

METROPOLITAN COUNCIL  
Suite 300 Metro Square Building, St. Paul, Minnesota 55101

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MEMORANDUM

March 16, 1983

TO: Metropolitan Waste Management Advisory Committee

FROM: Environmental Planning (Carl Schenk, Karen Harrington)

SUBJECT: Scoping Decision Document for Flying Cloud Landfill Expansion  
Environmental Impact Statement (EIS)

**NOT FILMED**BACKGROUND

Under the Environmental Quality Board's (EQB) recently revised rules, the Metropolitan Council is a designated responsible governmental unit (RGU) for the environmental review of solid waste disposal facilities in the Metropolitan Area.

The EQB rules require an EIS for any proposed expansion, by 25 percent or more of previous capacity, of a mixed municipal solid waste disposal facility for 100,000 cubic yards or more of waste fill per year. Thus, an EIS is mandatory for the proposed Flying Cloud Landfill expansion. The Council has been designated by the EQB to prepare the EIS.

The EQB rules specify a public process to determine the scope of the EIS. The Council has prepared an Environmental Assessment Worksheet (EAW) and has made it available for public review. A public scoping meeting was held on March 9, 1983 to receive input on issues to be addressed in the EIS. A period to receive written comments about the EIS scope extended through March 16, 1983.

The EQB rules require the Council to reach a decision about the EIS scope within 15 working days after the close of the scoping period, that is, April 6, 1983. Staff has prepared a scoping decision document based on issues identified in the EAW, input from the public meeting and input from the written comment record. (The scoping document, summary of the public meeting and copies of all correspondence accompany this memorandum.)

The scoping decision document will be used as the basis for preparing the EIS. It is also used to determine the adequacy of the final EIS.

In accordance with EQB rules (6MCAR 5 3.030), once the scoping decision is made it cannot be amended without the agreement of the applicant unless substantial changes are made in the proposed project or substantial new information arises that affect the significant environmental impacts or the availability of prudent and feasible alternatives to the project.

CONTENTREQUIRED ELEMENTS

The scoping document must identify the timetable for developing the EIS, issues to be addressed, alternatives that will be evaluated, studies that will be undertaken for the EIS and any permits being sought concurrently with the EIS.

The EIS must list its preparers, contain a description of the proposed project and list all governmental approvals that the project requires. It must identify alternatives and discuss environmental, economic, employment and sociological impacts of the project, as well as major alternatives. Measures that could reasonably mitigate adverse effects must be identified.

The scoping document includes all of the EQB required items. Many issues were also raised at the Council's scoping meeting and through the written comment record. Most were relevant concerns and have been incorporated in the scoping document. However, Council staff feels some issues are inappropriate for analysis in the EIS.

#### EXCLUDED ELEMENTS

A number of issues were raised by local officials and residents at the public scoping meeting that are not germane to the scope of the EIS. These issues are the need for the project, the enforcement of regulations and permit conditions at the existing landfill and the performance of the applicant in meeting these, and the previous plan of the applicant to close out the existing landfill in the early 1980s. These issues will not be addressed in the EIS since they do not involve the potential impacts of the project. The need for the project will be addressed by state and local agencies in reviewing the permit application. The issues of enforcement and performance can be addressed under the current procedures of the appropriate permitting and licensing agencies.

In its letter regarding the scope of the EIS, the Minnesota Pollution Control Agency suggested that a number of alternatives and mitigation measures be evaluated. Most of these suggestions are appropriate. However, one suggested alternative is the recovery of the methane gas generated by the project as a fuel or heat source. This alternative will be discussed in general in the EIS, but it would require a detailed study to determine its feasibility. This study is beyond the scope of the EIS.

The Minnesota Department of Natural Resources suggests that the mitigation section of the EIS include detailed alternatives for final use of the site following closure. One suggested alternative should be a wildlife management land use. The EIS will evaluate the impact of end uses proposed by the applicant and the types of uses which would mitigate the potential impacts on the site and environment. It is not the purpose of the EIS to undertake detailed land use planning for the final development of the site. This is the responsibility of the city and landowner.

#### CONCLUSIONS

1. The Council is required to adopt a scoping decision document in accordance with EQB rules.
2. The elements of the scoping decision are prescribed by EQB rules and have been incorporated in the scoping document.
3. A public meeting has been held on the scope of the EIS as prescribed by EQB rules.

#### RECOMMENDATION

That the Metropolitan Council adopt the scoping decision document for the Flying Cloud Landfill Expansion Environmental Impact Statement, dated March 24, 1983.

EXPANSION OF FLYING CLOUD SANITARY LANDFILL  
ENVIRONMENTAL IMPACT STATEMENT  
SCOPING DECISION DOCUMENT

March 24, 1983

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Publication No. 12-83-047

## I. INTRODUCTION AND BACKGROUND

### PURPOSE

The rules of Minnesota's Environmental Quality Board (EQB) require that an environmental impact statement (EIS) be prepared for the expansion, by 25 percent or more of previous capacity, of any municipal solid waste disposal facility with at least 100,000 cubic yards of waste fill per year (6MCAR 3.039).

Woodlake Sanitary services, Inc. has proposed the expansion of the existing Flying Cloud Sanitary Landfill in Eden Prairie. An EIS is mandatory for the project. The Metropolitan Council has been designated as the responsible government unit (RGU) for preparing the EIS.

EQB rules require a public scoping process for any EIS (6MCAR, 3.030). This process serves to identify issues relevant to the proposed project and restricts the EIS to studies concerning these issues. The Council has prepared an environmental assessment worksheet (EAW) for the Flying Cloud Sanitary Landfill expansion, in accordance with EQB rules, as the basis for a scoping document. A public scoping meeting was held on March 9, 1983 and a comment period was open through March 16, 1983. A final scoping decision shall be issued within 15 working days after the close of the 30-day scoping period, or by April 6, 1983.

This document represents the Council's decision as to what issues should be addressed to complete an adequate EIS on the project. This scoping decision is to be the basis for preparing the EIS and for evaluating its adequacy.

In accordance with EQB rules, after the scoping decision is made, the RGU (Metropolitan Council) shall not amend the scoping decision without the agreement of the proposer unless a substantial change is made in the proposed project that affects the potential significant environmental impact or new information arises that affects significantly the potential environmental impact or the availability of prudent and feasible alternatives to the project.

The purpose of the EIS is to function as a means of disclosing information about the significant environmental issues of a proposed action. It is to include an examination of alternatives to the proposal. The EIS is not intended to justify a decision on the project, but can serve as a guide in issuing or denying permits or approvals and in identifying measures necessary to avoid or reduce adverse environmental effects and to restore or enhance environmental quality.

### PREPARERS

The EIS will be prepared by staff of the Metropolitan Council. Consultants will be used to assist in evaluating the potential impacts on ground and surface waters, possible noise impacts and potential hazards due to methane gas generation.

The applicant will provide technical data regarding the potential impacts of the project as required under the existing permit and for the proposed amended permit for the expansion. EQB regulations require that this data

be gathered concurrent with the preparation of the EIS. The applicant has indicated that the technical data necessary for the preparation of the EIS will be available 60 days prior to the completion of the draft EIS or approximately May 15, 1983.

An ad-hoc technical task force consisting of representatives of the City of Eden Prairie, the applicant and other affected local and state agencies will be utilized to assist in developing and reviewing the various elements of the EIS document. The Metropolitan Waste Management Advisory Committee of the Metropolitan Council will review the draft and final EIS prior to their release by the Council.

### CALENDAR

An EIS preparation notice for this project must be published in the EQB Monitor no later than 45 calendar days after the scoping decision is issued. Within the following 280 days, a draft and a final EIS must be prepared and released for public review and the Council must make a determination of adequacy for the final EIS. The key dates in this process are as follows. The expected schedule is somewhat faster than that allowed under EQB rules.

#### EXPECTED FLYING CLOUD SANITARY LANDFILL EXPANSION EIS TIMETABLE

|                                                                                                            |                |
|------------------------------------------------------------------------------------------------------------|----------------|
| Submit EIS preparation notice to EQB <u>Monitor</u> on or before                                           | April 4, 1983  |
| EIS preparation notice in EQB <u>Monitor</u> on or before                                                  | April 11, 1983 |
| Date by which all technical data for project will be provided by applicant                                 | May 15, 1983   |
| Draft EIS released                                                                                         | July 14, 1983  |
| Publication of draft EIS availability notice in EQB <u>Monitor</u>                                         | Aug. 1, 1983   |
| Public hearing on draft EIS                                                                                | Aug. 17, 1983  |
| Comment period closes                                                                                      | Sept. 1, 1983  |
| Final EIS released                                                                                         | Sept. 22, 1983 |
| Publication of final EIS availability notice in EQB <u>Monitor</u>                                         | Oct. 10, 1983  |
| Metropolitan Council final determination of adequacy (according to EQB rules, this is due by Jan. 7, 1984) | Oct. 27, 1983  |

## GOVERNMENTAL APPROVALS

The EIS will list all known governmental permits and approvals.

- A. During the preparation of the EIS information will be gathered concurrently for the following permits.
  1. Amendment to Minnesota Pollution Control Agency (MPCA) Sanitary Landfill Permit SW-14.
  2. Air quality permits (installation and operating) for the flare for the new methane gas control system.
  3. Review and approval of landfill permit by Metropolitan Council.
  4. Amendment to Hennepin County Sanitary Landfill License.
  5. Amendment to City of Eden Prairie Planned Unit Development 70-1. (The City of Eden Prairie is reviewing its authority in permitting the proposed project and has not determined the extent of its authority as of this date.)
  6. Land Alteration Permit - Riley Purgatory Watershed District.
- B. Under EQB regulations, a record of decision will be required for permit Nos. 1, 3 and 4 as listed above, indicating how each permitting unit of government considered the EIS in its decision. Depending on the city's determination of its authority in permitting the project, it may also be required to prepare a record of decision. These permits and approvals represent key decisions in determining the feasibility of the project.

## II. PROJECT DESCRIPTION

The EIS will describe the expansion of the Flying Cloud Landfill as proposed by Woodlake Sanitary Services, Inc. The project description will include:

- a. Purpose of the project.
- b. Description and maps of the existing landfill, related facilities on the site, methods of operation and site conditions including the topography, past, current and permitted fill limits, current and permitted elevations, water monitoring wells, soil boring locations, drainage patterns and vegetative cover and types.
- c. Amounts and types of wastes expected for the life of the project and assumptions on which the estimates are based.
- d. Plans for the proposed expansion including the location, construction, staging or sequence, operations and design.
- e. Site preparation plans for the active fill area, development of related facilities such as the berm, methane control and monitoring system and other necessary features such as the relocation of the existing pipeline.

