

## **APPENDIX D**

### **EXECUTIVE SUMMARY CITY OF WINNIPEG LANDFILL SITE-SELECTION REPORT**

LANDFILL SITING STUDY

Executive Summary

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Director



## LANDFILL SITING STUDY - EXECUTIVE SUMMARY

### BACKGROUND

In 1977 James F. MacLaren Ltd. completed a comprehensive Solid Waste Management Study for the City of Winnipeg. The findings of this study resulted in a 3 site landfill system and closure of the incinerator.

An energy-from-waste study, as recommended in the James F. MacLaren Study, was initiated 2 years ago and is now complete. A presentation of the study findings to Works and Operations Committee took place on March 5, 1985. The consultant's findings are that an energy-from-waste plant is economically viable for Winnipeg. If this project is approved, a detailed 2 year study will be conducted with a three year construction period to follow. The plant could be operational around 1990. Because of the lead time required to implement either a plant or a new landfill, the energy-from-waste and landfill siting studies proceeded concurrently.

This report deals with the findings of the Landfill Siting Study.

In 1982 a task force was assembled to carry out a preliminary engineering study into future landfill siting. The task force consisted of staff with operating expertise from the Operations Department, input from the Civic Properties Department on building requirements and environmental expertise from the Waterworks, Waste and Disposal Department. The Steering Committee for this study consisted of Mr. S. Dolhun, P. Eng. of the Operations Department, Mr. E.H. Klassen, P. Eng. of the Waterworks, Waste and Disposal Department and Mr. R. Houghton, P. Eng. of the Civic Properties Department. The Task Force consisted of Messrs. T. Zielonko, P. Eng. and H. Sandulak of District 4 Operations, Mr. R. Christiuk, P. Eng. of the Civic Properties Department and Messrs. D. Moerman and T.J. Kuluk P. Eng. of the Waterworks, Waste and Disposal Department. In addition, a number of other City Departments were contacted for specific information, including the Environmental Planning, Land Surveys and Real Estate, Streets and Transportation and Parks and Recreation Departments. This study was patterned after the 1977 James F. MacLaren Ltd. report and utilized MacLaren Engineers Inc. for the financial analysis by computer. During the course of finalizing the recommendations, presentations were made to the Operations Department and valuable feedback was received for consideration.

The study included an examination of the effects of resource recovery on landfill requirements and considerations for implementing the recommendations, including the matter of public participation.

INDEX

This summary report is organized under the following headings:

- Recommendation
- Implementation Considerations
- Implications of an Energy-From-Waste Plant
- Introduction
- Past and Current Disposal Practice
- Landfill Siting Study
- Waste Reduction Alternatives
- Implementation Considerations

Figures referred to are appended to this report.

## RECOMMENDATION

Based on the Landfill Siting Study, IT IS RECOMMENDED THAT THE EXISTING DISTRICT 6 SITE BE EXPANDED TO A 40 YEAR SITE, WITH TRANSFER FACILITIES. ✓

## IMPLEMENTATION CONSIDERATIONS

The existing District 2 and District 4 landfills will be completed by 1989. In order to ensure sufficient disposal facilities for 1989, the following steps must be implemented:

- 1.) Develop details for planned closure of the District 2 and District 4 landfills.
- 2.) Initiate land acquisition.
- 3.) Detailed engineering for development and transfer facilities.
- 4.) Establish a Citizen's Advisory Committee to work with the Administration in developing landfilling and end use concepts.

## IMPLICATIONS OF AN ENERGY-FROM-WASTE PLANT

The recommendation is still valid with an energy-from-waste plant, except that the land requirement would be reduced by approximately 65 percent.

## INTRODUCTION

Current residential, commercial and industrial waste generated annually in Winnipeg amounts to 450,000 tonnes (500,000 tons) and in the next 20 years this quantity is expected to increase by 35%. The waste is disposed of at the three active landfill sites in Winnipeg located in the northwest, northeast and southwest sectors of the city. Over the next 20 years, the land disposal requirement is 162 hectares (400 acres).

By 1989, two of these sites, which receive the majority of the waste will be completed. Since it could take up to 5 years to implement a new site, it is urgent that the necessary preplanning be done now. If preplanning of new facilities involves the public, any significant concerns can be taken into consideration, thereby eliminating conflicts in the latter implementation stages.

The purpose of this study was to address the foregoing issues in developing recommendations for a long term landfill and a process whereby the relevant community can participate in the implementation process.

## PAST AND CURRENT DISPOSAL PRACTICE

Prior to planning future facilities it is useful to review past and current disposal practice in Winnipeg.

### Past Practice

As the result of separate disposal operations in the municipalities that now constitute Winnipeg, there are 35 closed landfills and dumps of various types in the Winnipeg area.

In 1974 methane problems were discovered in 7 industrial buildings located on the former St. Boniface Landfill site, which ultimately resulted in closure of these buildings. Another concern with landfills is the potential for pollutants affecting ground water or surface water. A program for monitoring former and active landfills was instituted in 1979 and based on the findings thus far it appears that such vigilance will be required in the long term. Therefore, from the standpoint of the long term care requirements, it is advantageous to minimize the number of new facilities.

