engineer to the Board. He has served on the faculty of the Chemical Engineering Department at Michigan State University since 1960; as Department Chair for the last six years.

His appointment to the Board came as a surprise. A colleague in the Department had been nominated, and did not wish to accept. Anderson's name was submitted in his colleague's stead, and he was appointed by Governor Milliken in July 1980. He is not sure why he was chosen.

In general, Anderson likes the Board process, thinking it a necessary concept. He is concerned, however, that pressure from local communities on the temporary members to adopt a position opposing the site is growing stronger. He believes that this will introduce an inflexibility into the Board process - if the temporary members are already opposed to the site in question, then it is the remaining five permanent members who are deciding the issue. This means, not only, that just one additional Board member needs to be convinced to oppose the site; five people are making a decision intended by the drafters of the legislation to be made by nine people.

At Sumpter Township, Anderson was most interested in technical issues, the applicant's ability to carry through with what they proposed to do, as well as transportation and site security. Another concern was the applicant's intent to take the whole spectrum of wastes, particularly reactive wastes, or others which are unsuitable for landfilling.

Anderson was not familiar with the site until the first meeting. Input from the community was important to him in his review, but he was frustrated by the "process of dispute-refute" that took place between the applicant and the Township's consultant. He felt it was "debate, not deliberation." He wanted to see more substantive concerns and issues raised, and suggestions for addressing those concerns.

When asked if he would serve again, Anderson said he probably would not citing the amount of time it required, and conflicts with other commitments.

An Attempt at Mediation

In early 1982, while the DNR technical review of the application was being conducted, an effort was made, by Lynn Corson, Community Development Specialist at Michigan State University and Howard Bellman, from the Center for Environmental Mediation in Madison, Wisconsin, to negotiate an agreement between the Township and the applicant. Corson and Bellman wanted to meet separately with the Township and Environmental Management Systems to describe the mediation process and to discover each party's respective concerns. From there, they hoped to reach a satisfactory mediation of those concerns.

They first met in March 1982 with Supervisor Reeves and Glen Brown of the Wayne County Health Department to discuss the concerns and problems that Reeves had with the proposed facility. At that time, Reeves listed several concerns: hours of operation, transportation routes and the vehicles used to transport waste, the lack of adequate police and fire protection in the event of a spill or emergency, and the operation of the existing site. Corson and Bellman asked Reeves to set

up a meeting with the Township Board to describe the mediation process and to begin to develop a Township position that would list the conditions and stipulations they wanted included in the permit. When drafted, and approved by the Township Board, the document would be presented to EMS, for their consideration. At the same time, EMS officials would develop a document which described what they were willing to offer the Township; this document would also be presented to the Township. From there, both sides would develop a compromise agreement. That compromise agreement would, in turn, be presented to the Site Approval Board, and serve as a basis for permit stipulations.

Corson and Bellman met with Reeves in April 1982 to discuss the terms the Township wanted to request from EMS. Reeves requested that: the company be given two years, as a trial period, to demonstrate their ability to manage the existing site properly; provision of emergency equipment and personnel; an agreement that water would be provided to citizens in the event drinking water was contaminated, and the source could be traced to the landfill; and the provision of compensation to the community for a Township monitoring program.

EMS agreed to provide the Township fire department with equipment, personnel and training in emergency procedures, to provide drinking water if it could be shown groundwater was contaminated, and to provide funding for independent monitoring on site. Tom Handyside told Corson that he had tried to meet with Reeves and other members of the Board to discuss the proposed facility and develop a means to address their concerns without success. EMS told Corson that they were willing to negotiate an agreement with the Township, but that the Township would have to come forward and initiate the process.

Corson and Bellman wanted to meet with Reeves and the Township Board in closed Executive Session to discuss the Township position. They were concerned that such a discussion, were it held in regular session, which was open to the public, would prove too controversial. They were unable to hold a closed meeting because the agenda - discussion of mediation - did not meet the criteria for closed meetings under the Open Meetings Act.

According to Corson, Reeves did not approach the Township Board to discuss mediation. He believes that Reeves perceived that both the Board and township residents would oppose any effort to negotiate an agreement; that the effort would be construed as de facto support of the landfill. The attempt at mediation ended with Reeves' failure to establish a meeting with the Board to begin formulating the Township position. No further discussions took place.

The Site Approval Board Meetings

Introductory Meeting-June 23, 1982

The Site Approval Board formally convened on June 23. The principle purpose of the first meeting was to introduce Board members to each other and to be briefed by DNR staff on the role of the Board, the scope and range of their review, and the procedures to be followed in the course of their review.

According to the minutes of the meeting, only three questions were asked of the Board by the public: concerns about on-site monitoring, a

request for a second Public Hearing, and a request that copies of manifests be sent to the Township. The meeting lasted an hour and a half.

Information Meeting-August 4, 1982

The objective of the information meeting was to provide the community with an explanation of the proposed project so they could offer specific comments on the application at the Public Hearing. The applicant described the proposed landfill, emphasizing the landfill's security, and DNR staff discussed the scope of their review of the application.

During the public comment session, Township Board members, the Township Engineer, and Supervisor Reeves spoke along with residents. Board members asked fairly detailed and technical questions. In a style which would prevail throughout the course of the SAB proceedings, Reeves spoke against the landfill and concluded his remarks with the statement: "I like our constitution - of the people, by the people and for the people. I do not like of the state, by the DNR, for the hazardous waste operators." This was followed by applause. Residents asked general questions about the proposed truck routes, potential for contamination, and noted the poor performance record of the company. A subjective appraisal of the fifty people in attendance is that the public was interested in knowing what was being proposed. Support for the Supervisor was obvious; occasional comments expressed lack of faith in the DNR and the company.

Public Hearing-August 24, 1982

The Public Hearing began with a brief explanation of the SAB process by William Marks, followed by an introduction of the Board to the public. Three Board members were absent: Eugene Jaworski, Marci Colling, and Walter Chobat. The applicant made a brief presentation which stressed the safety features of the landfill and the suitability of the site. Supervisor Reeves, the Township Attorney, Whittoff, the consultant, represented by Paul Velin, and Dan Welch, representing the Planning Commission, spoke.

Velin was critical of the hydrogeological conditions at the site, and asked the Board to consider the Act 64 proposal in concert with the existing landfill. He also drew the Board's attention to the internal DNR resolution of the landfill's apparent violation of Rule 415.

Welch stated that "the proposed hazardous waste landfill is in serious conflict with current planning proposals, and existing ordinance regulations" and recommended denial. He presented six permit stipulations:

- * That copies of all manifests be submitted to the Township.
- * That the Township have access to all other records and information kept by the facility.
- * That the Township have right of access to the site throughout the construction, operation, and post-closure phase.
- * That funding be provided for local monitoring of the site by a Township representative.
- * That funding be provided for use in hazardous waste emergencies.
- * That the facility limit its hours of operation to 7:00 a.m. - 4:30 p.m. , Monday-Friday.

General comments from the audience followed. Several residents stated that Reeves' statements mirrored their own and that "as long as he's sayin' that, he has my vote." In sum, the Public Hearing was characterized by experts refuting technical data and the conclusions drawn from that data, and audience remarks that expressed concern for the impact of the landfill on the community including odors, damage to personal property and increased truck traffic. The applicant was willing to make design changes, and provide training for Township fire and police in emergency procedures. The Township presented a list of permit stipulations that addressed their concerns and identified unique community characteristics that required Board consideration.