- f. Plans for the development of each phase of the fill area expansion including the site cross-sections, sequence and direction, initial and final elevations, truck and equipment access routes, borrow and cover storage areas, surface water management controls, leachate and gas control features, monitoring systems and other appropriate features.
- g. Estimate of remaining volume or capacity with expansion.
- h. Description and map of proposed end use plan showing the final elevation and ultimate use.
- i. Description, plans and other appropriate information for special features such as gas control systems, berm construction, stormwater management and pipeline relocation (horizontal/vertical alignments).
- j. Description of proposed operating procedures and methods to control noise, security, dust, litter, access, emergencies, hazardous waste and other appropriate aspects of the project.
- k. Plans for the closure of the expansion including intermediate phases and existing landfill. Description of the activities involved in the long-term management of the site following closure including runoff control, gas control, vegetation, settlement and monitoring. The closure plan will address final cover, vegetation, grading, drainage, monitoring, erosion control and the financial mechanism for assuring the proper operation, closure and long-term management/monitoring of the facility.

### III. IMPACT ANALYSIS

EQB rules require that the EIS discuss the environmental, employment, economic and sociological impacts of the project and of each major alternative. Direct and indirect, adverse and beneficial effects are to be evaluated. The major issues and needed studies are discussed below with emphasis placed on those which have emerged from the scoping process as the most significant.

#### A. ENVIRONMENTAL IMPACTS

##### Groundwater

Groundwater quality protection is frequently a concern when landfill sites are developed. Leachate, the contaminated liquid that results from water percolating through waste materials, is the source of concern. If leachate travels beneath or away from a landfill, it may degrade water supplies.

The EIS will evaluate the potential for groundwater degradation by describing the hydrogeologic setting of the site and nearby areas, discussing leachate formation and transportation, and identifying potentially affected aquifers. For each aquifer, the areal extent and magnitude of the pollution potential will be estimated. The sensitivity of potentially affected areas will also be evaluated.

These studies and evaluations will necessitate a clear understanding of the site's geologic character and groundwater depths, flow directions and flow velocities. The volume and timing of leachate generation, as well as changes in leachate composition over time will also need to be estimated. Finally, potentially affected groundwater users will be identified including private and public wells. Changes in groundwater surfaces and flows due to changes in nearby groundwater pumping will also be defined and evaluated for effects on leachate movement.

The applicant is currently gathering data for the existing landfill, similar to that mentioned above. The recodified MPCA permit for the existing operation requires that hydrogeologic investigations

"be sufficient to delineate the areal extent and magnitude of the facility's current and probable future impacts on groundwater, particularly west and southeast of the facility, individual, private and public water supply wells; the Minnesota River; Grass Lake and any other surface waters receiving groundwater influenced by the facility, including Purgatory Creek."

The permit goes further and specifies the studies that are required (see attachment).

For the MPCA to evaluate a permit application for the proposed expansion, the same information will be required on the incremental effects of the proposed project. Therefore, the applicant must provide the information specified in Amended Permit SW-14, Part III A.1.b, III A.1.c, III A2 and III A3 and all of their subsections and IV A3, for the EIS. This information must be modified or amended to show the characteristics and the effects of the proposed expansion. If this information proves inadequate to ascertain the proposed facility's impact, additional work may be required. For instance, additional soil borings or piezometers may be needed.

After all the required information is available, the EIS will summarize the pollution potential, evaluate human health risks and discuss mitigation techniques. It will also discuss the potential for the project to alter groundwater levels. The contamination of wells by organics, presently a subject of investigation, will be described in the EIS.

#### Surface Water Quality

Landfills can alter surface waters in several ways. First, leachate travelling in the groundwater may eventually be discharged into surface water bodies. In the case of Flying Cloud Landfill, it is possible that any leachate might discharge to Grass Lake and the Minnesota River. Other surface water bodies such as the marsh and Purgatory Creek to the east of the site could be affected.

The EIS will investigate in more detail the potential for leachate to affect surface water bodies. It will identify areas that are likely to receive any migrating leachate, estimate the magnitude of any pollution from leachate, and evaluate the sensitivity of the potentially affected areas. Some of the information needed to make

these assessments has already been gathered by the applicant. The applicant will provide additional information as the EIS progresses. Mitigation techniques will also be discussed.

A second way that landfills can alter surface water bodies is through surface runoff. Drainage patterns and erosion will change at the site as berms are built, and as the fill is excavated, used and closed. The EIS will describe the site's existing drainage conditions and anticipated changes associated with construction, operation and closure of the project.

The applicant has proposed several surface water management techniques to assure that drainage and erosion do not become problems. For instance, they will divert water to unfilled portions of the proposed excavation during the operation of the landfill and use a settling pond to control runoff from fill areas that are at, or nearly at, their finished elevations. The adequacy of these proposed measures will be evaluated. Among the issues to be discussed in the evaluation will be the potential impact on the Minnesota River Bluffs.

The EIS will summarize the potential for surface water problems and assess any health problems that may result from surface water pollution. Risks to the nearby bluffs and biological communities will also be ascertained. Measures to mitigate adverse effects, including those measures proposed by the applicant, will be discussed.

#### Air Quality

Sources of air quality changes at a landfill include truck traffic, landfill equipment, landfill gases, wind erosion and uncovered refuse. The EIS will use information on landfill equipment and truck types, volumes, travel routes and operating hours to evaluate the magnitude and areal extent of impacts from engine emissions. The potential for equipment and trucks to contribute to dust problems by travelling on unpaved access roads and work areas at the site will also be discussed.

Gas production occurs when landfilled materials decompose through biological processes. Landfill gas production is occurring at the present Flying Cloud Landfill site and can be expected to occur at the expansion area.

Gas production can be a concern for several reasons. For instance, hydrogen sulfide has a very repugnant odor. Methane gas is odorless and colorless, but is explosive in concentrations of five to 15 percent in air. Carbon dioxide gas does not pose a health threat, but it is water soluble and can decrease the pH, and thus increase the corrosiveness, of leachate.

The proposer has developed a conceptual plan to control landfill gas problems, particularly methane migration problems. The applicant must provide details of this plan in order that its adequacy can be assessed in the EIS. The current state of the art for methane control will be reviewed, potentially affected areas (particularly the adjoining drive-in theater and residences) will be identified, the magnitude of any potential problems will be assessed and the

potential problems will be assessed and the sensitivity of potentially affected areas will be evaluated. The applicant's contingency plans in case of system failure, as well as the company's commitment to adequate long-term monitoring, will also be evaluated.

Landfilled refuse should be covered with soil every day. If it is not, odors produced by the raw refuse can be carried into nearby areas. The EIS will address the potential for odors to affect surrounding residential and commercial areas.

Wind erosion could be another source of air pollution at the site. There have been reports of wind erosion from bare areas of the existing fill. If operating practices are not changed, this problem could occur at the expansion, also. The EIS will discuss the soil characteristics and operating practices which could contribute to erosion at the expansion, as well as measures to mitigate that erosion.

For each source of air quality changes, potentially affected areas will be identified, the magnitude of any potential changes will be assessed and the sensitivity of affected areas will be evaluated. Mitigation measures will also be described. This information will be used to evaluate the risks to human health and biological communities.

#### Noise

Landfill equipment and trucks hauling refuse generate noise at and near landfill sites. Noise emanates primarily from engines, but may also come from horns, back up signals or other accessories.

The impact of noise from landfills depends on the character of nearby land uses, background noise levels, time of day, loudness of the noise source, distance from the noise source and weather, as well as other factors. The EIS will consider these factors in its analysis of noise impacts. On-site monitoring, as well as existing literature and models, will be used to estimate noise levels and impacts on-site and in nearby residential areas. Contours of probable noise levels around the site will be developed. Changes in noise levels as the site develops will be also be discussed. Measures to minimize noise impacts, such as changes in operating hours or constructing noise berms, will be described.

#### Other

##### Hazardous Waste

State regulations prohibit the disposal of hazardous wastes at sanitary landfills. It is possible, however, that haulers could bring unacceptable wastes to the fill for disposal. The EIS will review and evaluate the applicant's plan for preventing the disposal of these wastes at the project site and the handling and removing of any such materials.

About 25 acres of grassland habitat will be removed if this project is permitted. Altered drainage patterns may affect the marshy area to the east and the bluff to the south. Most of the bluff is included within the boundaries of the Minnesota Valley National Wildlife Refuge. According to the final EIS for the Refuge, prairie grasslands are located along the bluffs and the rare harvest mouse and deer mouse have been found there. The harvest mouse is classified as rare by the Minnesota Natural Heritage Program. The landfill expansion may also attract animal species which would affect these and other species within the Refuge. An inventory of existing animal species and habitat including rare, unique and endangered species will be conducted on the project site and potentially affected off-site areas during the EIS. Potential impacts due to construction, the loss of habitat alteration of drainage patterns, erosion and other side effects will be evaluated. Potential impacts on aquatic communities will be analyzed as mentioned in the surface water section.

#### Fire

In 1980 there was a fire at the existing landfill, approximately 30 feet below the surface. The fire apparently began in an area of the fill where large quantities of diseased Elm trees had been buried. Large quantities of city water were brought via irrigation pipes to the fill to fight the fire.

Since the fire, the applicant has changed its operating practices to minimize the potential for fire. Large tree materials are chipped on site and are not landfilled. The quantities of small tree materials fill are restricted, and they are mixed with other wastes.

The EIS will evaluate the potential for fires in the expansion area and the applicant's measures to minimize this potential. Any impacts associated with a fire, such as changes in the nature and quantities of leachate will be described. Fire fighting techniques will be mentioned.

#### Pathogenic/Biological Problems and Vectors

Before the advent of the sanitary landfill method of disposing of solid wastes, problems with pathogens and vectors were common at waste disposal sites. Raw, uncovered refuse invited vectors such as rats and flies and allowed easy dispersal of pathogens. At sanitary landfills, however, the requirement to cover refuse daily with six inches of cover material helps minimize these problems. Nevertheless, the EIS will evaluate the potential for problems with pathogens and vectors at the proposed project. The attraction of the fill for birds and nearby animal species will also be discussed. Finally, mitigation measures will be described.

#### Compatibility With Land Use Plans and Zoning

The city's comprehensive plan designates the existing landfill as industrial and public open space. The proposed expansion is located in areas designated for public open space and residential land use.

A portion of the project would be located in area zoned RU-Rural. The planned unit development (PUD 70-1) which includes the existing landfill would have to be amended by the City of Eden Prairie to include the expansion. An amendment has been submitted to the city by the applicant.