In addition to landfilling, incineration was used to reduce waste quantities, with the ash disposed of at dump sites. The largest incinerator, which was built in the 1940's off Henry Avenue, was closed in 1978 due to the cost of upgrading to modern standards. The large ash dump off McPhillips Street in West St. Paul, which received the ash from the Henry Avenue incinerator, is in the process of being landscaped. Ash disposal sites can be used upon completion, as is the case with the former ash dump located off Empress Street which was developed into Westview Park.

### Current Practice

Current waste disposal is by sanitary landfilling at the three active sites located in Operations Districts 2, 4, and 6. Please refer to Figure 1.) of this report for the exact location of these sites.

Sanitary landfilling is defined as "a method of disposing of refuse in land without creating nuisances or hazards to public health or safety, by utilizing the principles of engineering to confine the refuse to the smallest practical area, and to cover it with a layer of earth at the conclusion of each day's operation or at such more frequent intervals as may be necessary." The key elements to achieving these objectives are, compaction of the waste, daily cover, monitoring for gases and liquid pollutants, and a final cover and appropriate end use.

The largest active landfill is Kilcona Park (see Figure 2). This is a pre-planned, environmentally sound, sanitary landfill, which is being developed concurrent with a regional park. Proper planning and design allows for non-conflicting activities to take place concurrently. At the Kilcona Park site effective separation and screening allows for a variety of recreational activities to take place at the same time as landfilling.

Currently, the District 2 site receives approximately 30% of the total waste generated, the District 4 site receives 50 percent and the District 6 site the remaining 20 percent. By 1989, the District 2 and District 4 sites will be completed, therefore, by 1989 a location must be found for 80 percent of the City's waste. Since it can take up to 5 years to implement a new site, a preliminary engineering study has been carried out to initiate this process.

### LANDFILL SITING STUDY

The study methodology is illustrated on Figure 3, and described as follows:

- A.) Establish the existing and projected distribution of quantities for the City.
- B.) Establish the location of alternative disposal and transfer\* sites in consideration of constraints and environmental and social factors..
- C.) Establish capital and operating costs for disposal sites and transfer facilities.
- D.) Establish costs of hauling waste to alternative sites.
- E.) The operating and capital cost information from activities A.) through D.) is processed in a financial analysis by computer to yield a present worth cost for the various alternatives. This output on the economics of various alternatives is used in the evaluation.
- F.) The evaluation of site alternatives is based on economic factors from Activity E.) and environmental and social factors from Activity B.). Preferred sites are selected in this activity.

\* A transfer site is the location of a facility to transfer the loads from standard collection vehicles into larger vehicles to minimize the number of vehicles hauling to a disposal site.

### Quantities

Figure 4) shows the projected residential, commercial and industrial waste generation over the 20 year study period commencing in 1981. This chart does not include construction and demolition or clean fill wastes, which amount to approximately 200,000 tonnes (220,400 tons) per year. As can be seen in Figure 4), current yearly quantities are approximately 450,000 tonnes (495,900 tons) and this is expected to increase to 570,000 tonnes (628,000 tons) by year 2001. For purposes of establishing costs of hauling to the various disposal alternatives, these quantities were distributed for the City as to locations of origin.

## Site Selection

For site selection, the study area included the City of Winnipeg and the Additional zone. The first step in this process was to eliminate areas with constraints prohibitive to locating new landfills. These constraints included the following:

- waterways and flood plains eg. Red River
- ground water recharge areas eg. Birds Hill area
- developed or committed development areas
- transportation corridors
- historical sites
- archeological sites
- airport control zones (within 5 mile radius of the Winnipeg International and St. Andrews Airports.)

When a composite is produced of all the constraints superimposed on the study area (see Figure 5) it can be seen that there is not much land available for landfilling within the City boundary.

Based on the available soils and groundwater information, accessibility, expansion potential and preliminary economic analyses, alternative sites in each sector were screened to identify sites with the best potential for more detailed analysis.

### Northwest Sector Sites (Refer to Figure 6)

Because of limited areas of sufficient clay depth, only one potential site was identified in the northwest sector.

The advantage of this site is that it would complement the existing District 6 site for a 2 site system. The main disadvantage of this site is, that there is a potential for shallow soil anomalies and high groundwater conditions in this area, which could create operational and environmental problems. Also, the site is outside of the City proper, in the Additional Zone.

### East Sector Sites (Refer to Figure 7)

Of the sites in the East Sector, L12 was the preferred location. Sites further to the south, west and east were excluded based on site specific limitations such as expansion potential, proximity to development and accessibility, or they were too close to the existing District 6 site to the west to justify a second site.

The advantage of this site is that it would complement the existing District 6 site for a 2 site system. The main disadvantage of this site is its proximity to the Deacon reservoir. Problems have been documented with gulls from landfills frequenting nearby reservoirs and affecting water quality. Also, this site is outside of the City proper, in the Additional Zone.



### Southwest Sector Sites (Refer to Figure 8)

Of the sites in the Southwest sector, the existing District 6 site was the preferred location. Sites further to the north and west were excluded based on site specific factors whereby they offered no advantage over the existing District 6 site.

The advantages of the District 6 site are the good soil and ground water conditions and being located within the City boundary. Also, a preliminary use for this site has been established.