First Meeting for Deliberation-September 23, 1982

The Board met on September 23 to begin deliberation of the application. The Board's discussion began with four issues: the extent of Township administrative authority; landfill design and operation; transportation concerns; and water and air quality concerns. The applicant informed the Board that he would look at the list and respond by the next meeting. The attorney for EMS, Robert Ufer, stated that since the Township had rescinded their contract in July 1981, it no longer applied to either the Act 641 or hazardous waste landfill. The Township's attorney, Whittoff, countered saying the Township Board still considered the contract valid, and so retained the right to establish the final grade on the landfill. Two issues which were to figure in the Board's eventual decision were raised at this time: whether the landfill was in violation of Rule 415, and consideration of alternative transportation routes.

Rule 415 precludes the approval of a landfill if any portion of it is in contact with groundwater. One view held that since the proposed landfill was in contact with saturated clays, and those clays met the definition of "groundwater", the landfill violated Rule 415. The DNR staff person who initially identified the conflict, explained how she analyzed the data, and came to the conclusion that the landfill was not in violation of the rule. Velin challenged the DNR's conclusions. The applicant responded saying that similar groundwater conditions existed at other landfill sites in the County; since those landfills had received DNR approval, the proposed landfill could not be found in violation.

Public comments were limited to Reeves and Welch. The latter stated that the landfill was "in the wrong place" and that the Act should establish separation distances for landfills in populated areas.

Second Meeting for Deliberation-October 6, 1982

The Board next met on October 6 to discuss the permit. At this meeting, six issues were brought before the Board: the jurisdiction of the Wayne County Road Commission over township roads; alternate transportation routes; whether the landfill was in conflict with Rule 415; the Township consultant's report; private well contamination; and flooding.

The DNR informed the Board that a representative of the Wayne County Road Commission would be at the October 13 meeting. Discussion of Rule 415 was postponed until the October 13 meeting when the DNR Senior Geologist would discuss groundwater conditions at the site.

EMS's consultant's report was discussed: that report challenged the findings of the Township consultant's report.

EMS agreed to pay the hook-up charges for any resident wishing to connect with the municipal water supply systems but could not afford to do so, to pay a pro-rata share of any improvements to the Lords Drain, and to assist in emergency spill clean-up of spills off-site.

During the public comment session, Dan Welch said "I think the DNR should be put to work to find the data needed [for the Board to do it's review]." and "you [the Board] should be able to tell us there is no risk and impact and discuss [it] or say there is no risk and impact." He continued: "the DNR is supposed to review what City Sand has done to comply with the law. If you do not have that information, what will you base your decision on, or will you rely on City Sand data?"

In response, Jaworski said that the Board was asking for data and looking at the application in great detail, and that the Board was looking to the Supervisor and the Planning Commission for the information which would help them consider the impact of the landfill on the community.

Marks, responding to another audience question, said "We haven't received a clear concept of what you want to see if the landfill goes through. All we hear is that you don't want it." A heated dialogue ensued:

Bevins (Township Trustee): "You do not understand why we're opposed, we will present our case."

Representative Mahalak: "From what I see today, the retention pond will hold, it'll be tested."

Audience member: "There's no way for me to accept your statement that it'll work when they're closing 'em every day."

Chobat: "Jim (Reeves), I want you to tell [the Board] about the flooding in this township. We can't get proper ditches dug to hold flood water. I'm not exaggerating Mr. Marks. Jim, get the information and facts to show this Board..."

Audience member: "Let's get it on paper, Jim."

Handyside: "Am I to understand that you hold us responsible for the flooding?"

Chobat: "No."

The meeting adjourned shortly after without further discussion or action on any of the issues.

Third Meeting for Deliberation-October 13, 1982

The Board's sixth meeting, and their third opportunity to discuss the permit, involved considerable discussion but no final action on any of the issues under consideration. The principle issues discussed were Rule 415, alternative transportation routes and the past performance record of City Sand.

A representative of the County Road Commission explained the process by which roads were classed and weight limits assigned. Alternative routes were discussed. Three had been identified, and all had some kind of limitation. Two routes were under the jurisdiction of adjacent counties. The third would require widening and paving if chosen. EMS agreed to pay for those improvements. It was clear from audience comments that residents were concerned about waste hauling in the township. They expected that trucks hauling hazardous waste would create the same kind of problems they currently experienced with trucks hauling solid waste to the existing landfill.

The Senior Geologist for the DNR testified that the clays on site, while saturated, were not connected to the deep-bed aquifer. He believed the site was ideal from a hydrogeological standpoint. DNR staff also told the Board that Rule 415 was in the process of being amended to clarify the kind of groundwater the rule applied to and was designed to protect. They asked the Board to consider the rule in connection with the rule's intent - to protect "usable groundwater" not necessarily "saturated clays." Jaworski and Chobat disagreed with the Department's interpretation; they felt the rule should be read literally. Marks told the Board he would seek the advise of the Attorney General and report at the next meeting.

The Township's consultant, Velin, rebutted the report submitted by EMS's consultant, presented at the previous meeting. Velin also submitted the Township's proposed monitoring program. The cost of the program was estimated at \$90,830. The Planning Commission presented a list of stipulations they wanted included in the permit. That report listed four unique characteristics that made the landfill incompatible with existing land uses, cited the long range development plan for the Township which targetted the area around the landfill for small-lot development, and the Township ordinance which required a 1500' separation between two landfills, and 3500' between residents and a landfill. The stipulations were the same as those presented at the Public Hearing, but included four additional ones:

- * That the permit language be amended to include the Township as a third party in any action requiring the Director of the DNR's approval, or that required "consultation and review by the Township."

- * That the Township's consultant be granted authority for inspection of elements above and beyond those inspected by the County or DNR.

* That the Township be notified, by the applicant, of any proposed construction, that the applicant submit detailed construction plans to the Township, and that the applicant reimburse the Township for the costs of review and inspection of those plans."

* That an adequate means of funding be provided to the Township for independent monitoring of the Lords Drain.

The Wayne County Health Department gave a brief presentation which described the history of the site and reviewed their inspection and monitoring program. Throughout the meeting, there were outbursts of applause or anger from the audience. The bulk of the comments focused on questions of trust and credibility of both the applicant and the Health Department.

Fourth Meeting for Deliberation-October 19, 1982

The final meeting of the Site Approval Board was held on the 119th day of the 120 day review period. There were at least a hundred people in the audience; pickets marched outside. The agenda was large - discussion of Rule 415, flooding, alternate transportation routes, and development of permit stipulations, followed by Board vote.

DNR staff presented the Department's legal ruling on Rule 415. Issued by the Department's Environmental Enforcement Division. It supported the agency's interpretation. Marks advised the Board that they were not bound to that interpretation. Township Attorney Whittoff advised the Board to reject the application; he asked the Board to adopt a conservative policy, that it was a question of rule language, not rule interpretation or meaning.

The EMS attorney, Ufer, countered; he advised the Board to not forget the larger picture - the need for adequate sites. He then

proposed a lump-sum payment to the Township, offering to contribute \$3,000/month, or \$36,000/year to the Township General Fund. He told the Board the payment would be offered once: should the SAB deny the application, the proposal would be withdrawn.