The City of Eden Prairie will determine the consistency of the proposed project with city zoning and its comprehensive plan and the need for any amendments at the time of its review of the proposed project. This review will occur following the completion of the EIS and a determination of its adequacy by the Metropolitan Council. The EIS will not determine whether the proposed project is consistent with city ordinances and plans. The city is presently reviewing the extent of its authority in approving the proposed project.

The existing landfill is designated as a regional landfill in the Metropolitan Council's Solid Waste Management Plan, adopted in 1979 and revised in 1981. The plan will be completely revised in 1983. The permit application for the proposed expansion will be reviewed by the Council for consistency with the revised regional Solid Waste Management Plan and other regional plans. The EIS will not determine the consistency of the proposed project with regional plans; that review and determination will take place following the completion of the EIS.

#### Land Use Impacts

The EIS will investigate the potential impacts on the land uses near the site.

The Flying Cloud Airport, owned and operated by the Metropolitan Airports Commission, and the airport approach zone are located northwest and north of the project site. A portion of the expansion will occur within the approach zone. Potential conflicts between the proposed landfill development and operations and airport operations will be analyzed in the EIS. Mitigation measures will be evaluated as necessary. Any potential conflicts with state or federal regulations regarding the operation of the airport will be identified.

Birds are attracted seasonally to the active areas of the present landfill. Because of the location of a portion of the expansion within the airport approach zone, the EIS will analyze the potential hazards of bird strikes. The EIS will examine past incidents and identify the species, seasonal and daily flight and migration patterns of the birds involved. Aircraft flight patterns will be examined for possible conflicts. Mitigation measures will be addressed to minimize any potential conflicts.

The Hillsborough and Bluffs West residential subdivisions are located northeast and southeast respectively of the project. The proposed expansion would extend the landfill to within 200 feet of undeveloped lots within the Bluffs West subdivision. Individual residences are located northeast, southwest and west of the existing and proposed project. The EIS will investigate the potential impact of the project on the residences and subdivisions. The EIS will evaluate the potential impact of noise, litter and air pollution associated with

the development and operations of the project. The visual impact of changes to sight lines resulting from the construction of the landfill and berm will be assessed. Potential health and safety risks to residents that might be associated with the project such as potential air quality, water quality, methane gas and noise impacts will be analyzed. Finally, the potential impact on property values will be investigated.

A pipeline owned by the Williams Brothers crosses the proposed project site. The pipeline will be relocated if the project is approved as proposed. The present pipeline alignment also traverses the airport approach zone and Bluffs West subdivision. The potential impacts of the relocation of the pipeline on the residential area and other land uses will be analyzed.

The Flying Cloud Drive In theater and a seasonal produce market are located northwest and southwest respectively of the existing landfill along TH 169. Several other individual commercial/industrial uses are located north of the project along the south side of Co. Road 1 (Pioneer Trail). The potential impact of noise, litter, methane gas and other side effects of the project will be investigated. The effect on property values will also be evaluated.

The Minnesota Valley National Wildlife Refuge and Recreation Area is located south of the project along the river valley. Most of the bluff south of the project is included in the Refuge. The master plan proposes that a trail be developed along Riverview Road at the base of the bluff. The expansion would be visible from the Refuge. The potential impact of the project on the Refuge and Recreation Area and its proposed facilities, natural resources and use will be discussed in the EIS. The EIS will address the potential impacts of bluff erosion, stormwater discharge, litter noise and visual effects of the project. Potential water quality impacts on Grass Lake and the Minnesota River are addressed under the surface and groundwater sections of the scoping document.

An undeveloped local park, Homeward Hills, is located at the eastern end of the lowland to the east of the project. There have been proposals to expand this facility. The EIS will evaluate the potential effect of the development and operation of the project on the park including the potential effect of stormwater runoff, noise and litter.

Mitigation measures to eliminate or minimize potential land use impacts will be discussed in the EIS. The measures will be developed in response to individual impacts identified in the EIS.

#### Historical/Archeological Resources

The Minnesota Historical Society reviewed the site in April 1982 and stated that no known sites of historic, archaeological culture or architectural significance are located within the proposed project. (See attached letter.) No additional analysis of this issue will be included in the EIS.

## Transportation

Traffic to and from the project site will use TH 169 along the western edge of the existing landfill. Traffic will reach TH 169 via Co. Rds. 1 and 62 and I-494.

The EIS will evaluate the projected volume of traffic, the types of vehicles and peak periods of vehicular activity that might be generated by the project during its active life. The impact of the projected traffic on the capacity and safety of the existing and proposed roadway system will be analyzed. Traffic from existing and future development in the surrounding area that will use the local and regional roadway network will be considered in evaluating the impact of the project. The applicant will provide estimates of the type and volume of traffic which could be generated by the project. These estimates and underlying assumptions will be evaluated for the purposes of the EIS.

A letter has been received from the Minnesota Department of Transportation (Mn/DOT) stating the proposed project will not adversely impact Mn/DOT transportation systems (TH 169). (See attached copy.) According to Mn/DOT engineers in the Golden Valley District Office, this conclusion is based on the estimated vehicular volumes and loadings associated with the project. The EIS will provide a brief evaluation of the data and analysis supporting this conclusion.

Mitigation measures that minimize the potential impacts on highway capacity and safety will be discussed.

## Revenue and Employment

The EIS will examine the employment opportunities which might be produced during the construction and operation of the proposed landfill expansion. The EIS will also indicate the costs of the project and any potential revenues from fees, or other sources which might be produced from the development or operation of the project.

## Costs

The project is located in an area proposed by the City of Eden Prairie to be served by public sewer and water. There are no immediate plans to sewer the site. The site is presently served by private wells and on-site sanitary waste disposal systems. These are adequate to serve the expansion area. the applicant would be responsible for any necessary improvements in these facilities.

A major fire occurred at the existing landfill in 1980. City fire services were used to control and extinguish the fire. The EIS will examine the potential impact of the project on the services and costs of the city fire department and related emergency services. The EIS will examine possible mitigative measures.

It may be necessary at some point in the future to take corrective actions to mitigate a hazardous situation or problem at the project site. The EIS will estimate the potential costs of these actions and

the impact on local, regional and state governments. The applicant's proposed plans and other available programs to address these situations and their adequacy will be analyzed.

#### IV. IMPACT MITIGATION

Potential measures to reduce or eliminate any adverse environmental, economic, employment or sociological impact of the project will be included in the EIS. Specific mitigation measures will be identified in response to the potential impacts identified in each section of the EIS. For example, if the EIS identifies potential noise impacts associated with the operation of the expansion, appropriate mitigative measures will be discussed.

#### V. ALTERNATIVES

EQB rules require that the EIS include an analysis of alternatives to the proposed project. The EIS is required to compare the environmental impacts of the proposed project with other reasonable alternatives to the project. Reasonable alternatives may include locational considerations, design modifications including site layout, magnitude of the project and consideration of alternative means by which the purpose of the project could be met. A "no action" alternative shall be included. The potential effects of each major alternative will be evaluated.

The following alternatives will be analyzed.

##### CHANGES IN MAGNITUDE

Reductions in the size or scale of the project that involve changes in the vertical or dimensions of the project or combinations thereof will be identified and evaluated, for example, reductions in the proposed horizontal expansion to minimize land use impacts.

##### CHANGES IN DESIGN

Alternative designs in the technical and physical aspects of the project that will mitigate the effects of the project on the environment, land use and other elements will be evaluated. For example, changes in the design of the berm might mitigate noise.

##### CHANGES IN OPERATIONS

Changes in the day-to-day operations and development of the site that would mitigate the impacts will be evaluated. For example, changes in the operating hours might minimize noise impacts on residential areas.

##### NO ACTION ALTERNATIVE

If the landfill expansion is not developed, the solid waste which would be landfilled at the site must be disposed of by another means. The waste could be disposed of at other existing landfills or new landfills. Hennepin County and the other counties in the Metropolitan Area are required under the Solid Waste Management Law (M.S. 473.149-473.834 as amended) to prepare a county master plan containing an inventory of new solid waste disposal sites and land disposal abatement proposals to

reduce the need for land disposal. The abatement proposal is to address at least waste reduction, separation and resource recovery. The EIS will evaluate existing landfills and proposed new landfills and various abatement proposals as alternatives to the project.

## VI. SUMMARY

The following is a summary of the general types of information and studies to be included in the EIS.

### GROUNDWATER

1. A description of the hydrogeologic setting of the site and surrounding area including groundwater depths, flows, quality and users.
2. Estimates of potential leachate formation and transportation including volumes, timing and composition.
3. Analysis of potentially affected aquifers including the extent and magnitude of the impact.
4. Evaluation of potential changes in groundwater levels.
5. Evaluation of potential human health impacts.

### SURFACE WATER

1. Discussion of the potential effect of leachate on off-site surface waters including the magnitude of pollution and the sensitivity of the affected water bodies.
2. Evaluation of the impact of alterations to drainage patterns and proposed surface water management plans including the impact on the river bluff.
3. Evaluation of the potential impact on human health.
4. Evaluation of the possible impact on biological communities in surface waters including Grass Lake, Minnesota River and Purgatory Creek.

### AIR QUALITY

1. Analysis of potential impacts from trucks and landfill equipment on air quality including dust and engine emissions.
2. Discussion of landfill gas problems including methane migration and methane control and odors and odor controls.
3. Evaluation of the potential for wind erosion and the impact on air quality.
4. Evaluation of human health impacts.

### NOISE

Analysis of potential noise impacts from truck traffic and landfill operations and proposed control measures.

#### OTHER ENVIRONMENTAL IMPACTS

1. Evaluation of measures to prevent the disposal of hazardous waste at the site.
2. Discussion of potential wildlife and habitat changes and impacts including the effects on rare, unique and endangered species.
3. Evaluation of the potential for fires and possible impacts.
4. Evaluation of the potential for problems associated with pathogens and vectors at the proposed project and the effect of proposed controls.

#### LAND USE

1. Analysis of potential conflicts between the development and operation of the project and airplane operations at Flying Cloud Airport including the potential for bird strikes.
2. Evaluation of the potential impact on commercial, public and residential land uses in surrounding areas including the visual effects and impact of noise, litter, air pollution and methane gas. Potential health and safety problems risks will be assessed, and the impact on property values will be analyzed.
3. Analysis of the potential hazards and impacts associated with the relocation of a pipeline located on the site.
4. Discussion of the potential impacts of erosion, runoff, noise, visual intrusions and other side-effects on the facilities, resources and uses of the Minnesota Valley National Wildlife Refuge and Recreation Area.

#### OTHER SOCIO-ECONOMIC IMPACTS

1. Description of possible impacts on the capacity and safety of local and regional highways.
2. Determination of the impact on employment, revenues and public services.