### Financial Analysis

A financial analysis by computer was carried out for haul costs and landfill operating costs over the study period, utilizing combinations of the preferred sites in each sector. The alternatives analysed included the following:

- 3 site system
- 2 site system
- 1 site system
- 1 site system with transfer facilities

The differences in the 20 year present value costs for these alternatives were marginal therefore the selection of the preferred alternative was based on the comparative advantages/disadvantages of the options.

### Evaluation of Site Alternatives

The evaluation considered the current trends which could affect future landfills. Trends such as:

- landfill standards becoming more stringent. This includes increased requirements for control and monitoring of gas and leachate.
- possibilities of waste reduction through incineration and/or materials recovery, and
- changes in waste composition and quantities due to new products and containers.

A one site system using the District 6 site with transfer facilities was selected as the preferred solution based on the following considerations:

- good soils and groundwater conditions
- ample room for expansion
- this is an existing use in the area
- within the City boundary
- preliminary end use established

In order to ensure that sufficient long term capacity is provided, a 40 year capacity or approximately 400 hectares (1000 acres) of land should be assembled.

Therefore, IT IS RECOMMENDED THAT THE EXISTING DISTRICT 6 SITE BE EXPANDED TO A 40 YEAR SITE, WITH TRANSFER FACILITIES.

One of the considerations was whether there is a need for long term land-filling with the possibilities of incineration and/or recycling. The following section examines the impact of waste reduction alternatives.

### WASTE REDUCTION ALTERNATIVES

The current composition of our waste is as shown in Figure 9.

#### Extraction and Recycling

One source of waste reduction would be material extraction and recycling. This can be done either through home separation or at a plant.

In home separation, residents separate glass, metal and newspapers for curbside pickup. This requires a strong commitment from the residents and a market for the materials.

Separation can also be done mechanically in a plant, although the cost is very high and a secure market would be required for the materials.

Even under ideal circumstances it is unlikely that a 20% reduction can be achieved in the foreseeable future through recycling, therefore, landfilling would still be the main disposal method.

#### Incineration

Based on the recent Energy-From-Waste Study, for a plant startup in 1990, landfilling would still be required for 34% of the total quantity. The ash product and the material surplus to the plant's needs must still be land-filled.

Therefore, even with recycling and/or incineration, in the foreseeable future, landfills will still be required.

## IMPLEMENTATION CONSIDERATIONS

Further to the recommendation made earlier, the following are some considerations relative to implementing the District 6 Landfill as a long term solution.

### Transfer Facilities

For a one site operation, the level of service, that is, distance of travel for disposal, can be maintained by providing transfer depots and or transfer stations.

A transfer depot refers to a drop off facility for small residential disposal, typically by homeowners. Periodically the refuse would be transferred to the landfill. The depot(s) would be located so as to provide disposal locations in the same general area as the current landfills.

A transfer station refers to a major drop off point for typical refuse trucks in order that the waste collected can be transferred to the landfill by a larger vehicle, thus minimizing the number of vehicles hauling to the landfill. The preliminary financial analysis for the District 6 site indicated that one transfer station would be advantageous within the 20 year planning period.

### End Use

Of importance is an end use plan for a site because of the long term care requirements. The Kilcona Park (District 4) site is typical of the kind of end use to be considered, that is, some form of recreational use.

### Implementation Plan

Figure 10 illustrates the activities for implementing the recommendation.

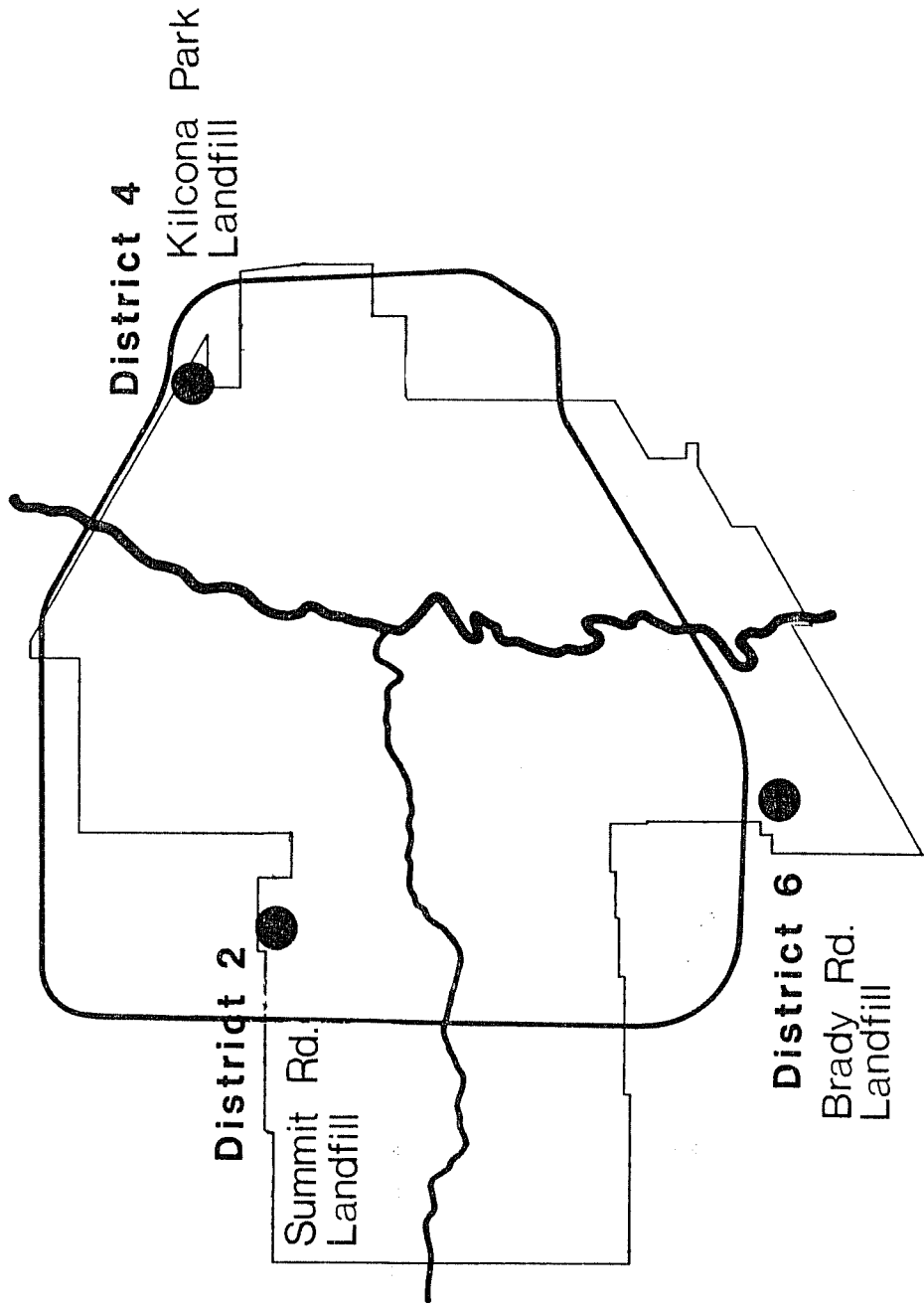
The existing District 2 and District 4 landfills will be completed by 1989. In order to ensure sufficient facilities for 1989, the following steps must be implemented:

- 1.) Develop details for planned closure of the District 2 and District 4 landfills.
- 2.) Initiate land acquisition.
- 3.) Detailed engineering for development and transfer facilities.
- 4.) Establish a Citizen's Advisory Committee to work with the Administration in developing landfilling and end use concepts.

The process being recommended for implementation has been successfully used for the Kildona Park Landfill. The Citizen's Committee for the Kilcona Park Landfill provided good solid input throughout the implementation and operating phases, which has resulted in a desirable end product.

As in the Kilcona Park Landfill, consultants would be assigned to carry out detailed soil investigations and to establish specific land, transfer and operational requirements for the one site system.

# Current Disposal Is By Sanitary Landfilling

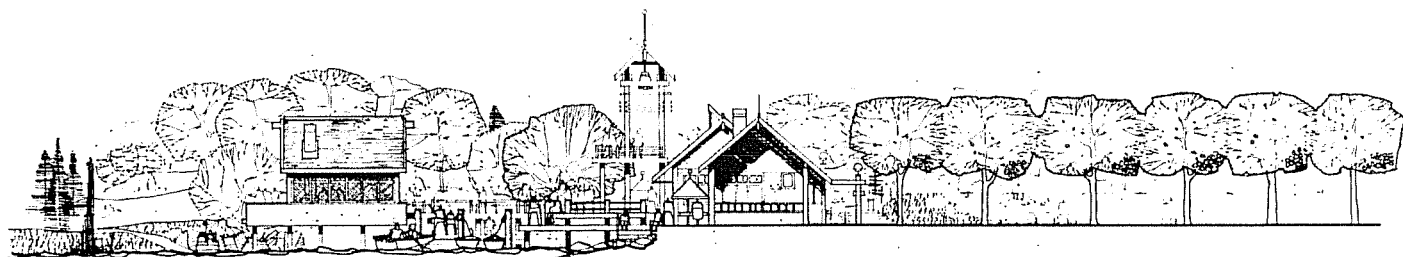
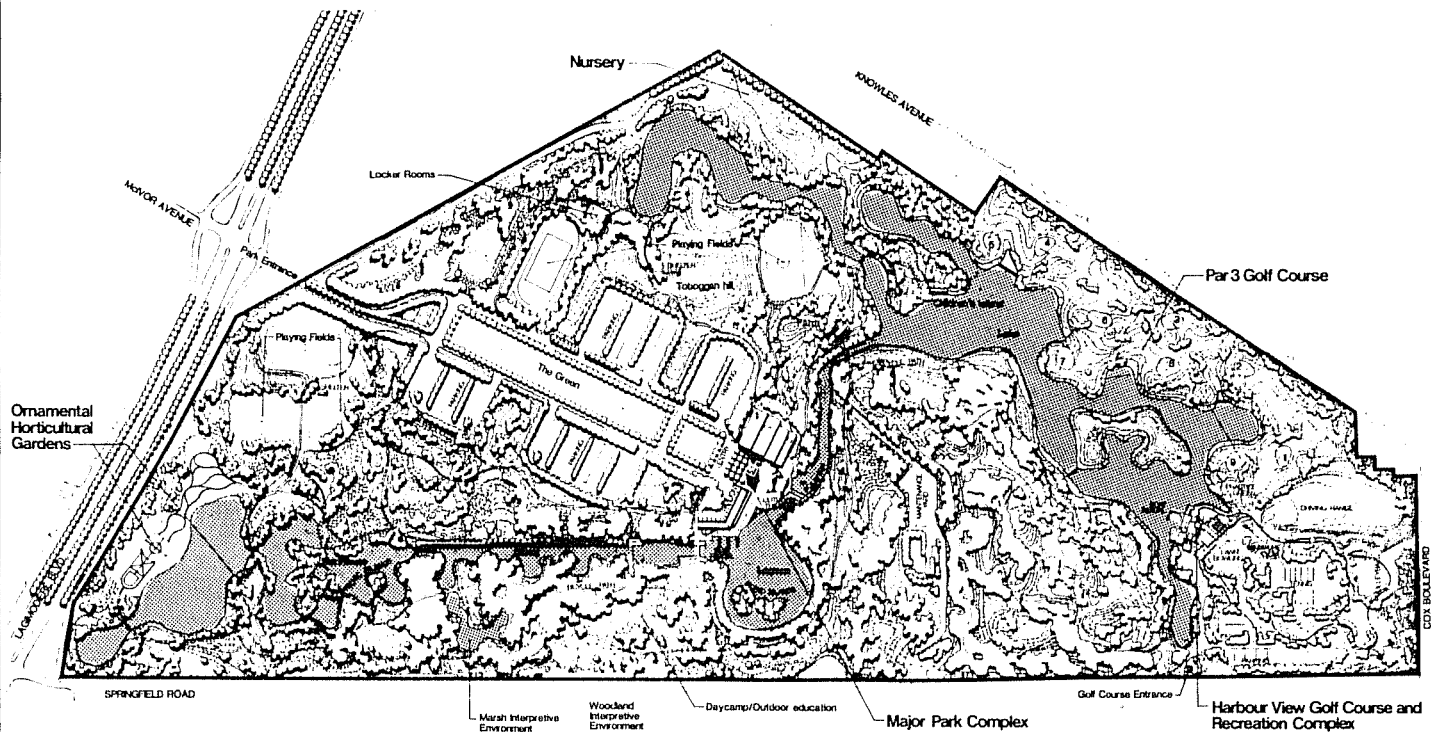