The Board discussed the stipulations which had been added to the permit. They included those submitted by the Township, as well as those submitted by the Wayne County Health Department which requested funding from the applicant to cover costs of monitoring. Additional stipulations proposed included:

- * The applicant shall secure the services of a registered professional engineer to observe, verify construction, and perform any necessary tests during installation of the landfill leachate detection system, clay and artificial liner, leachate collection system and replacement monitoring wells.

- * The engineer shall be selected by the Sumpter Township Board of Trustees, from a list of qualified consultants mutually agreeable to both the applicant and the Township; should there be no agreement, the DNR shall designate additional candidates. Should the Board of Trustees fail to select a consultant within 60 days of the issuance of the permit, the applicant may select the consultant from the list.

- * It shall be a condition of the applicant's contract with the consulting engineer that the engineer be on-site during the construction and that weekly written reports be prepared which detail the progress of construction, evaluate the conformity of construction to the approved permit and any problems encountered during construction. Copies of any tests conducted during the week and a copy of the engineer's field notes shall be attached to the report.

- * The weekly report shall be provided to both the Supervisor and the applicant at the same time.

- * The "certification of construction" shall be submitted to the Township Supervisor when the applicant files for the operating license.

- * Construction of those elements of the landfill that occur after the operating license has been issued, shall be

inspected and verified in the same manner as for the construction permit including providing reports to the Township Supervisor.

* If the Township wins the contested lawsuit currently underway in Wayne County Circuit Court, the applicant shall abide by the contract, which sets the final grade of the landfill. If the applicant wins the lawsuit, the final grade will be as established in the construction permit application.

* The applicant must include a synthetic liner in addition to the compacted clay liner provided such a liner is required under Federal regulations promulgated under 40CFR Part 264 (RCRA).

* The applicant will provide special emergency training, on an annual basis, for the Township police and fire departments.

* The applicant will supply an alternate water supply to residents adjacent to the site, and will pay hook-up charges.

* If private wells are contaminated that are used by those persons not connected to the public water supply and if contamination is attributed to this site, an alternative water supply will be provided them. The applicant shall pay monthly charges.

During the public comment session, the remarks were similar to those made at earlier meetings, reflecting concern for the landfill's impact on the health and welfare of the community, their lack of faith in the company and the DNR, and questioning the need for the landfill. At one point, some residents stated they felt they were wasting their time; that the Board's mind was already made up in favor of the landfill. In response, Harness told the audience: "This is your meeting, it has been your meeting." He described the stipulations that had been added to the permit. The audience remarked: "See, it's already passed.", "Bologne!", and "Why are you talking about these things if you don't want it?"

The Board then deliberated the stipulations. They negotiated with EMS for additional hours, on Saturday. The Township monitoring plan was discussed. EMS agreed to increase the payment to \$5,000/month, from \$3,000/month, with a ceiling of \$60,000/year. He repeated that the offer would be withdrawn if the Board voted to deny the application. A representative of Monroe County Road Commission spoke, saying the commission could not approve a hauling route through Monroe County until they had had more time to consider the proposal. The Board was unable to reconcile the issue of alternate routes. The Board also considered the Township long-range plans and ordinance, but did not take any action to either over-rule or require EMS to comply with them. Similarly, while the Board discussed flood conditions in the area around the site, and heard differing testimony from the Township Engineer and the applicant, they were unable to arrive at a consensus on the matter.

The Board voted on the application at 12:45a.m. - nearly 9 hours after beginning the meeting. The vote:

Harness	Township	Deny
Chobat	Township	Deny
Humphries	Township	Deny
Colling	County	Deny
Jaworski	Public Member	Deny
Anderson	Public Member	Approve
Schmitt	State Police	Deny
Marks	Nat. Resources	Approve
Bloomer	Public Health	Approve

The Board gave several reasons for the denial: the need for the site had not been demonstrated; the high water table; concern over the site's ability to handle runoff; not enough time to fully consider all the issues; the need for more time to view the whole package (the application and the draft permit); the lack of community support; that other land could be used for the landfill; there was insufficient data

on uplift and sand pockets in the underlying clay; the need for safety factors in transportation; and the need for better information on drainage in the township.

Permit application denial

Under Act 64, the DNR is required to abide by the Site Approval Board's decision. Accordingly, the DNR, on October 28, 1982, notified Environmental Management Systems that their application for a construction permit application had been denied. The denial letter identified six reasons for their decision:

1. The facility, if constructed, would be in violation of Rule 415 (being R 299.6415) by being in contact with groundwater.
2. The relationship to, and effect of the proposed site on area flooding is not clear. The facility may not have adequate capacity to store runoff during area flood conditions which could result in discharge of contaminated water.
3. The Board did not have adequate time to thoroughly evaluate the proposal and develop measures to mitigate objections and concerns.
4. The applicant has a poor record of performance at the existing adjacent sanitary landfill.
5. An adequate study of the native base soils was not done, leaving doubts as to the continuity and structural properties of the in-place clay.
6. Sumpter Township is too densely populated to accommodate a hazardous waste landfill.

Three remedies, designed to address those shortcomings, were identified:

1. Accomplish a change to Rule 415 by requesting that the DNR modify the rule through the procedures established in the Administrative Procedures Act (being Michigan Act 306 of the public acts of 1969 being M.C.L.A. § 24.201 to 24.315)

or secure an opinion of the Attorney General or Court of jurisdiction that the DNR's interpretation of Rule 415 is correct.

2. Secure an engineering study of flood stages of the drainage area including the runoff characteristics and storage of the disposal facility site to determine that the proposed operation will not worsen flood conditions.

3. A more thorough study of the soils within the disposal area should be conducted. All existing monitor wells should be replaced and the piezometric surface and precise direction of lower aquifer groundwater flow determined.

The Board did not identify remedies to address the issues of inadequate time for Board consideration of the proposal, the applicant's poor performance record, or the Township's population density.

The Site Approval Board Decision

The vote by the Sumpter Township Site Approval Board to deny the construction permit application was the first denial handed down by a Site Approval Board. The reasons for the denial as cited by the Board were a mix of legal, technical, administrative and social issues.

When interviewed, Board members gave several reasons for their individual decisions. A synopsis of each of member's rationale follows:

Art Bloomer

Bloomer voted to grant the permit because he was satisfied the site was adequate. He felt the Act 641-related concerns identified by the township residents could be addressed through the Act 64 permit. His primary interest in reviewing the application was the public health impact of the proposed landfill; he was satisfied that those impacts had been addressed. He was not concerned about the different interpretations of Rule 415 and the consequences of interpreting the rule one way or the other. Bloomer said he was secure in his decision to grant the application.

Don Anderson

Anderson voted to grant the application because he felt the site was safe. He considered the geology of the site to be almost ideal; that a better or alternate site could not be found. While concerned about security at the site, for example whether sufficient signs were posted and fencing was adequate, he added stipulations to the permit to address these concerns. Anderson, too, thought the Board needed more time to thoroughly discuss the permit and the stipulations they had added. Unlike Bloomer, he was less secure in his decision to grant the application. When the Board voted, he thought the vote would probably go against the applicant; his decision to grant came at the last minute.

William Marks

Marks, representing the DNR, voted to grant the application because he believed that the site was adequate. He declined to elaborate on his reasons to grant; at the time of the interview, the decision was in litigation and he did not feel free to detail his decision further.