#### MITIGATION AND ALTERNATIVES

1. Identification of measures to minimize and eliminate potential impacts discussed in the EIS.
2. Discussion of major alternatives to the proposed project and their potential effects including changes in the magnitude, design and operations of the project. A no-action alternative would be analyzed including an evaluation of alternative existing or new landfills and possible abatement proposals such as recycling or resource recovery.

SUMMARY OF A PUBLIC MEETING  
ON THE PROPOSED EXPANSION OF THE FLYING CLOUD LANDFILL

Hennepin Technical Center  
Eden Prairie, Minnesota  
March 9, 1983

ATTENDANCE

Council Members: Dick DeVries, Bill Sando

Council Staff: Gene Barringer, Joyce Bowers (interns); Karen Harrington, Carl Schenk, Shirlee Smith

SUMMARY

Council member Sando opened the meeting and called on Carl Schenk, Environmental Planner, to discuss the purpose of the scoping document and to summarize the Environmental Impact Statement (EIS) process. Carl described the extent of the proposed expansion and highlighted the impacts and alternatives detailed in the Environmental Assessment Worksheet (EAW).

The mayor of Eden Prairie, Wolfgang Penzel, explained that the City Council viewed Eden Prairie as a host to many regional services and cited the landfill, regional park and the airport as examples. He was concerned that conditions had developed that were not originally considered in the landfill permit. He was of the opinion that the recent permit amendment only legitimized deviations from the original agreement that had already occurred.

Mayor Penzel pointed out that area soils are non-uniform glacial till and stated that test borings of limited scope are not adequate to determine proper land use. There was a major washout of a bluff during a storm in 1977. Organic solvents have been discovered in test wells to the southwest of the landfill. He pointed out that the origin of the pollutants is unknown. The mayor expressed concerns about heavy use of the highways by trucks traveling to the facility and about the high incidence of Dutch Elm disease along the access route. He suggested that diseased trees being disposed of at the landfill are infecting these trees. Mayor Penzel concluded by pointing out that the city had anticipated that the landfill would close this year and that there was concern about allowing it to operate an additional nine years in light of the problems he had cited.

City Council member George Bentley said that the same criteria used in siting new landfills should be applied to expansions. He suggested that if less stringent criteria were used, it would become politically expedient to expand rather than locate new sites. Benton also stated that the EIS should review problems which have developed at similar facilities in assessing the potential impact of the expansion.

Carl Jullie, City Manager, explained that the city had approved developments and had included plans for a park in its Capital Improvement Program in anticipation of the landfill's closure. He pointed out that the original permit (issued in 1970) allowed a 10 to 12 year period of operation and emphasized that this is what prospective homeowners in the Bluffs West development were told. The expansion is also inconsistent with the Metropolitan Council's Solid Waste Management Policy Plan. Jullie questioned the need for the expansion and asked that an inventory of existing landfill capacities, new sites and resource recovery and alternate disposal methods be given in the EIS. A report from a

real estate appraiser concerning the impact on property values should also be included. He suggested that if the hours of operation were restricted to mitigate noise problems, the landfill might not be viable. He questioned the projected rate of increase in the amount of waste accepted. If this is less than the 10 percent per year assumed, the expanded landfill would be in operation longer than the estimated nine years.

Steve Hendren, Eden Prairie Citizens' Coalition Chairman, spoke against the expansion. He referred to county plans that indicated the landfill would be closed soon and voiced frustration on behalf of the homeowners. He questioned the rationale for the expansion. Recycling and other alternatives are being encouraged, yet the low cost and convenience of landfills hinder this effort. Hendren expressed concern about dust, noise, litter, hazardous waste disposal and visual impacts. It is unrealistic to expect operators to separate all hazardous waste from garbage and retrieve all escaped litter. He asked about contingency plans for such events as a rupture in the William's Brothers gas pipeline that would be relocated or discovery of contaminants in test wells. He felt strongly that locating a facility with known dangers near residences impaired the state's quality of life. Several residents indicated their agreement with Hendren's statement.

John Klein, citizen, spoke for R. J. O'Neil, owner of the Flying Cloud Drive-in Theater. He explained that methane gas had been discovered in the past in the concessions building. The safety of theater-goers from explosions must be assured. The impact of this hazard on insurance coverage is a concern.

Council member Sando summarized the status of each Metropolitan area county with regards to the landfill siting process for new facilities.

Shan Sacranie, Citizens' Coalition member, expressed frustration over the lack of response from state agencies to residents' concerns. Mayor Penzel concurred, but added that Browning-Ferris Industries (BFI/landfill owner) has a legal right to full consideration of their proposal.

Several residents repeated the concerns about dust, litter, methane gas and noise. Doug Lynch, resident, said he would move if the expansion was approved. Pat Carver, resident, pointed out regulations concerning these problems exist, but that violations are still a problem.

State Senator Don Storm expressed sympathy with the views of the residents and emphasized the concern that expanding the landfill will discourage alternate disposal methods.

Wally James, Citizens' Coalition member, repeated concerns about noise, aesthetics, and the delay of park development. He pointed out that a serious fire had occurred in the landfill three years ago.

Council member DeVries explained that each county in the Metropolitan Area must develop a waste abatement plan, but Hennepin County has lagged behind in their plan development. He urged citizens to write to their county commissioners.

There was discussion about which agencies and local governments have the power to halt the expansion or to override each others decision. Carl Schenk indicated that Hennepin County, the Minnesota Pollution Control Agency and the Council have the authority to disapprove the expansion. Denny Daugaard, resident, expressed concern about the impact of vertical expansion.

Marsha Sadowski, resident, repeated the concerns about the impact on property values. There was a request that BFI's performance at the current site be evaluated as part of the EIS. Mark Forbes was concerned about soil instability and leachate from the landfill reaching the river.

There was discussion about whether expansion space is already being used. Sando said that it is not. There was also discussion about time schedules. Several people felt that decisions on the expansion should be delayed until the county's waste abatement plan is complete.

Kerry Cooper, resident, objected to the inclusion in the EAW of graphics developed by BFI consultants. He stressed the need for objective evaluation of data. Carl Schenk, staff, indicated that BFI is required to provide data under the current permit which would be evaluated as part of the EIS. If more data is necessary, BFI will be asked to provide it.

Michael Kodrich had concerns about noise. The increase in the size of the cover pile and toxic waste disposal. He questioned that it is possible to verify BFI's compliance with permit conditions.

Linda Volpe, resident, said that air quality near the facility is poor and poses a health threat. She would like health problems associated with dust evaluated.

Steve Hendren elaborated on the toxic waste concern and said that the distinction between a hazardous waste dump and a sanitary landfill is blurred.

Dick Nowlin, BFI attorney representing the applicant, expressed frustration with the length of the EIS process. He emphasized the requirement that the EIS explore mitigation measures.

Pete Sadowsky pointed out that toxic waste generators face economic pressure to dump illegally. They may be tempted to use a poorly supervised landfill to dispose of hazardous waste. Sando mentioned that the State Waste Management Board is currently looking for a disposal site.

The meeting was adjourned.



Thompson  
Paul  
Cauls

# Minnesota House of Representatives

March 14, 1983

## ROUTING

Admin. ☒  
P. R. ☒  
H. R. ☒  
CS/PIO ☒

MAR 15 1983

Mr. Gerald J. Issacs, Chairman  
Metropolitan Council  
300 Metro Square Building  
Seventh Street and Robert Street  
Saint Paul, Minnesota 55101

For your information ☒  
Take appropriate action ☒  
Please reply ☒  
Prepare reply for Chmn sig ☒

Dear Mr. Issacs:

Thank you for this opportunity to comment on the EAW for the expansion of Flying Cloud Sanitary Landfill.

The basic weakness of this landfill site is its location in permeable outwash with a strong hydraulic gradient towards the Minnesota River valley. The valley's alluvium contacts major ground water saturated bedrock formations, the Prairie du Chien group and the Jordan Sandstone. The original site is poor, expanding it will only make it worse. I urge a careful, intense, increased evaluation of the groundwater monitoring program at Flying Cloud.

Sincerely,

*Sidney Pauly*

Sidney Pauly  
State Representative  
Eden Prairie

SP:jp



STATE OF  
**MINNESOTA**  
DEPARTMENT OF NATURAL RESOURCES

BOX , CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION  
(612) 296-6157

FILE NO. \_\_\_\_\_

March 11, 1983

Mr. Carl Schenk  
Metropolitan Council  
300 Metro Square Building  
St. Paul, Minnesota 55101

RE: Flying Cloud Landfill Expansion Project  
Environmental Assessment Worksheet (EAW)

Dear Mr. Schenk:

The Department of Natural Resources (DNR) has reviewed the above-referenced document. We offer the following comments on the scope of the proposed Environmental Impact Statement (EIS) and the accuracy of the information provided in the EAW.

We believe that the issues identified on page 13 of the EAW include the major potential impacts of the project on natural resources. These comments are intended to highlight specific areas of potential impact under these broad impact categories that should be addressed in the EIS. DNR's comments on the issues, as numbered in the EAW, are as follows:

1. Effects on existing and future surrounding land uses. The EIS should evaluate the aesthetic compatibility of the landfill and proposed uses of the adjacent refuge lands. The discussion of site reclamation alternatives to be used after the landfill reaches capacity should include consideration of the aesthetic impacts on the refuge. The EAW should have indicated in item 28d. that the project is visible from the refuge.
2. The effects on bluffs south of the project area. The EAW is incorrect in implying that the bluff area next to the project site is not part of the Minnesota Valley Refuge. This bluff area, known as the Upgrala Hillside Area, became part of the Refuge when the federal EIS was approved (see attached map). Consequently the impacts of the project on the bluffs must be evaluated in light of the fact that the bluff area is a designated federal wildlife refuge. The evaluation should consider management plans and priorities for this unique section of the refuge.

Mr. Carl Schenk  
March 11, 1983  
Page 2

4. Effects on storm water runoff and erosion. The potential for bluff slope erosion should be addressed in this section.
7. Effects on fish and wildlife and associated habitat. The following fish and wildlife impacts, mentioned in the EAW, should be evaluated in the EIS: impacts of possible water pollution of fish and wildlife species, impacts of surface water runoff on the wetland area east of the landfill, direct loss of habitat, impacts of the landfill as an attraction to birds and mammals and potential for conflicts with airplanes at Flying Cloud Airport. A potential impact not mentioned in the EAW which we feel should be addressed in the EIS is the degree to which the landfill expansion will attract birds and mammals, including pest species, that will disturb nearby residents or compete with and displace more desirable species on the refuge. The EIS should include a thorough inventory of existing species and habitat. The western harvest mouse, classified as rare by the Minnesota Natural Heritage Program, has been found on the dry grassland areas immediately south of the project site. This unique species, which should have been identified in item 26b. of the EAW, could be directly affected by the landfill expansion.