# Kil-Cona Park

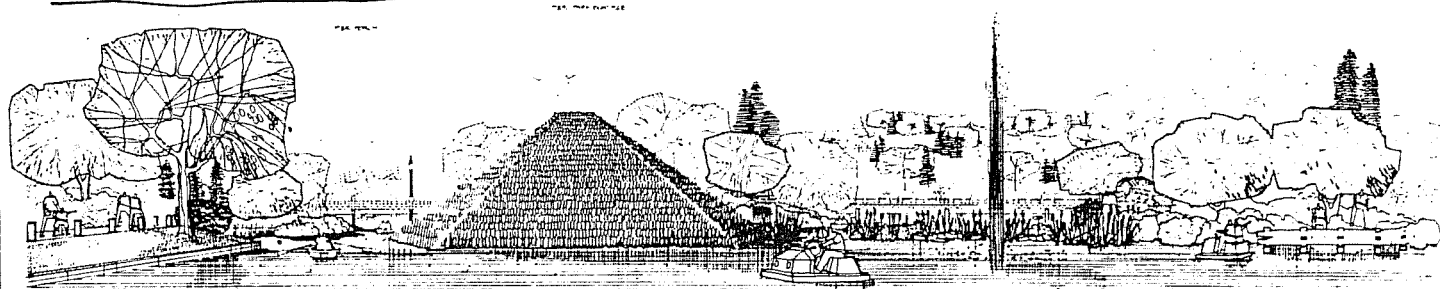
## Winnipeg, Manitoba

Kil-Cona Park, when completed during the 1990's, will be the largest public park in the City of Winnipeg. The 182 hectare park development will in part be constructed on a 72 hectare sanitary landfill site. Unlike the development of the City's previous landfill operations for solid waste disposal, the planning of this site involves a careful integration of park needs with the requirements of solid waste disposal. The resultant terrain, comprised of rolling hills and over 6 miles of treated shoreline, will eventually disguise the former landfill operations; creating a diversified landscape, capable of accommodating a wide variety of year round recreational activities.

As prime consultants, Lombard North Group has been responsible for master planning and detailed design for most components of the park and continues to play a major role in ongoing park planning and development processes.