Eugene Jaworski

Jaworski voted to deny the application largely because he did not feel he had adequate time to review, discuss and thoroughly consider all the issues. Faced with uncertainty, he voted no on the application. He also identified Rule 415 as a reason for the denial, saying it had been handled poorly. He felt compelled to interpret the rule strictly.

William Harness

In a written response, Harness indicated that he voted to deny the application because there was not enough protection for the citizens. He also said that he "felt good" about his decision, in response to the

question of how secure he felt in his vote. Further detail was not provided in his response.

Virgil Humphries

Humphries voted to deny because he felt the proposed facility would not protect the health and safety of the people in the township. He was concerned about possible damage to the environment, the hazard to children posed by trucks carrying waste to the proposed site and the adequacy of the monitoring program. Humphries felt secure in his decision to deny the application; he felt that "that was the only way to go" and "that the facility had no right to be in the township."

Walter Chobat

Chobat voted to deny the application on several grounds: the landfill violated Rule 415; flooding conditions of the site; transportation routes; questions about the adequacy of the retention basins; and concern that vehicles carrying waste to the site would not be covered. Chobat acknowledged that he was opposed to the site from the beginning. His individual review process was a search for evidence to support his decision, not a process of determining whether that evidence supported a denial or an approval of the application. He said that his vote to deny was a secure one.

Marci Colling

Colling voted to deny the application on technical and legal grounds and, in part, from uncertainty. She felt she needed more time to review and consider the whole package - the application, the draft permit, and the stipulations - before the Board voted, but was unable to do so. Colling was concerned that the applicant was placing too much emphasis on finding "engineering solutions" to problems with the site

characteristics, particularly groundwater conditions. She felt there was "too much room for error" in the application, especially in terms of groundwater conditions and potential groundwater contamination. Colling also weighed the legality of the DNR interpretation of Rule 415. She felt that the DNR, by interpreting, on its own, the rule's meaning, set a dangerous precedent. She felt secure in her decision to deny the application.

Eugene Schmitt

Schmitt voted to deny the application because he was not confident that the public was adequately protected by the proposed permit and stipulations. The major factors in his decision to deny were the conflict with Rule 415 and doubts about the ability of the retention ponds to hold water under flood conditions. He was also confident in his decision.

Discussion

The Board's decision to deny the application was characterised by: debate between consultants over the exact nature, accuracy and validity of technical data, and the respective conclusions drawn from that data; the failure of the Board to resolve social impact concerns; and differences in the interpretation of the Act 64 rule. The decision was made in the context of the community's opposition to the landfill. Rule 415 was the strongest point relied on by Board members for a denial. While the Board vote was a fairly strong one, in terms of numbers, the basis for that decision was not as substantial as might be expected. The denial raises interesting questions about the relationship between local and permanent Board members, the substance of arguments and the

rationale used to support a given member's decision, and the role of consultants in the review and deliberation process.

The Board's vote to deny the application illustrated the potential of the SAB process to reverse the finding, by the DNR, that the application was acceptable. The three strongest grounds cited by the Board as reasons for the denial were Rule 415, the question over the ability of the surface water retention basins to contain water even under flooding conditions, and questions raised over the hydrogeological conditions at the site. However, the denial was as much a result of uncertainty and the inability to resolve critical issues as it was the result of the reasons cited by the Board.

Rule 415

The Board chose, by a majority, but not unanimously, to interpret Rule 415 strictly. Chobat, Colling, Schmitt, Humphries, Jaworski and Anderson all expressed concern about violating the letter of the law. They did not believe the rule should be independently interpreted by the DNR however valid that interpretation might be. The Township's consultant played a critical role in bringing this issue to the forefront. It was not until the Public Hearing that the apparent violation and the DNR's internal resolution of the matter was taken up by the Board and discussed. In all likelihood, had the consultant not presented the issue, it would not have been discussed. The Rule 415 issue was more than a difference in interpretation, however. The fact that the landfill could be seen as violating the rule, gave the Board a solid basis for denial.

Flooding

The second factor cited by the Board - that of the site's effect on flooding and the adequacy of the retention basins as designed - was a technical issue, again raised by the Township. According to DNR staff who were involved in coordinating the technical review of the application, the extent of township flooding was not known at the time the retention basin design was reviewed. The basins were designed to hold a 24-hour/100-year storm, and capacity was calculated as though the site was in a flood plain, in accordance with the Act 64 rules. Although the question of the site's effect on flooding, and flooding's effects on the retention basin remains unresolved, the Board's reliance on this conflict as one basis for denial suggests that technical information, that reflects unique community concerns, not taken into consideration during the earlier review phase, and presented by the local community , can change the outcome of the review process.

Hydrogeologic conditions

Substantial debate took place over the exact nature of the hydrogeological conditions at the site. This conflict reflects, not so much the presentation of new technical information by the community, as it does a conflict of interpretation and opinion. Each consultant, the applicant, and the DNR technical review staff, relied on the same set of data, but each came up with different interpretations of what the data meant. Whichever interpretation was correct cannot be determined by the researcher. The different opinions held by the respective sides raised sufficient uncertainty in the minds of at least two Board members - Colling and Jaworski - that the outcome of the review process was

changed. This uncertainty illustrates the effect experts can have of confounding rather than clarifying the issues involved in a technical debate.

Social impacts and concerns

The Board considered, but did not resolve all the social impacts and concerns presented by the Township. The Planning Committee presented the Board with their long range land use plan and the Township ordinance which governed landfills at the Public Hearing and again at the October 13 meeting. Their information suggested a conflict between existing and future land use and the proposed facility. The Board, however, did not pursue this issue, nor did they rely on it as a basis for denial, or attempt to address the apparent conflict through stipulations.

A second social impact which was considered but left unresolved by the Board was that of alternative transportation routes. The audience commented often on the risks and hazards they believed were posed by trucks hauling waste to the site. A number of community concerns were embodied in the transportation route issue - County/Township conflicts, the mixing of Act 64 issues with problems associated with the existing site, shared jurisdiction over alternate routes, and limits on the Board's ability to regulate waste hauling. The transportation issue was discussed by the Board at several meetings, but was, for the large part, unresolved. The applicant did agree to ask haulers not to use Sumpter Road, but beyond that, there was no resolution. Adjacent counties were apparently not aware that alternate routes had been identified that were

under their jurisdiction until late in the Board review process, hence complete resolution of the issue was precluded by the 120 day time limit.

A third social impact, that of operating hours at the site, was satisfactorily resolved. Initially, the Township requested that operation be limited to eight hours per day, five days a week. The Board negotiated a compromise which changed the facility's operating hours, and allowed them to be open on Saturdays for six hours.

The issue of compensation was left unresolved. The Board cannot require that compensation be paid by the applicant to the community. Environmental Management Systems initially offered the community a lump sum payment of \$3,000/month. This was increased to \$5,000/month during Board discussion. The payment was discussed in relationship to the Township's proposed monitoring program. That program was estimated to cost \$90,000 per year. Harness, a Township representative, wanted the compensation increased to meet the costs of that program. In response, EMS stated that they did not want to pay for dual monitoring; they were already prepared to cover the costs of the Wayne County Health Department program. EMS did not wish to designate the funds in any way, rather, they left use of the money to Township discretion. The Board was unable to come to terms of agreement on designating use of the compensation, although some Board members thought it could best be used for a monitoring program initially, and thereafter for reimbursement of decreased property values, or other remuneration to Township residents.