We suggest that the mitigation section of the EIS include detailed alternatives for final use of the site after the landfill has reached capacity. One alternative should include restoration of the site to a wildlife management land use. Such an alternative would partially mitigate the initial loss of wildlife habitat that will result from this project.

Thank you for the opportunity to comment on this project.

Sincerely,

*Thomas W. Balcom*

Thomas W. Balcom  
Environmental Review Coordinator

TWB:pje  
1561E

cc: Karen Loechler  
Ron Harnack  
Dick Carlson  
Tim Kelly  
Tom Rulland - EQB  
Woodlake Sanitary Services, Inc.

prairie trail connect  
an underpass

## HUNTER EDUCATION SITE

- Maintain and modify existing structures.
- Facilities to be used for interpretive and educational programs.

## EDEN PRAIRIE

## EDEN PRAIRIE BLUFFS

- Sensitive slope and prairie vegetation requiring strict regulation of use through implementation of local, regional, or state preservation programs.

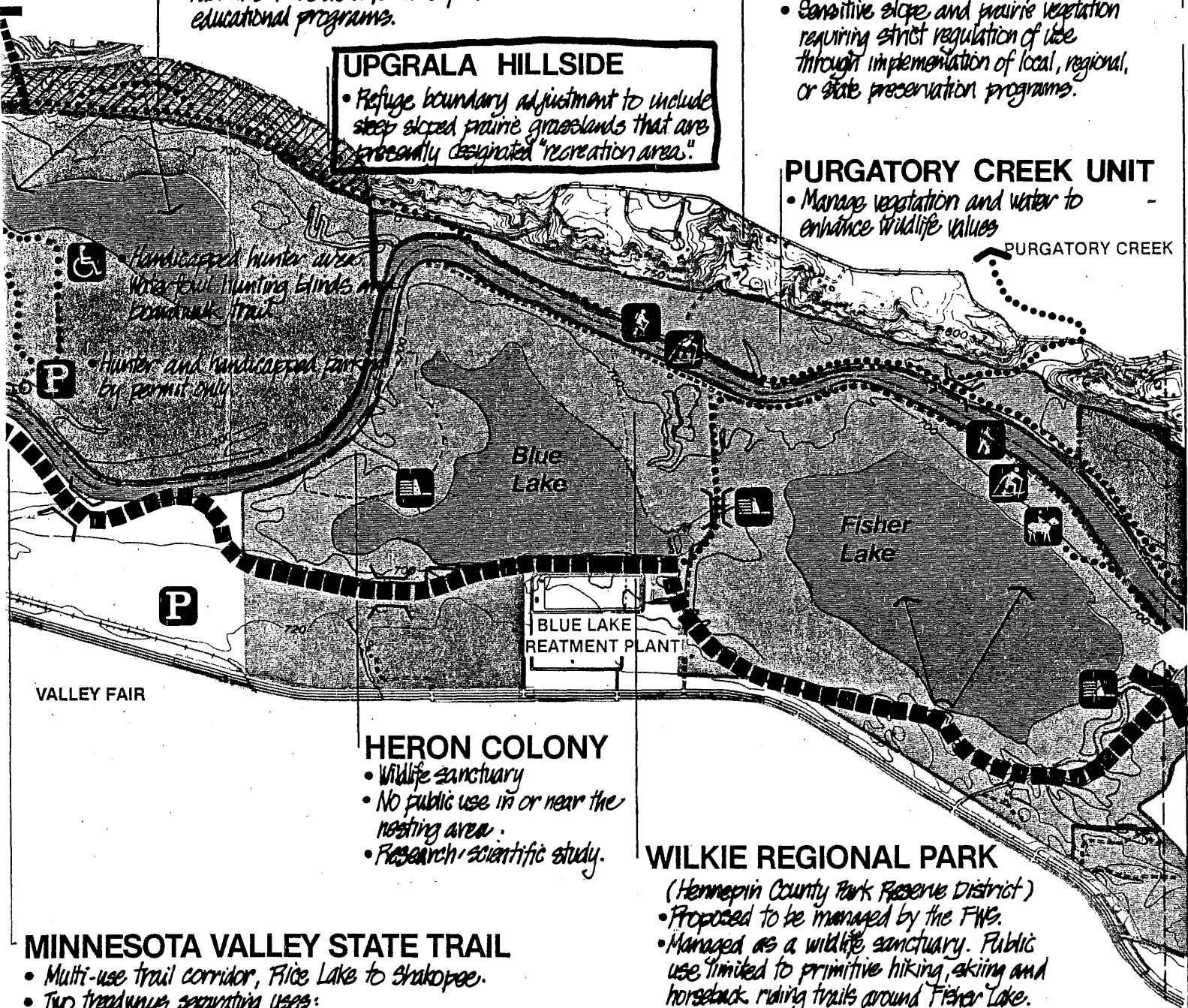
## UPGRALA HILLSIDE

- Refuge boundary adjustment to include steep sloped prairie grasslands that are presently designated "recreation area."

## PURGATORY CREEK UNIT

- Manage vegetation and water to enhance wildlife values

PURGATORY CREEK



VALLEY FAIR

## HERON COLONY

- Wildlife sanctuary
- No public use in or near the nesting area.
- Research, scientific study.

## WILKIE REGIONAL PARK

(Hennepin County Park Reserve District)

- Proposed to be managed by the FWS.
- Managed as a wildlife sanctuary. Public use limited to primitive hiking, skiing and horseback riding trails around Fisher Lake.

## MINNESOTA VALLEY STATE TRAIL

- Multi-use trail corridor, Rice Lake to Shakopee.
- Two treadways separating uses:



 Picnicking

 Bridge

 Viewing Point

## MASTER PLAN

MILES



NORTH

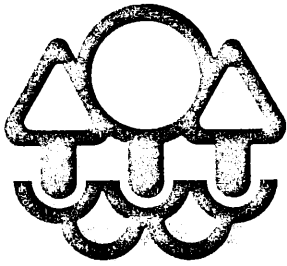


**Minnesota Valley**



National Wildlife Refuge  
Recreation Area and State Trail

**Upgrala**



## Minnesota Pollution Control Agency

March 16, 1983

Gerald Isaacs, Chairman  
Metropolitan Council  
Room 300, Metro Square Building  
7th and Robert Streets  
St. Paul, Minnesota 55101

Dear Mr. Isaacs:

The Minnesota Pollution Control Agency (MPCA) staff has reviewed the environmental assessment worksheet (EAW) for the proposed Flying Cloud Sanitary Landfill (SW-14) expansion and has several comments to offer for your consideration in the environmental impact statement (EIS) scoping decision. These comments pertain to specific issues, including project alternatives, that we believe should be addressed in the EIS. In addition, work being performed under the existing landfill's amended permit that would be of value for this EIS is discussed. Finally, the requirements of the MPCA Solid Waste permit for the expansion are discussed together with relevant timing issues.

### Specific EIS Scoping Issues

#### 1. Alternatives

The examination of alternatives to the expansion proposal should be as thorough as possible, and should be undertaken early in the EIS process. If the project as proposed does have adverse impacts, this should be known soon enough for Browning-Ferris Industries (BFI)/Woodlake to do the engineering on an acceptable project concept. We recommend that the EIS consider at least the alternatives outlined below.

Phone: (612) 296-7301

1935 West County Road B2, Roseville, Minnesota 55113-2785

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a. Project Size and Layout Alternatives

1. Expansion is proposed.
2. Scaled down expansion - based on such considerations as:
  - a) increased separation distance to residential areas,
  - b) consistency with forecasts of needed landfill capacity in Hennepin County versus total landfill capacity potentially available to the county via the county's landfill site search and selection process, and
  - c) waste abatement efforts as identified by the regional solid waste management plan and Hennepin County's solid waste management plan, such as utilizing current recycling and composting programs in the service area.
3. No project/site closure-after consideration of such options as using existing facilities, implementing resource recover, including incineration and co-composting the waste with sewage sludge.

b. Project Design Alternatives

1. Addition of a liner.

This alternative requires consideration of the liner design including natural versus artificial liner, inclusion or exclusion of a leachate collection system, and design and collection efficiency of the leachate collection system.

2. Other ground water protection measures.

If any unacceptable impacts on ground or surface waters are identified, it may be appropriate to consider other design alternatives in addition to or in lieu of a liner. These might include ground water interception or gradient control features such as pumping wells.

3. Alternatives to improve the effectiveness of proposed design features, such as a) methane collection/barrier system, b) noise/visual barriers, and c) litter collection fencing.

Mr. Isaacs  
Page Three  
March 16, 1983

4. On-site recycling efforts, such as a) composting sites for yard waste and leaves, and b) recycling bins for glass, metal and paper.
5. Alternatives to proposed closure plan and ultimate land use.

The proposed ultimate land use should be consistent with local zoning and with the inherent limitations of any former landfill. The site must be maintained to prevent erosion, maintain drainage if subsidence occurs and minimize infiltration. The current proposal suggests the site might ultimately be utilized as a golf course. Appropriate alternatives might include a wildlife refuge or recreational field. The effect of supplemental watering should be evaluated for the golf course alternative.

c. Operational Alternatives

The EIS should evaluate whether there will be adverse impacts due to the operational methods, filling sequence, or the operating hours proposed for the expansion. If adverse impacts are identified in such areas as noise, litter, dust, and traffic, the EIS should evaluate how much improvement would result from alternative methods or restrictions on the landfill operating hours. The EIS should further evaluate existing and recommended local regulatory actions which are appropriate to control nuisance impacts such as noise, litter, dust, and traffic.

2. Additional Drilling Around Existing Landfill Organics Investigations

Metropolitan Council should be aware of recent drilling and planned installations at the landfill which will be of use in the EIS. Eight soil borings, K-12 through K-19, have recently been completed. K-16 and K-19 are through the methane barrier in the southeast part of the existing landfill. K-18 is north of the scale house just northwest of the existing landfill. The other five are all east of the existing fill, along the east edge of the proposed expansion. Six of the eight (all but K-16 and K-19) have narrow-diameter piezometers installed in them.

BFI will be installing two additional monitoring wells, W-9 and W-10, required by the permit east of the landfill. They will install another monitoring well, presumably to be named W-11, along Highway 169 in the extreme northwest corner of the property.