EAST PARK VILLAGE - CROSS-SECTION



VIEW FROM EAST PARK VILLAGE

# Study Methodology

Establish Existing  
And Projected  
Distribution Of  
Quantities

Establish Disposal  
& Transfer  
- Operating Costs  
- Capital Costs

Establish Haul Costs  
For Alternative Sites

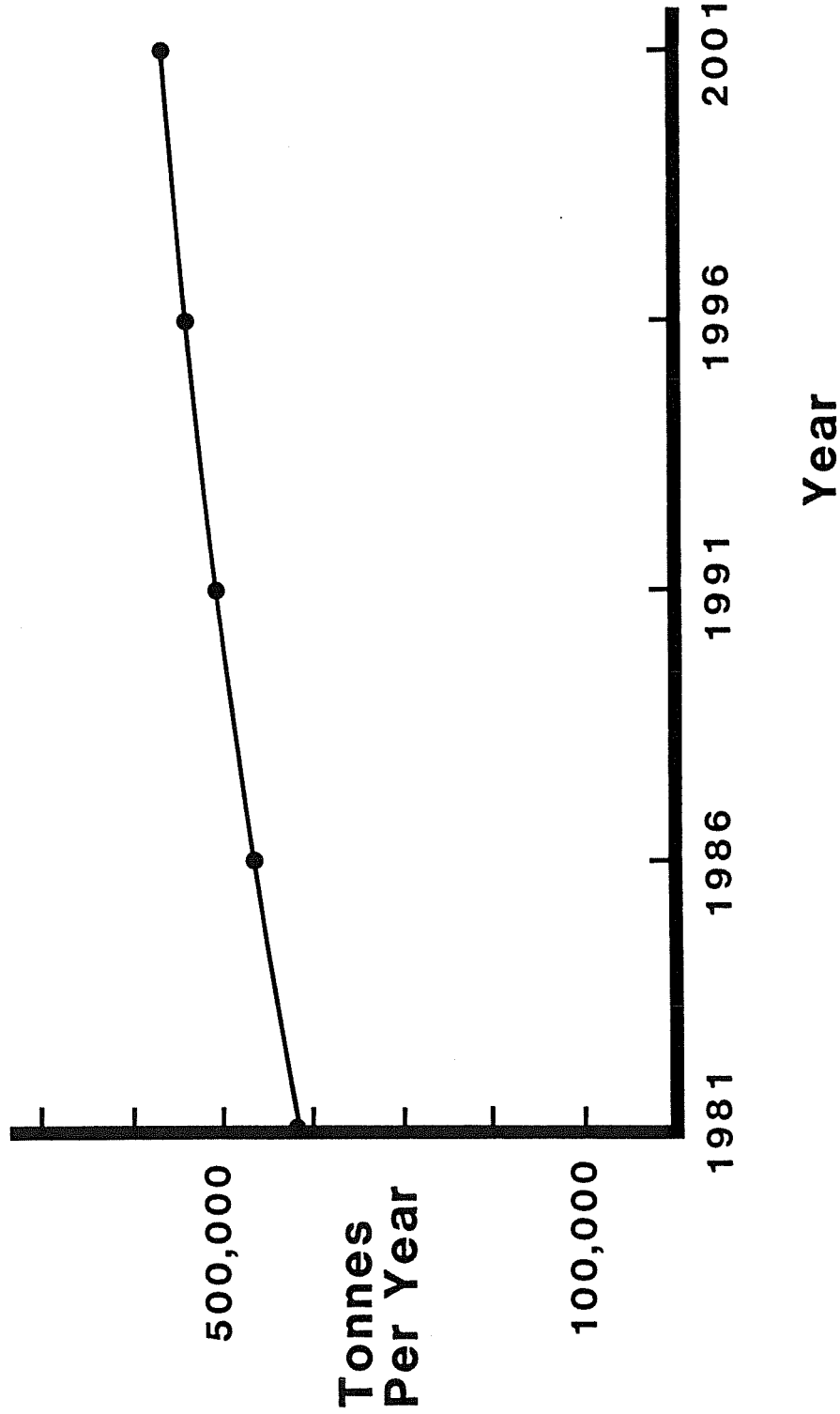
Establish Disposal &  
Transfer Site  
Alternatives  
- Constraint Mapping  
- Environmental  
Considerations  
- Social  
Considerations

Financial  
Analysis

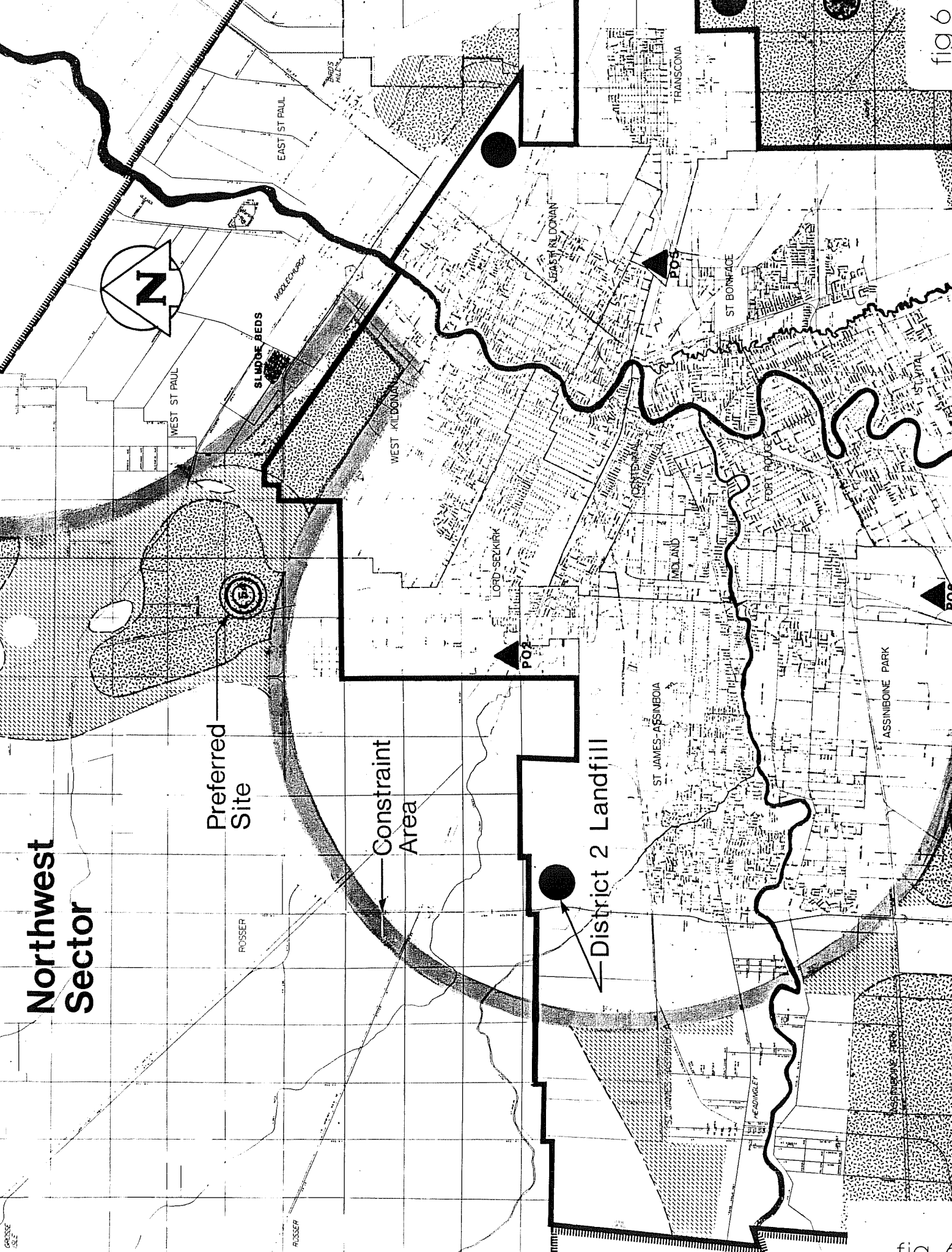
Evaluate Site  
Alternatives &  
Select Preferred  
Sites