Other issues cited by the Board

The other reasons cited by the Board as their basis for denial were: insufficient time; the applicant's poor performance record; and

that the population density of the Township was too high to accommodate a landfill. The lack of time was identified by several Board members as a critical factor in their decision to deny. Six of the nine members said that they had insufficient time to fully consider the application, the permit and permit stipulations. Two who thought the Board met often enough noted that the quality of the meetings needed to be improved - that the meetings themselves were not productive.

The poor performance record of the applicant was of concern only to the three Township representatives, as was population density. While frequently identified by the audience, the Board never undertook an extensive review of the population density issue. The Board had little authority to address these issues.

The Township's Role

The Township was uniformly opposed to the proposed landfill. The history of animosity between the community and the applicant clearly influenced the appointment of Township representatives and the strategy chosen by Township officials. It appeared that the community was not aware of the kinds of information the Board was seeking until well into the review process. The information that was presented did not form a strong base for denial. The ordinance was based on subjective criteria and was designed for incorporation into the Wayne County Solid Waste Management Plan; it was not written to address hazardous waste landfills directly. The stipulations that called for the Township to be involved as a third party in any agreements between the applicant and the DNR reflected the extent of Township distrust, and their desire to exert control over landfill operations.

The local Board members did not actively pursue consideration of the ordinance, or land use plan by the Board. On key issues, such as alternate transportation routes, or designating the compensation offered towards specific community needs, the temporary members were silent. At one point, Harness stated that he did not want to designate a specific transportation route as that would be "endorsing what they are doing."

The local representatives appeared to see themselves as less a part of the Board, and somewhat separate from the permanent members and Colling, the County representative, and more closely identified with the Township residents. Harness, for example, said that "the permanent members seem to be in a great rush to get the application approved." The permanent members were at least somewhat familiar with each other, having sat on two previous Boards together. They were also familiar with the Act and the review process. In contrast, Act 64 and the Board review process was new to the temporary members. This close affiliation of the local representatives with the local community further impeded their ability to work for a compromise, negotiate an agreement, or develop strong permit stipulations.

The Applicant's Role

The applicant focused on convincing the Board that they were credible and had met the requirements of the Act. Throughout the permit review process, EMS was willing to change the application in response to both DNR requests and Board demands. EMS agreed to alter the landfill design, such as increasing the thickness of the clay wall between the two landfills. These changes, however, were tempered with the requirement that they not be asked to change the application in a way which went beyond requirements asked of other facilities or beyond the

standards established in the Act or in Federal regulations. All the Board members indicated that the applicant was willing to provide information and to cooperate with the Board. The company appeared determined to do what ever was necessary to secure approval of the application, and to provide the Township with services and funding to off-set at least some of the adverse impacts of the landfill.

The offer to pay hook up charges to residents desiring to connect with the municipal water system, to provide training in emergency procedures to Township Fire and Police, to contain spills occurring in proximity to the site until the responsible generator or hauler agreed to further clean-up or took on responsibility for the spill themselves, and to provide water in event a domestic water supply showed contamination which could be attributed to the landfill, reflected a willingness to develop a permit which would meet some of the local concerns.

The offer of compensation, voluntary, and on one level an effort to mitigate community concerns, came with the patina of blackmail. The company made it clear that they would only offer it once, and withdraw it should the application be denied. They were also unwilling to negotiate with the Township or Board to delineate specific uses for the payment.

The animosity between the two parties affected the applicant as much as the Township. There was no willingness to work with the Township directly. Although he stated, at the final Board meeting, that he had offered to negotiate with Reeves, the exact nature of attempts to negotiate are colored by each side's opinion of who initiated, and who broke off. Reeves told me, in an interview, that during a meeting with

Handyside, Ufer, and the Township Attorney, Whittoff, the meeting ended without resolution of differences, with Ufer stating -"We'll get this landfill no matter what you (the Township) do". In an interview with Lynn Corson who initiated the unsuccessful attempt to negotiate, he told me that he and Howard Bellman had first contacted Reeves.

NOTES

1. Harness refused the phone interview after four attempts to reach him were made. When contacted on December 29, 1982, he requested that the questions be sent by mail for written response. The questions, a cover letter and stamped envelope, addressed to the author, were sent on January 3, 1983. The answers were received on January 11, 1983.

2. Sumpter Township Housing Survey, (Impact 1976).

3. Ibid.

4. Sumpter Township Future Land Use Plan: 1975-1995, (Impact 1976), Table 1 "Existing Land Use Inventory" page 13.

5. Ibid.

6. Ibid.

7. Ibid. page 28.

8. Sumpter Township Housing Survey (Impact 1976).

9. Ibid.

10. United States Census Bureau, Characteristics of Population: 1980

11. The contract between City Sand and the Township was drafted in 1976 and was intended to be in effect for twenty years. It calls for the payment of an annual licensing fee of \$15,000 paid by the landfill to the Township General Fund. In return, City Sand retains the right to mine sand and carry out sanitary landfill operations as long as those activities comply with the applicable Township, County and State regulations. The contract grants the Township Board authority to set the height of the landfill. Hours of operation are established: 6 a.m. to 6 p.m., Monday - Saturday. City Sand provides the Township with free disposal of residential solid waste.

12. The National Pollutant Discharge Elimination System (NPDES), provides for issuance of permits for discharges to the waters of the State. Permits are issued, in Michigan, by the Water Resources Commission, established under Act 245 of the Public Acts of 1929 (being M.C.L.A. § 323.1-323.13). The NPDES permit establishes a set limit on the kind and quantity of materials in the waste stream which can be legally discharged.

CHAPTER 4

THE SITE APPROVAL BOARD'S PERFORMANCE

The purpose of this study was to review the actions of the Site Approval Board at Sumpter Township. The Board ruled in October 1982, following four months of review, to deny the construction permit application submitted by Environmental Management Systems (EMS). EMS had proposed to construct a hazardous waste landfill on 80 acres of land directly adjacent to an existing solid waste landfill managed by City Sand and Landfill, the parent company of EMS.

Two performance criteria were used to analyse the Board review process at Sumpter Township. The first compares the conceptual model, which describes how the Board is expected to review and decide a given construction permit application, with the review and outcome of the Board formed to review an application for a facility in a "real world" community. The second performance measure focuses on the degree to which the Board review process was able to resolve the conflict between the local community, Sumpter Township, and the facility, EMS.

As Measured Against the Model

The Site Approval Board review process can be described as a conceptual model. Ideally, the Board is moderator and reviewing body. The Board is charged with "[deliberation of] the impact of the proposed facility on the municipality. . . and [facilitation of] efforts to provide that concerns and objectives are mitigated. . . ." (1). The Board's scope of review is broad; individual Boards determine the parameters of their review according to the proposed facility and the

unique characteristics of the local community. When the outcome of that review and consideration is an approval, a balancing of interests between the local community and the applicant is presumed, reflected in stipulations added to the original draft permit. The approval also suggests that the impacts of the facility on the community are either mitigated, or considered outweighed by the State's interest in establishing hazardous waste disposal facilities. A denial suggests that a balance between the local community and the applicant could not be achieved: that the impacts could not be mitigated satisfactorily or that the impacts on the community outweighed the benefits which accrue to the State.