Finally, MPCA has asked BFI/Woodlake and the Metropolitan Airports Commission (MAC) to do additional investigation, including drilling, west of the landfill. We requested this work in order to address the recent finding of traces of organic chemicals in two private wells west of the landfill, although BFI/Woodlake's obligation to undertake this work is rooted in the general requirements of Part III.A.2. of the amended permit on the existing facility. We further requested the two parties to submit work plans for these investigations by March 23, 1983. The work will probably be done partially in phases, with one step dependent on the results obtained in the previous step. Thus, we do not yet know exactly what will be done or when. When we review the work plans, we will learn what portion of this work is likely to be available in time for use in the EIS.

3. Methane Gas Control System

Two MPCA permits were not listed in the EAW. Air quality installation and operating permits will be required for the flare for the new methane gas control system. Agency rule APC-3 requires all facilities with a fuel burning installation of 10 MBTU per hour or more input, burning only natural gas to apply for an installation and operating permit from the MPCA's Division of Air Quality. The heat input for the new flare, at 25 MBTU or more per hour will be above the 10 MBTU level, as will the input of the existing flare (capacity of 25 MBTU per hour). As such, two permits, an installation and an operating permit must be obtained for the new flare, while an operating permit must be obtained for the existing flare. These permits will limit the discharge of odors, particulate matter, sulfur dioxide, and limit noise levels from the methane collection system. The impact of the methane gas control system should be evaluated with respect to these permits. It is further recommended that the feasibility of methane gas recovery and utilization (either for space heating or small scale power generation) be evaluated.

4. Fugitive Dust Emissions

The EIS evaluation of the potential for increased dust emissions should consider wind erosion of susceptible surfaces such as stockpiles, covered landfill surfaces (prior to vegetation), refuse trucks and private vehicles, as well as activities at the working landfill face. Receptors (residences) of dust emissions should be discussed in light of prevailing meteorological patterns throughout the year. Mitigative measures discussed could include vegetating soil stockpiles (especially in the southeast portion of the landfill), haul road maintenance, and vegetating of berms.

5. Noise Levels

A noise assessment should be conducted to determine existing and future noise levels (daytime and nighttime) at the commercial buildings near the Flying Cloud airport and at residential areas. The EIS should identify which receptors will experience noise levels in excess of the state noise standards. Mitigative measures should be discussed if state noise standards are exceeded.

Mitigation of noise impacts considered in the EIS could include a development moratorium on lots where the state noise standards will be violated and operation of the landfill during daytime hours only. Since the construction of the landfill berms will likely have the greatest (albeit temporary) noise impact, it is appropriate for the EIS to address noise impacts and mitigation methods specific to this construction, including curfews on berm construction.

6. Zoning Controls and Other Local Regulatory Activities

The EIS should address existing local zoning controls and nuisance control ordinances which apply to the landfill operations and might be appropriate for mitigation of environmental impacts. Further, the EIS should evaluate recommended ordinances which should be implemented for this purpose. Such ordinances might include specific noise control programs, general nuisance ordinances, zoning controls to prevent development of certain receptor lots, and post-closure zoning controls.

7. Health Effects

The EIS should address potential aggravation of existing respiratory disease as a result of fugitive dust. Potential effects upon and of vector and reservoir organisms (rodents, skunks various insects) should be discussed.

Work Being Done for Existing Landfill's Amended Permit

The amended permit issued January 28, 1983, for the existing landfill contains requirements for a series of submittals to the MPCA. Although these submittals pertain only to the existing landfill and not to the expansion, some of the information in them most certainly will be valuable to the EIS.

The permit's due dates for these submittals may not be consistent with the Metropolitan Council's deadlines for the first draft of the EIS. We have attached copies of the permit and of BFI/Woodlake's one-page summary of the permit's due dates. Note that the hydro-geologic conditions report is not required until May 28; the methane,

Mr. Isaacs  
Page Six  
March 16, 1983

erosion control, dust, litter, and noise plans on July 28; and the closure, ultimate land use, and post-closure monitoring plans on August 28.

#### Required Components of an Application for MPCA Solid Waste

##### Expansion Permit

It is not clear whether BFI/Woodlake's submittals to the Metropolitan Council for the EIS will be developed to the degree of detail needed for an MPCA permit for the expansion. Consequently, it is not possible at this time to determine if the 90 day provision in 6 MCAR 3.031 H.1. will apply. If the MPCA Board is to make a decision on permit issuance within 90 days after the determination of adequacy of the EIS, the permit application must be developed concurrently with the EIS, and most of the application must be available for review by MPCA more than 90 days before the decision on permit issuance.

MPCA will require BFI/Woodlake's permit application to contain essentially the same work elements and level of detail as we have required in the January 28 amended permit for the existing landfill. Some of the existing landfill's permit requirements call for the evaluation of impacts from the landfill; for these items, BFI/Woodlake should most logically develop an impact assessment for the expansion concurrently with the impact study they are doing for the existing site. This assessment should start with the impacts from the existing fill, then use the same methods to determine the additional impacts from the expansion. The potential problem with this approach is again the existing permit's due dates. The existing site impact analysis, the starting point for expansion impact evaluation, does not have to be submitted to the MPCA until May 28.

For at least two reasons, the 90 day requirement for a decision on permit issuance could be difficult for MPCA. First, our permit drafting, 30 day comment period, permit revisions, preparation of a Board item, and Board decision would consume the lion's share of the 90 day period, leaving little time for staff review and possible resubmittal of some items by the applicant. Second, we are uncertain when we will have a permit application that we regard as "complete," since we do not know either the level of detail of the submittals BFI/Woodlake will be providing to you for the EIS or when these submittals will be available and final. Consequently, we recommend that the MPCA Solid Waste permit not be identified as a permit for which information will be gathered concurrently with EIS preparation, pursuant to 6 MCAR 3.030E.1.c., unless BFI/Woodlake makes a specific commitment to provide the MPCA with a permit.

Mr. Isaacs  
Page Seven  
March 16, 1983

application that we deem complete prior to the determination of adequacy of the final EIS.

Thank you for the opportunity to provide input to the scoping of the Flying Cloud Landfill Expansion, EIS. My staff is available to discuss any of the above issues with your staff. Please have your staff contact Deborah R. Pile, Acting Director, Office of Planning and Review at 296-7216.

Sincerely,

A handwritten signature in cursive script that reads "Sandra Gardebring". A horizontal line extends from the end of the signature to the right, and a vertical line descends from that point, ending in an arrowhead pointing downwards.

Sandra S. Gardebring  
Executive Director

SSG:pak

Attachments

cc: Tom Rulland, Environmental Quality Board  
Dick Nowlin, Larkin, Hoffman, Daly and Lindgren, Ltd.



Minnesota  
Department of Transportation  
Transportation Building  
St. Paul, Minnesota 55155

Phone (612)296-1652

February 28, 1983

Carl Schenk  
Metropolitan Council  
300 Metro Quare Building  
St. Paul, Minnesota 55101

Re: Expansion of Flying Cloud Sanitary Landfill  
Environmental Assessment Worksheet  
District 5

Dear Mr. Schenk:

The Minnesota Department of Transportation (Mn/DOT) has completed a review of the above referenced EAW. We do not anticipate that the proposed development will adversely impact Mn/DOT transportation systems.

If you require additional information from Mn/DOT, please contact Robert Morast, Transportation Analysis Engineer at our District Office in Golden Valley, phone number (612)545-3761.

Sincerely,

*Cheryl Heide*

Cheryl Heide, Planner  
Office of Environmental Services



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# MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • (612) 296-6126

## ROUTING

Admin. ☒  
P. R. ☒  
H. R. ☒  
CS/PIO ☒

8 March 1983

MAR 11 1983

Mr. Gerald J. Isaacs, Chairman  
Metropolitan Council  
300 Metro Square Building  
7th and Robert Streets  
St. Paul, Minnesota 55101

For your information ☒  
Take appropriate action ☒  
Please reply ☒  
Prepare reply for Chmn sig ☒

Dear Mr. Isaacs:

RE: Expansion of Flying Cloud Sanitary Landfill

MHS Referral File Number: 0-240  
(PLEASE REFER TO THIS NUMBER IN  
ALL FUTURE CORRESPONDENCE)

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the National Advisory Council of Historic Preservation (36CFR800).

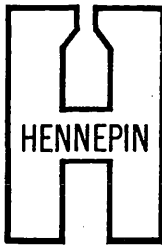
This review reveals the location of no known sites of historic, architectural, cultural, archaeological, or engineering significance within the area of the proposed project. There are no sites in the project area which are on the National Register or eligible for inclusion on the National Register, and, therefore, none which may be affected by your proposal.

Again, thank you for your participation in this important effort to preserve Minnesota's heritage.

Sincerely,

*Dennis A. Guntel*

*for* Russell W. Fridley  
State Historic Preservation Officer



DEPARTMENT OF ENVIRONMENT AND ENERGY  
320 Washington Av. South  
Hopkins, Minnesota 55343



935-3381

15 March, 1983

Mr. Carl Schenk  
Metropolitan Council  
300 Metro Square Bldg.  
St. Paul, MN 55101

Dear Mr. Schenk:

Hennepin County has reviewed the Environmental Assessment Worksheet (EAW) for the expansion of the Flying Cloud Sanitary Landfill, and finds that the EAW covers all the major issues that should be scoped in the Environmental Impact Statement.

The County wishes to emphasize that special considerations should be placed on specific areas of some of the issues. In particular, water quality can be significantly affected by the generation and the migration of leachate. Also, litter, dust, noise and odor, which usually are products of landfill operations, should be reviewed as to affects, if any, on short-term and long-term localized health factors.

These issues should be given special attention in order to make the EIS a viable document. Please do not hesitate to contact this department if we may provide any information and assistance.

Sincerely,

*Edward Monteleone*

Edward Monteleone, Engineer  
Principal Environmentalist

EM/mvr

cc: Luther D. Nelson

**HENNEPIN COUNTY**

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DEPARTMENT OF THE ARMY  
ST. PAUL DISTRICT, CORPS OF ENGINEERS  
1135 U. S. POST OFFICE & CUSTOM HOUSE  
ST. PAUL, MINNESOTA 55101

REPLY TO  
ATTENTION OF:

NCSCO-RF 83J0223-70

23 Feb 1983

Carl Schenk  
Metropolitan Council  
300 Metro Square Building  
St. Paul, MN 55101

Re: Expansion of Flying Cloud Sanitary  
Landfill. Sec 26, 27, 34, T. 116N, R. 22W.  
Hennepin County, MN.

Dear Mr. Schenk,

We have reviewed the information provided us concerning the referenced project. The work you propose at the location stated is not within the jurisdiction of the Corps of Engineers.

A Department of the Army permit is not required to do this work. The reason for this determination is given at the bottom of this letter.

This letter is valid only for the project referenced above. Therefore, if any change in design, location, or purpose is contemplated, contact this office at 612-725-7558 to avoid accomplishment of work which may be in violation of Federal law.

If you have any questions, please call David Dralle.

Sincerely,

*Timothy J. Fell*  
for DENNIS E. CIN  
Chief, Regulatory Functions Branch  
Construction-Operations Division

Reason for determination:

This project does not involve the introduction of any dredged or fill material below the ordinary high-water mark of any waters of the United States or in adjacent wetlands.



# United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

Minnesota Valley National Wildlife Refuge

4101 East 78th Street

Bloomington, Minnesota 55420

February 25, 1983

Ms. Karen Harrington  
Metro Council  
300 Metro Square Building  
St. Paul, MN 55101

Dear Ms. Harrington:

In response to your request, we have enclosed a copy of the letter transmitting our comments on the Flying Cloud Landfill Environmental Assessment Worksheet. Following review of the Metropolitan Council's material on the same subject we will transmit to you any additional comments we might have.

Sincerely yours,

Edward S. Crozier  
Refuge Manager

Enclosure: Copy of 4/5/82  
Ltr. to Mr. G. Downing

April 5, 1982

Mr. Greg Downing  
Minnesota Pollution Control Agency  
Office of Planning and Review  
1935 West County Road B2  
Roseville, MN 55113-2785

Dear Mr. Downing:

We have reviewed the Environmental Assessment Worksheet for the proposed expansion of the Flying Cloud Landfill and have the following comments:

Our main concern with the EAW is not on a specific issue but the EAW's implied general attitude toward the nearby Minnesota River Valley. It is as if any impact on the valley below the landfill is automatically of no major consequence--presumably because there is no resident human population to take issue. We, naturally, take exception to that attitude and believe greater concern should be expressed for the impact of the proposed action on the valley.

The description of the valley and the proposed wildlife refuge on page 29 is adequate, although it neglected to mention that the wildlife refuge master plan proposes that a branch of the Minnesota Valley State Corridor Trail be located on the now abandoned Riverview Road at the foot of the bluff, directly below the landfill. Therefore, the potential impact of the landfill on the trail users should be evaluated.

On page 14, there is a discussion about the surface runoff facility which states that discharge from the surge pond is into the Minnesota Valley. Then, again, in the Water Quality Section (E), there is reference to the Minnesota Valley without attempting to differentiate between the river channel and Grass Lake. From a wildlife standpoint, there is a great deal of difference between the two and they should not be treated as the same water resource as their characteristics are quite different. As an example, the water source for Grass Lake is primarily from groundwater infiltration

*Gregg  
4/5/82*

with only infrequent interchange with the river which is usually of short duration. In addition, the water quality of the spring-fed marshes on the valley floor is usually much better than the river itself, therefore, it should be treated more carefully.

Since Grass Lake is a separate water basin dependent upon groundwater, it could be seriously affected by the 37 acre/feet of water from the landfill per year plus some concentration of leachate. The report states (page 36) that the valley water resource is large and would not be affected by the leachate. We claim that the nearby Grass Lake is not large and is highly vulnerable to both polluted surface runoff as well as groundwater. Therefore, additional consideration should be given to the existing or potential contamination of it by the landfill. At a very minimum, all surge pond outflow should be into the river not Grass Lake.

On page 32, the report states that the remainder of the Expansion Area is grassland which was likely pasture. Further information on this should be requested because if it is pasture and never plowed, there is a good chance it may be remnant prairie which is a very rare habitat.

On the other hand, we applaud the idea of preserving the native prairie bluff face in its natural condition (page 51). This area is proposed to be part of the Minnesota Valley National Wildlife Refuge and Recreation Area by Public Law 94-466 so we hope to see it preserved in some manner. To further encourage this step, there is the possibility of the landfill owner receiving some tax relief as a result of a donation of the land to a conservation agency.

We appreciate the opportunity to comment on the Environmental Assessment Worksheet. If there are any questions about our comments, please call me at 854-5900.

Sincerely yours,

Edward S. Crozier  
Refuge Manager

ESCrozier:bl:4-5-82

Michael Kodrich  
9450 Woodridge Dr.  
Eden Prairie, Mn. 55344

March 15, 1983

Metropolitan Council  
300 Metro Square Building  
St. Paul, Mn. 55101

Mr. Carl Schenk,

I am writing to inform you of my concern over the continuation and expansion of the Flying Cloud Sanitary Landfill.

1. Noise: earth movers can be heard as early as 4:30 A.M. in the Creekwood area, loud enough to awaken residents from sleep.  
the tail gates of garbage trucks can be heard banging as the trucks bounce along Hwy. 169 as early as 4:30 A. M.
2. Pollution of ground water and surface water in the Minnesota Valley National Wildlife Refuge. I question the existance of a land fill located in a sandy area do to the amount of leaching that will occur.
3. Erosion
4. Methane Gas: the problem itself.  
the idea of people using a park or golf course with pipes coming out of the ground to vent Methane Gas is contradictory to the idea of visiting a park and recreating in fresh air.
5. The continuation and increase of truck traffic on Hwy. 169 and County Rd. 1.
6. Proximity of homes: odors, litter, dust, noise.  
the danger of fire generated by Methane Gas.

cc: Don Storm  
Randy Johnson  
Bill Sando  
Dan Comeau  
Wolfgang Penzel  
Caral Jullie  
Chris Enger

Thank you for considering my concerns.

Sincerely,

*Michael Kodrich*  
Michael Kodrich

rec'd 3-15-83

10275 Winter Place  
Eden Prairie, Minnesota  
March 15, 1983

Carl Schenk  
Metropolitan Council  
300 Metro Square Building  
St. Paul, Minnesota 55101

Dear Mr. Schenk:

As a resident of Eden Prairies' Bluffs West second addition housing development, my wife and I are very concerned with the existence, and the possible future development of the Flying Cloud Sanitary Landfill. When we purchased our home in December of 1981, we were not informed of the Landfill or its location. It was after we had moved into our new home that we became aware of the efforts by Woodlake Sanitary Services to expand this Landfill site.

As you are probably aware of Mr. Schenk, not only does this landfill pose a potential hazard to the environment and its residents around this facility, but it has a detrimental affect on the value of our home. This becomes a very real problem since our house is the single largest investment we will make in our lifetime.

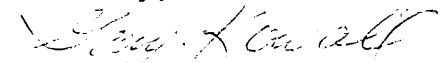
However, there is one other very acute problem that I would like to make you aware of. Due to the proximity of the landfill to our house we are constantly being disturbed by the noise generated by large Catapillar tractors and bulldozers emanating from the landfill. The hours of operation that we have recorded has been from four A.M. to well after midnight. It is developing into an ongoing disturbance that has left us with many sleepless nights and numerous occassion when we were awoken by their tractors.

I have carefully read part V section D of the AMENDMENT OF A PERMIT FOR CONSTRUCTION AND OPERATION OF A SOLID WASTE DISPOSAL FACILITY, dealing with noise control and analysis. I understand that there are Minnesota statutes requiring mandatory compliance concerning noise pollution. I am not familiar with what these rules and provisions state as far as what is considered excessive decibels or how one would go about measuring it. I do know that the level of noise coming from the landfill is totally unacceptable for me and my family, and that it is very doubtful that Woodlake Sanitary Services is operating within the parameters and statutes that you cite in this public notice.

Our fear is that if allowed to continue in operation The Flying Cloud Sanitary Landfill will be a constant source of annoying disturbance, not to mention the health issues involved and the environmental impact it has on its surrounding areas. It would also give it further impetus to expand its current boundaries for future utilization of the landfill. This would then create the ultimate problem, one that would require us to live under a constant noise and health hazard that would be even closer than it is today, or to sell our house at a substantial loss and move to another area.

My hope is that you would take a personal interest in this problem that we are faced with. I respectfully request that you deny Woodlake Sanitary Services Inc. the permit necessary to keep The Flying Cloud Sanitary Landfill in operation. This would entitle myself, my family, along with the other neighbors in our development the ability to function as a normal community without the fear of extraneous environmental hazards. This would also give us the peace of mind that our house will not depreciate in value.. Thank You.

Sincerely,

  
Gary Kowall

*Thompson*  
*Ray*  
*Carl S*

March 4, 1982

Metropolitan Council  
300 Metro Square Building  
7th & Robert St.  
St. Paul, MN 55101

Dear sirs;

Regrettably, we cannot attend the public meeting concerning the expansion of the Flying Cloud landfill in Eden Prairie, so we are writing this letter to offer our feelings on the issue.

We have lived on Mooer Lane for four months. When we bought our house we knew of the landfill, but recieved information that the landfill would close in the mid 1980's. We did not recieve any information that would indicate undue health hazard. Since living here and talking with our new neighbors we've found that the building here was done with the idea that the landfill would close in 1981. We were shocked to hear that, contrary to what we had been told, the landfill might continue to be used well into the 1990's. Almost all people here are dissappointed that the landfill is still open. We can hear machinery noise from the dump site, and neighbors say that in the summer, there is some odor from the site with west winds.

The aforementioned problems sound more like nuisances rather than direct health hazards. However, the hazard I am most concerned about is the effect of the dump on the future development of this housing area. Further extension of the operating permit seems like a rude betrayal of those who built with assurance that the landfill was closing. Most houses in our subdivision (Bluffs West) are well above average cost dwellings, intended to attain a well above average value. Lots along the river are intended to be for custom luxury homes. Apparently the subdivision was planned with the closing of the landfill to occur as previously scheduled, because I can't imagine anyone building a \$250,000 home next to the river under the present circumstances. Additionally, I can't imagine anyone building a \$90,000 home on the streets between Mooer Lane and the landfill. This can only mean that our property values will not attain reasonably expected values, and may even decrease as cheaper houses or no houses at all are built on these undesirable lots. Environmental hazard, whether perceived or real can also have a devastating effect on property values.

ROUTING

Admin. \_\_\_\_\_  
P. R. \_\_\_\_\_  
H. R. \_\_\_\_\_  
CS/PIO \_\_\_\_\_

MAR 7 1983

For your Information \_\_\_\_\_  
Take appropriate action \_\_\_\_\_  
Please reply \_\_\_\_\_  
Prepare reply for Chmn sig \_\_\_\_\_

There is always a risk involved with the selection of an area in which to buy or build a residence. Ultimately the buyer is responsible for his transaction, but the evidence indicates that the subdivision was planned with confidence that the Flying Cloud landfill would close in the early '80's. In the sense of fairness the dump should close as soon as possible (as previously scheduled). It is not in the best interest of Eden Prairie to have an underdeveloped eyesore type subdivision in what is otherwise a nicely developing area.