At Sumpter Township, the Site Approval Board performed, in part, and failed to perform, in part, as the model predicted. The Board process, when applied to a community so steeped in conflict and animosity, failed because the Board was unable to fully deliberate the impacts of the facility, evaluate measures to mitigate those impacts, and integrate local ordinances or requirements into the draft permit. Even though the local community provided information that reflected concerns and conditions unique to the area, and presented stipulations for inclusion in the permit and the applicant agreed to provide services to the community, and to amend the application to address technical concerns which were raised during the course of the Board's review, other issues remained unresolved. The stipulations that were drafted addressed concerns over which little controversy was generated. The questions of flooding, Rule 415, hydrogeological conditions and transportation routes

were the focus of Board debate throughout the review. The Board did not draft stipulations that addressed these concerns.

The Board's failure can be attributed to several factors. Continual debate between consultants over the hydrogeological conditions at the site prevented the Board from making a final decision. Delays in receiving information and comments from both consultants and adjacent communities contributed to the indecision; the delay and debate served to raise more questions than final answers.

The meetings held for deliberation of the permit are crucial for they are where issues and concerns are debated and stipulations developed. They provide the opportunity for mitigation and negotiation between the community, the applicant and the Board. Yet at Sumpter, at least the first two meetings were characterized by postponement of such discussions. Key experts could not attend or had not been asked. Testimony from adjacent communities wasn't solicited until the final meeting, and when that community spoke, they requested additional time to consider the impact of the proposal on them. Throughout the review period, the public expressed consistent opposition to the landfill.

According to the conceptual model, a decision to deny a permit application represents a finding that the application was unacceptable, or so in conflict with the local community that it could not be approved. At Sumpter, however, the Board's denial stemmed, principally, from uncertainty while Rule 415 provided a firm legal ground for denial. The Board did not state that they found the landfill to be in conflict with the Township land use or its ordinance. They did not find that the local community interests were of greater importance than the State's interest. The Board did not require the applicant to prove that the

landfill would not have an adverse impact on the Township flooding, population or land use, only to clarify whether the landfill would have adverse impacts in those areas. The Board vote was an indication of indecision and uncertainty: expressing a need for additional time and review.

The process also failed because the Board was unable to serve as a mediator between the community and applicant. Since they were unable to clarify the facility's impacts, they were unable to determine ways of mitigating those impacts. The Board can even be seen as a victim of the intense conflict between the two parties. They became bogged down in debate and never were able to get beyond that debate to resolution.

As Measured According to Resolution of Conflict

Clearly there was conflict present at Sumpter Township. The Township argued for denial on the basis of protecting the resident's health and safety. The applicant defended the proposal as adequately designed. These opposing arguments are representative of the siting dilemma discussed in Chapter 2. The language of the respective parties differed, the Township did not trust the applicant's ability to properly construct and operate the facility, nor did they have faith in the DNR's ability to properly monitor the facility. The bulk of their arguments targetted deficiencies in the application. The Township did not identify any benefits that would accrue to the community from the landfill. Indeed they viewed the proposal as further diminishing the value of property in the area, adding to the community's identity as the "dumping ground for Wayne County" and adding to the risk and nuisance posed by the existing landfill. They placed their right to control land use in the community above the right of the company to continue in the

waste disposal business. In this way, the Township behaved in much the same way as other communities cited in the literature (EPA 1979).

The conflict also reflected the "clash of values and expectations" at the core of the siting process (Sanderson, Bacow and O'Hare 1982). The applicant expected to have their right to develop the facility upheld. Environmental Management Systems saw the facility as a benefit to the State since it would provide for safe disposal of industrial wastes. While they acknowledged that there had been previous problems at the existing site, they divorced themselves from that past record, and asked to be viewed as competent and trustworthy.

The applicant wanted the facility approved. The use of existing property presented a least-cost alternative to finding, purchasing and developing another site. The delay in offering compensation suggests it was offered not out of good faith as much as an attempt to secure Board approval. The offer of compensation seemed to be a trump card for the facility sponsor - a way of telling the Board that approval of the application at this time represented the best "deal" they were likely to get.

In theory, the Site Approval Board is designed to resolve or at least reduce conflict by giving the local community opportunity for input and some authority for partial regulation of a given site. The Board, at Sumpter Township, was not able to resolve this conflict of values and interests: the Township's opposition to the landfill was too firmly rooted, and irreconcilable.

The Township lacked incentives that would allow them to identify a compromise position. Political pressure on local officials was too intense to allow for negotiation or similar agreement. The Board's

failure to develop a workable agreement between the two parties and so resolve the conflict stemmed from the inability of Township officials to accept compromise as a viable alternative, or to present such a case without risking their political future.

NOTES

1. Act 64 Sec. 20 (6) and (8). The language is excerpted from those sections.

CHAPTER 5

SUMMARY AND RECOMMENDATIONS

The Site Approval Board was created within Act 64 to provide a mechanism for locating and constructing new hazardous waste management facilities to meet the State's disposal needs. The Board began with the promise of establishing new commercial facilities, managed by private firms. That expectation remains unfulfilled as only two of the four facilities considered have been approved and those two were for on-site facilities. The applications for the two commercial facilities were denied. The Site Approval Board decision at Sumpter Township illustrates the tensions and conflicts between local communities and facility sponsors involved in siting hazardous waste management facilities. Communities resist new disposal facilities for reasons that may not yet be addressed adequately by the established siting process.

The Sumpter Township denial constitutes a failure in the process. One Site Approval Board decision is not necessarily representative of all Boards, however, an analysis of the dynamics of the Sumpter Township Board decision reveals how the review process works in practice and it raises important questions about whether the present structure can achieve the desired objectives.

To the local, Sumpter Township community, the vote of the Board to deny the construction permit application represented a successful outcome, but to the applicant, Environmental Management Systems, it was a failure. The political and economic character of Sumpter Township lead them in one direction - opposition. Throughout the review process

they were in a reactive, not proactive stance. Had the landfill been approved, the conflict would not have abated, only shifted focus. The Board's experience at Sumpter suggests that in other communities, where intense public opposition is present, and where both sides are so intractable, the Board process will not work.

What, then, is the future of the Site Approval Board process? The Sumpter Township Board decision raises questions which extend beyond that community and the unique characteristics that lead to the denial. For example, is there a limit to the number of disposal facilities that a community can be asked to host? To what extent should a community be asked to accept the externalities of a larger region? The majority of the waste disposal facilities for southeastern Michigan are located in Sumpter and adjoining townships. Land is cheap, the population density is low, and up until now, the residents have been generally compliant or unable to mobilize political opposition. If these communities are identified as potential sites for future landfills, and are expected to bear the social costs of the State's or region's waste, what mechanisms can be developed to assure that they will be compensated for the economic disbenefits associated with disposal facilities. Or should equity prevail and regions be held responsible for their own wastes.

The siting process is fraught with conflict. Ideally, the Site Approval Board is a process for resolution of conflict and mitigation of adverse impacts. The local community, facing high social costs, and possibly political costs, has no incentive to approach that middle ground. The applicant, with considerable time, effort and money

invested in the application, is eager to receive the Board's approval. These opposing interests form the core of the siting controversy. The key question is: how can the Board bring them together?

Negotiation is one tool available for achieving compromise between these opposing sides. At Sumpter, the applicant focused on convincing the Board to approve the application. The Township focused on convincing the Board not to approve the application. For the Board process to work, both sides need to talk to each other, and then approach the Board with their terms of agreement. If this does not happen, then the Board should force them to do so. However, while it is implied in Act 64 that the Board can serve as a mediator and negotiator, it has not acted in that capacity to date.

Rules for Act 64 establish only technical criteria for facilities. The Board does review social impacts and other considerations which go beyond the rules. Considerable debate has taken place over whether the Board can and should require compensation. Compensation has been identified as a means of balancing the social costs which communities bear, but there are few guidelines for calculating and implementing compensation, or identifying financial incentives for facilities.

Hazardous waste disposal has been left to the private sector, and they have chosen to use economic, technical and market location criteria for identifying sites. Some mechanism for consideration of social impacts and unique community concerns needs to be included in those location criteria if equity is to be achieved in the location of facilities.

The National Environmental Policy Act of 1970 (NEPA, being PL 91-190, 42USCA 4321 et seq.) established a principle of environmental

decision making that, among other things, required a showing that the best alternative had been chosen. As a result, environmental impact assessments required under NEPA and complimentary state statutes, are prepared whenever major actions are undertaken that affect the environment. Hazardous waste disposal is a major action, yet Act 64 does not require the showing that alternative methods of disposal or sites were considered by the applicant. New York State's law, 6NYCRR Part 361, on which Act 64 was based, does require an EIS even when the facility is proposed by a private firm. Further, New York's law establishes siting criteria which include social and environmental impacts, a needs assessment and a process for weighing those criteria. Act 64 would be strengthened if the siting requirements were expanded to include establishing the need for the facility and showing that the optimal alternative had been identified by the applicant.

Recommendations

In order to address the questions raised by the Sumpter Site Approval Board review, the following recommendations are offered:

1. Amend Act 64, to require applicants to consider alternate sites, demonstrate that the best site was chosen, and show the criteria and rationale used in that determination.
2. Amend Act 64, to require the applicant to demonstrate that the disposal method chosen is the optimal method available for the wastes proposed to be disposed at the facility, and the criteria and rationale used in that determination.
3. Amend Act 64, Section 18(2), to require the applicant to show that there is a need for the facility, and the criteria and rationale used in determining that need.
4. Amend Act 64 to require the applicant and the municipality in which the facility is proposed, to provide a list of items and terms for compensation and negotiation of

differences to the Site Approval Board at the Public Hearing. The Board shall be required to review those terms, and develop a compromise agreement, with the approval of both the municipality and the applicant, before approving the construction application.

5. Amend Act 64, Section 17, to include minimum standards for temporary Site Approval Board members to include: experience, interest or other background in environmental issues, decision making, or membership on an advisory board or similar public forum. The DNR should encourage municipality and county officials who are charged with appointing temporary members to select candidates who, as much as possible, are neutral and able to seek terms of compromise. Elected officials should not be appointed to these positions.

6. Amend the Hazardous Waste Management Plan to require, and provide mechanisms for, the equitable geographic distribution of disposal facilities throughout the state as originally provided for in the Act.

7. Amend the Hazardous Waste Management Plan to require an inventory of the hazardous wastes generated in the State to include the volume, type, source and interim, as well as final, disposal location.

APPENDICES

APPENDIX A

MICHIGAN STATE UNIVERSITY

DEPARTMENT OF RESOURCE DEVELOPMENT
NATURAL RESOURCES BUILDING

EAST LANSING • MICHIGAN • 48824

November 22, 1982

Dear Ms/Mr _____:

I am a graduate student at Michigan State University with a special interest in the Site Approval Board. I am deeply concerned about public opposition to hazardous waste disposal facilities and am interested in the Site Approval Board's ability to deal with this issue. I am currently writing a case study of the recent Board review of the construction permit for a hazardous waste landfill in Sumpter Township. You may recall that I introduced myself to you at one of the Board meetings.

As part of my research, I will be telephoning each member of the Sumpter Township Site Approval Board for a short interview. I am interested in knowing what you think about the Board and what your opinions and perceptions are of how the Board functioned.

I will phone you within the next week to discuss the list of questions enclosed with this letter. If you have some time before then, you might read through them and think about your responses.

Your answers are important. They will help me understand all the viewpoints represented on the Board and thus I will have a more complete understanding of how the Sumpter Township Site Approval Board worked.

I look forward to talking with you!

Cordially,

Barbara Grabowski
Department of Resource Development

SURVEY QUESTIONS FOR THE
SUMPTER TOWNSHIP SITE APPROVAL BOARD

1. Tell me something about yourself and your background. For example, have you dealt with environmental problems or waste disposal issues in the past? Have you any experience in serving on a task force, committee or similar public forum where you've had to develop long range plans or make decisions about controversial subjects? What special skills or knowledge or expertise do you bring to the Board?
2. Why were you selected as a member of the Site Approval Board? Who appointed you? Did you volunteer to serve on the Board?
3. I am interested in knowing how you view the Site Approval Board. In your opinion, what part does the Board play in siting hazardous waste disposal facilities? What issues do you think the Board is responsible for considering?
4. As an individual member, how do you view your position on the Board? What issues are you responsible for considering?
5. Thinking back to when you were first appointed to the Board, what was your reaction to being a Board member: did you have a particular viewpoint in mind about the landfill when you started? Did you have particular questions or concerns in mind? What were they?
6. Again, thinking back to when you first started, did you have a clear idea of what the Board was supposed to do? What the Board's responsibilities and limitations were? The range of authority available to the Board? How the Board is related to the other parts of the Hazardous Waste Management Act? The DNR's role in the process?
7. A great deal of information was presented to the Board - the application, different drafts of the permit, reports from the Township's consultant, reports from the company and statements made by the public. How did you handle all of this information? What kinds of information was the most useful? Did the information come too late to be of use? Was it timely?
8. Once the Board began its deliberations, who emerged as a leader? Who took charge to see that issues were considered, that decisions got made and that conflicts were resolved?
9. The Board met seven times, four of those meetings were used for Board discussion. You were asked to consider all the information presented, hear public concerns and review everything according to the law. In order for you to consider everything you were required to, do you think the Board met too often? Often enough? Or not often enough?
10. In order to hear public comment, the Board held an information meeting, a public hearing and allowed time at all the other Board meetings for public comment. Several times, some members of the audience

became quite vocal. What effect did this have on you and your ability to do your job? Did it help or hinder you? Were you ever intimidated by audience remarks?

11. What was your impression of the Township official's presentation? The Supervisor, the Engineer and Planning Commission each made statements to the Board. Were they helpful to you? In what way? In what way weren't they helpful? Did they provide you with the kind of information you needed so you could make your decision? What about comments from the general audience. Were they helpful? Did they provide the kind of information you needed? What kind of information would have been helpful to you?

12. What was your impression of the company's presentation? Did Environmental Management Systems strike you as being cooperative, indifferent or aggressive? Were they accommodating to the Board's requests for information or were they defensive? Did they inspire trust or were you suspicious of their credibility?

13. It was clear from the proceedings that there was a great deal of animosity between the Township and the applicant. What effect did this have on your deliberation? Was it ever suggested that the Board attempt to mediate or negotiate between the two? Who suggested it? Why didn't it go through?

14. What kinds of contact did you have with people in the community outside of official meetings?

15. What kinds of contact did you have with other members of the Board outside of official meetings? Were you concerned about violating the Open Meetings Act if you did meet unofficially? How familiar do you feel you became with the other Board members? How well did you get to know them?

16. Of the issues which were brought up and considered by the Board, which ones concerned you the most?

17. What issues did you think were important but were not considered by the Board?

18. When reviewing the application, did you look at one issue in particular or did you consider a number of different issues?