Sincerely,

*Anthony & Martha Lowe*  
Anthony & Martha Lowe  
10261 Mooer Lane  
Eden Prairie, MN

Excerpts from Amended Permit SW-14

Flying Cloud Landfill.

### PART III. SITE ANALYSIS AND ASSESSMENT

#### A. Site Investigation.

1. Site Development. Within three months of issuance of this permit, the permittee shall submit updated information pertaining to the facility's past and current design, construction, development, and operation since its original permit issuance. Specifically, the following information, prepared by a professional engineer registered in the State of Minnesota, shall be submitted:
  - a. An existing site conditions sheet. This sheet shall illustrate the results of a detailed topographic survey of the area showing grid coordinates, nearby surface waters, drainage ways, facility boundaries, past and current fill limits, current elevations, water monitoring wells, man-made features, soil boring locations, site base line or section lines, and other pertinent information. The minimum scale of this plan shall be one inch equals 200 feet horizontal with a maximum 10 foot contour interval.
  - b. Site cross-sections. A series of site cross-sections shall be developed in directions perpendicular and parallel to the section lines or established site base line. The cross sections shall show the horizontal and vertical limits of all past filling of waste at the site. Each cross-section shall contain the original and existing contours; soil borings and monitoring wells located along or near the cross-sections; currently known or inferred soil and bedrock types and elevations and water table elevations underlying the site; methane control systems; limits of excavation and filling sequences of past phases; proposed final fill contours; and other appropriate site features. The cross-sections shall be developed to illustrate where and to what depth filling and excavation has occurred at the site. The cross-sections shall reflect the fill volume restriction outlined in Part I.B. The minimum scale of the cross sections shall be one inch equals 200 feet horizontal and one inch equals 20 feet vertical.
  - c. Revised phase development plan. Revised phase development plans shall be prepared and submitted which reflect the fill volume restriction described in Part I.B. showing the progression of anticipated facility development through time for the duration of this permit. These phase development plans shall show the horizontal and vertical limits of the current phase and the surrounding site contours as they exist at the start of the respective phase. To the extent possible, the phases should be of six-month duration. The phase sheets shall show surface water drainage control features, direction and sequence of filling, phase starting point elevations, borrow areas, leachate and gas control features, monitoring systems, construction features, and other appropriate site features. The minimum scale of this plan shall be one inch equals 200 feet horizontal.

- d. Identification of those water-supply wells and surface waters that may or are likely to receive ground water influenced by the facility, and an assessment of the magnitude of the impact on each. In particular, the assessment of impacts shall include the consideration of low flow conditions in receiving waters, circulation characteristics of the easterly arm of Grass Lake; localized control of ground water flow directions by units of high permeability or low permeability; any alterations of ground water flow paths due to maximum withdrawals from private wells or projected withdrawals by the City of Eden Prairie; and projected ranges of ground water flow rates and pollutant loading rates.
  - e. Identification of the extent and magnitude of current impacts on ground water in the unconsolidated deposits and the bedrock and of current impacts on surface waters.
  - f. If these assessments identify either: i) significant actual or potential impacts on surface waters, or ii) that the zone of ground water likely to be affected by leachate extends substantially outside an area described by the shortest distances from the waste boundaries to the Minnesota River floodplain, the permittee shall describe the remedial measures to be undertaken to reduce the facility's impact.
3. Based upon information obtained in the subsurface conditions study, the permittee shall install additional, permanent water monitoring wells or stations at the facility and at other appropriate locations required by the Director. The monitoring system shall be constructed in accordance with the Minnesota Water Well Construction Code and other applicable regulations of the Minnesota Health Department.
- a. An expanded water monitoring system shall include sufficient wells and stations suitably located to assess the impact of the facility on ground and surface waters. The monitoring system shall be constructed so as to allow long-term monitoring of ground water heads and horizontal and vertical ground water movement.
- It may be appropriate to include certain private water supply wells in the sampling program. However, private wells may not be used as the sole means of the monitoring downgradient from the landfill in lieu of monitoring wells installed by the permittee closer to the waste boundaries.
- b. The monitoring system shall allow sampling along all potentially significant ground water flow paths from the filled areas, and shall enable sampling of water in the bedrock formations by means of wells suitably sealed so as to prevent mixing with water from the overlying strata. Monitoring locations may be necessary for sampling surface water or seepage in the Minnesota River floodplain, on- and off-site stormwater ponds, and at Grass Lake or near its margins.

c. High-quality drilling and laboratory identification logs shall be submitted for each well or piezometer within 30 days after completion. These logs shall include the following information at a minimum:

- (1) Detailed soil or rock description and classification, measured soil and rock properties, and elevations of upper and lower contacts classification shall be done by a qualified geologist or soils specialist. If the methods of drilling and sampling do not permit the soil characteristics and contact elevations to be described accurately and in detail, geophysical logs shall be provided.
- (2) Location referenced to known control points, date of completion, and name, address, and telephone number of person or company responsible for construction of the well.
- (3) Depth of well; construction materials utilized, including well casing type and size, screen opening size; size fraction of screen packing material used for casing and grout; the methods used to drill the hole, place the sealed intervals, and develop the well; elevations of the land surface, top of casing, and measured water levels; elevations of the top and bottom of the screen, casing, and each type backfill or seal; and geophysical logs, if any.

For any monitoring points to be abandoned, the methods used to seal and abandon the monitoring points shall be described in writing and submitted to the Director for review and approval prior to abandonment.

- d. Operation, development, sampling, and analysis of the monitoring system shall be in accordance with the requirements of Part II.E.
- e. The existing monitoring wells shall be evaluated to ensure they are representative of aquifer conditions, and any deficiencies which could affect recovery rates, static water levels and representative sampling shall be corrected if appropriate. Particular attention shall be given to the reliability of well 4's water levels.

B. Work Plan. A work plan shall be submitted to the Director within three weeks of the effective date of this permit. This work plan shall detail the specific field work and planned locations for the field work, the testing methods, and methods of predictive analysis and interpretation to be undertaken to obtain each of the informational requirements of Part III. A.2. above.

C. Report. A report shall be submitted within four months of issuance of this permit and shall include:

1. All pertinent data, all analytical results, boring logs and test results, documentation of methods used, interpretation and analysis, and conclusions from the investigation required in Part III.A. above.

2. Plan maps and a series of cross-sections showing the subsurface conditions obtained from the studies required in Part III.A. above including soil, rock, and refuse zones and ground water potential lines and inferred flow lines. The maps and cross-sections required in Part III.A. should be updated and ~~corrected~~ to reflect this new subsurface information and to reflect proposed filling limits in Stage 2. It may be suitable to adapt the cross sections required in Part III.A.1.b. to fulfill the requirements of this section.
3. Based on the analysis, interpretation and conclusions developed in Part III.C.1., the report shall include a discussion of possible remedial measures which could be taken to minimize ground water impacts from the facility and the appropriateness and effect of implementing those measures. Implementation of those measures shall occur in accordance with applicable statutes, ordinances, rules and the provisions of this permit.

#### PART IV. CLOSURE

- A. Except as otherwise noted, the permittee shall submit within seven months of issuance of this permit the following for review and approval by the Director:
  1. Closure Plan. The permittee shall submit a closure plan which discusses the anticipated sequence of events for closing the facility and individual areas and the procedures to be utilized for the inspection and maintenance of runoff control structures, vegetation, settlement, erosion controls, monitoring systems, and other long-term care needs. The closure plan shall describe the final cover, grading, surface water drainage control, settlement and erosion control, gas and water monitoring systems, long-term care needs, and other appropriate details for each respective area closed. References to the Ultimate Land Use Plan and a timetable for implementation of the closure plan shall be included.
  2. Ultimate Land Use Plan. A final facility topography plan sheet shall be submitted which shows the appearance of the facility after closure and indicates its ultimate use. The sheet shall illustrate the final facility contours, and shall incorporate the conditions set forth in Part IV.A.3.
  3. Monitoring Plan. The permittee shall submit a closure and post-closure monitoring plan which describes the network of sampling wells, piezometers, or other ground water monitoring devices, and surface water sampling stations developed for sampling and measuring water levels in each monitoring point, subject to any additions or modifications subsequently required by the Director.
  4. Financial Assurance. The permittee shall, within two months of issuance of this permit, submit documentation for the Director's approval, including a guarantee by its parent corporation, which demonstrates the establishment of financial assurance for the proper operation, closure and long-term liability, care and monitoring of the facility. The documentation shall include an inflation adjusted cost estimate for closure and long-term care and monitoring, a description of the financial instruments which assures the proper operation, closure and long-term care and monitoring of the facility in accordance with this permit.

- B. If for any reason the facility closes prior to filling the volume authorized by this permit or prior to the expiration of this permit, the permittee shall proceed with closure in accordance with Part IV.A.1. above and as approved by the Director. Closure activities shall be completed by the date specified by the Director.
- C. Closure Certification. The permittee shall notify the Director when closure is completed and shall submit a closure certification for approval by the Director. The certification, signed by a professional engineer registered in the State of Minnesota, shall certify, with any exceptions listed, that closure has been completed in accordance with the plans and specifications and this permit. It shall be certified that Director-approved methane and water monitoring systems are functional.

#### PART V. SPECIAL CONDITIONS

- A. Existing Methane Control System. Within six months of issuance of this permit the permittee shall submit to the MPCA for review and approval by the Director a post-construction and operations report describing in detail the existing methane control and monitoring systems at the facility. The report shall include as-built plans and specifications including narrative discussion as necessary to describe the following:
1. Active and passive systems layout including flow directions and rates, velocities, and pressures.
  2. Active system components including locations, elevations and construction details of all extraction wells, locations and specifications of conveyances such as headers and laterals, motor blower unit(s), mechanical and electrical control features including any back-up control features, and venting or flare station(s).
  3. Passive system components including locations, elevations and construction details of the clay barrier(s), gravel trench(s), collection headers, vents, risers, and methane monitoring probes.
  4. Locations and specifications of methane monitoring probes used to evaluate system performance.
  5. Description of active and passive system operation and maintenance procedures.
  6. A proposed monitoring and testing program which includes at least quarterly submittal of results (measured as percent combustibles) to the MPCA for review and approval by the Director. Monitoring frequencies, equipment, and instrumentation shall also be described in the report.
  7. A proposed contingency plan describing measures to be undertaken when and if odor nuisance conditions develop, when and if methane concentrations equal or exceed five percent combustibles as measured at or inside the facility property boundary and, when and if interruption of electrical and/or mechanical power supplies develop.