19. When it came time to write the permit, what kinds of stipulations did you suggest? Why?

20. What were the major factors in your decision to grant or deny the application? Were they the same issues or were they different from the issues you were originally concerned about?

21. How did you arrive at your decision? Why did you vote as you did?

22. How secure were you in your decision to grant or deny the application?

23. If you could start all over again, would you do anything differently? In hindsight, is there anything about the Board's review process that you would change?

24. Do you have any suggestions for future Site Approval Boards?

25. Would you serve on another Board, once your term expires or if you were asked?

APPENDIX B

APPENDIX B

SURVEY RESULTS

The survey of Site Approval Board members was conducted between December 1 and December 22, 1982. This Appendix describes the results of a portion of that survey: how the Board rated, in terms of degree of concern, twenty issues which had been raised during the course of their review, and what kinds of information Board members found useful in their review. Individual responses to other questions from the survey were integrated into the text.

Question 16 of the survey asked Board members to indicate whether they had minor concerns, were somewhat concerned, or were very concerned, about twenty issues which were raised during the course of the Board's review. The issues selected for the survey were drawn from Board proceedings. When interviewed, the interviewer read the list of concerns to the respondents, and tabulated the results, shown as Table 1.

Taken as a whole, the Board was either somewhat concerned or very concerned about the twenty issues identified in the survey, although some issues were noted as not being applicable to the controversy at hand. The small sample set, eight, and the distribution of individual responses, makes numerical analysis difficult. Instead, a general observation of the Board's opinions shows that for the six issues which eventually resulted in the Board's denial of the application, the Board was split between being somewhat concerned and very concerned on half

those issues. More members were very concerned than somewhat concerned about the remaining issues: retention basins, truck routes and rule 415.

When examined from the perspective of how the temporary members voted compared with the permanent members, the responses reveal an apparent difference in how the two groups - permanent members and temporary members - viewed the issues. The temporary members chose the category of very concerned more often than somewhat concerned. The permanent members, in contrast, chose the category of somewhat concerned more often than very concerned, when rating an issue. These results are shown as Table 2.

The temporary members differed from the permanent members in their degree of concern for eight issues: the effect of the Act 641 site on the proposed Act 64 site, the company's performance record, the degree of township control over the site, the adequacy of monitoring on site, compensation to the community, questions of groundwater flow and the adequacy of data presented to the Board. The temporary members were very concerned about these issues. The permanent members were somewhat concerned.

The permanent members were very concerned about one issue - truck safety - while the temporary members were somewhat concerned about it. The issue of the landfill's proximity to township residents was considered inapplicable by two permanent members, and two other permanent members were somewhat concerned about this issue. In contrast, all three temporary members which responded to this question were very concerned. These differences between permanent and temporary

members suggest that temporary members view the application and select issues and concerns differently than do permanent members.

Also as part of the survey, respondents were asked what kinds of information they found most useful in their review, and what they found least useful. The inquiry was posed as an open question, thus answers varied considerably. The responses, however, provide a sense of the types of information that this Board found of most use.

The kinds of information that respondents identified as most useful were: technical information, geologic studies, community concerns, staff information, citizen statements, reports, and the permit application. The kinds of information the respondents found least useful were: qualitative or subjective information, emotional statements, contradictory or biased interpretations of data, and, again, the permit application.

The Board's use of the information and the way that the volume of information presented was handled also varied. Responses to the question of "how did you handle all of the information which was presented" varied from "Read all of it" (1 permanent, 1 temporary member) to "read some of it" (the majority). Two temporary members indicated they hadn't read the permit application at all because they either felt there was too much technical information, or they felt that it was biased. Two permanent members replied that they relied on verbal reports of written material. One of the county appointees noted that the volume of data presented was overwhelming.

TABLE B.1

RATING OF CRITICAL ISSUES BY SITE APPROVAL BOARD MEMBERS

<u>Issue</u>	<u>Not Concerned</u>	<u>Somewhat Concerned</u>	<u>Very concerned</u>
Effect of the Act 641 site on the Act 64 site	P P	P P P T	T T
Performance record of the company	P P	P P T	P T T
Retention pond capacity	P T	P P	P P T T
Surface water quality	P	P T	P P P T T
Dust, odor, noise	P	P P P P T T	T
Ground water contamination	P	P P	P P T T T
Truck safety	P	P T T	P P P T
Truck routes		P P T	P P P T T
Degree of township control over site	P P	P P P T	T T
Adequacy of monitoring	(n.a.) P	P P P	P T T T
Compensation	(n.a.) P	P P P	P T T T
Rule 415 inter- pretation (one permanent member agreed that the rule was wrong, but was not concerned about the conflict over interpretation)		P	P P T T T

TABLE B.1 (CON'T)

<u>Issue</u>	<u>Not Concerned</u>	<u>Somewhat Concerned</u>	<u>Very Concerned</u>
Hours of operation	(n.a.) (n.a.)	P P P T T	T
Liner - whether required	(n.a.)	P P T T	P P T
Site security		P P P T T	P P T
Adequacy of emergency procedures	P	P P T T	P P T
Population density	(n.a.) (n.a.)	P P	T T T
Public health problems in the Township	(n.a.) P	P P	P T T T
Ground water flow direction	P	P P P T	P T T T
Adequacy of well log data		P P P P	P T T T

n.a.= not applicable P = permanent member T = temporary member

TABLE B.2

RATINGS OF TEMPORARY AND PERMANENT SITE APPROVAL BOARD MEMBERS: COMPARED

<u>Issue</u>	<u>Temporary Members</u>	<u>Permanent Members</u>
Effect of the existing site on the Act 64 site	very concerned (2/3)	somewhat concerned (3/5)
Performance record of the company	very concerned (2/3)	minor/some concern (2/5) (2/5)
Retention pond capacity	very concerned (2/3)	some/very concerned (2/5) (2/5)
Surface water quality	very concerned (2/3)	very concerned (3/5)
Dust,odor,noise	somewhat concerned (2/3)	somewhat concerned (4/5)
Groundwater contamination	very concerned (3/3)	some/very concerned (2/5) (2/5)
Truck safety	somewhat concerned (2/3)	very concerned (3/5)
Truck routes	very concerned (2/3)	very concerned (3/5)
Degree of township control over site	very concerned (2/3)	somewhat concerned (3/5)
Adequacy of monitoring	very concerned (3/3)	somewhat concerned (3/5)
Compensation	very concerned (3/3)	somewhat concerned (3/5)

TABLE B.2 (CON'T)

<u>Issue</u>	<u>Temporary Members</u>	<u>Permanent Members</u>
Rule 415 interpretation	very concerned (3/3)	very concerned (2/4)
Hours of operation	somewhat concerned (2/3)	somewhat concerned (3/5)
Liner - whether required	somewhat concerned (2/3)	some/very concerned (2/5) (2/5)
Site security	somewhat concerned (2/3)	somewhat concerned (3/5)
Adequacy of emergency procedures	somewhat concerned (2/3)	some/very concerned (2/5) (2/5)
Population density	very concerned (3/3)	somewhat concerned/ not applicable (2/5)/(2/5)
Public health problems in the township	very concerned (3/3)	all categories
Ground water flow direction	very concerned (3/3)	somewhat concerned (3/5)
Adequacy of well log data	very concerned (3/3)	somewhat concerned (4/4)

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