Environmental And Social Factors

# Current And Projected Solid Waste Quantities ( Not Including Construction, Demolition Wastes & Clean Fill )

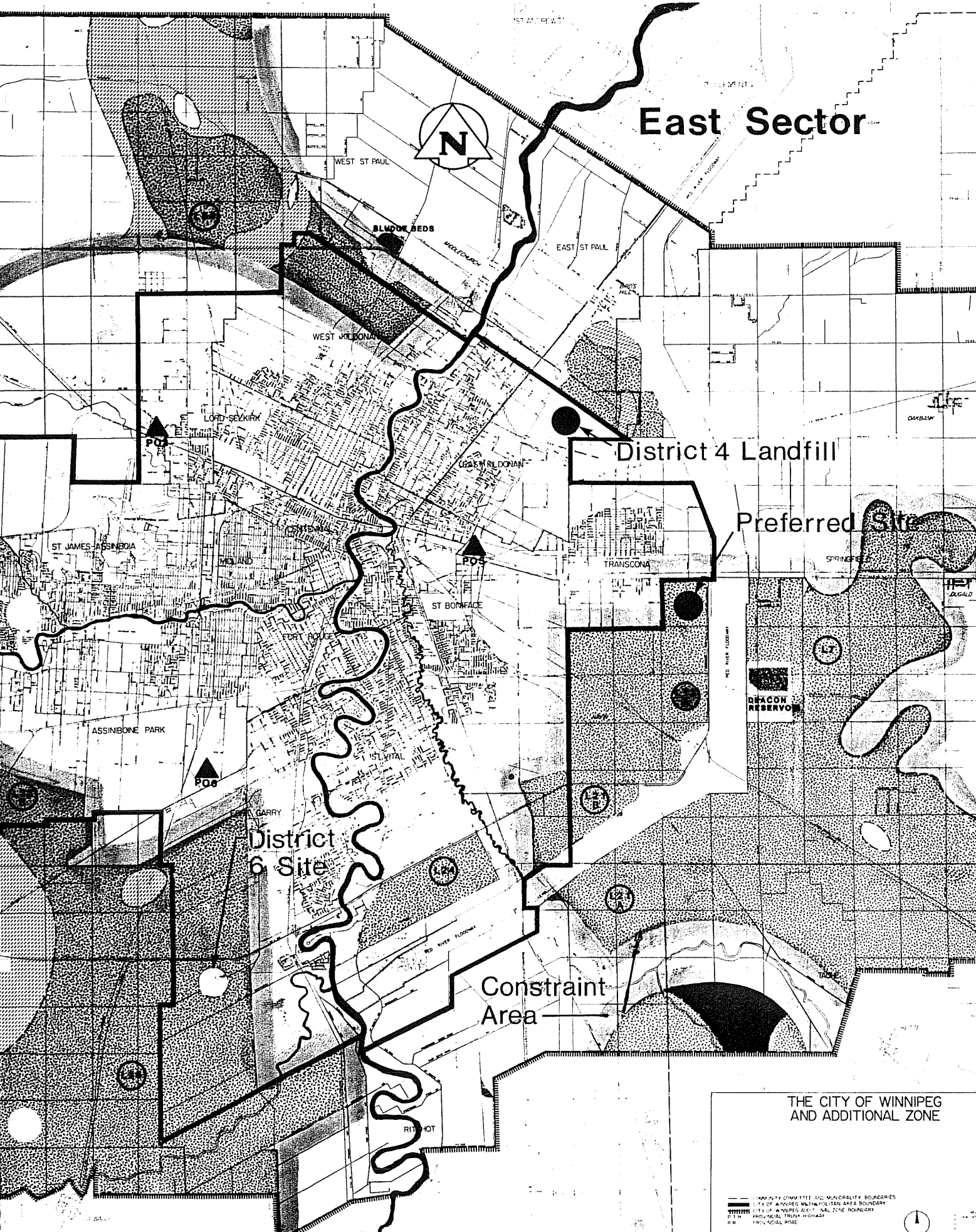


# Northwest Sector





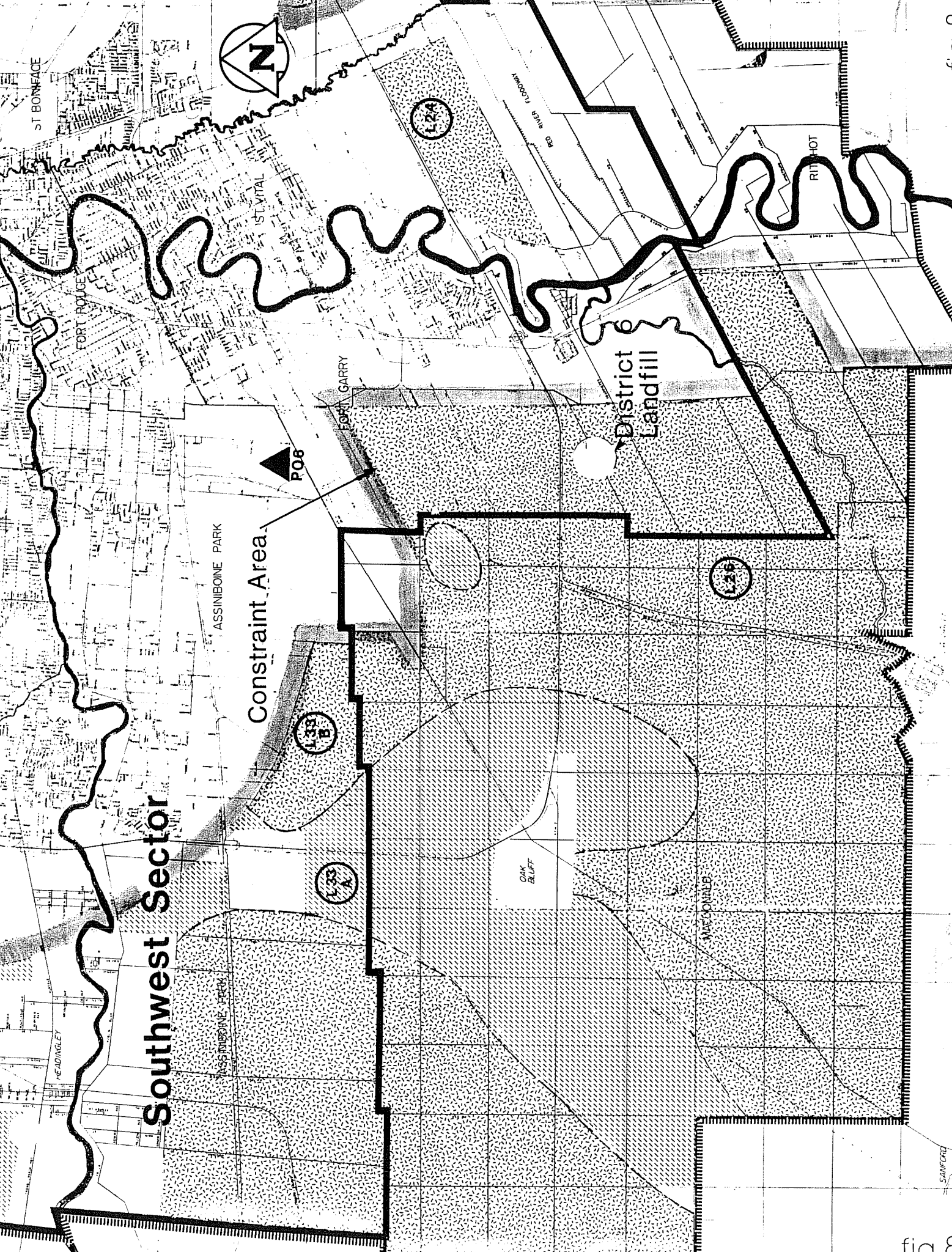
# East Sector



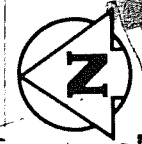
THE CITY OF WINNIPEG  
AND ADDITIONAL ZONE

- COMMUNITY COMMITTEE AND MUNICIPALITY BOUNDARIES
- CITY OF WINNIPEG MULTIPURPOSE AREA BOUNDARY
- CITY OF WINNIPEG ZONE BOUNDARY
- PROVINCIAL TRUNK HIGHWAY
- PROVINCIAL ROAD





ST BONAFACE



# Southwest Sector

Constraint Area

District Landfill

ASSINBOINE PARK

PO8

FORT GARRY

ST VITAL

FORT ROUGE

RIT-HOT

L25 B

L25 A

OAK BLUFF

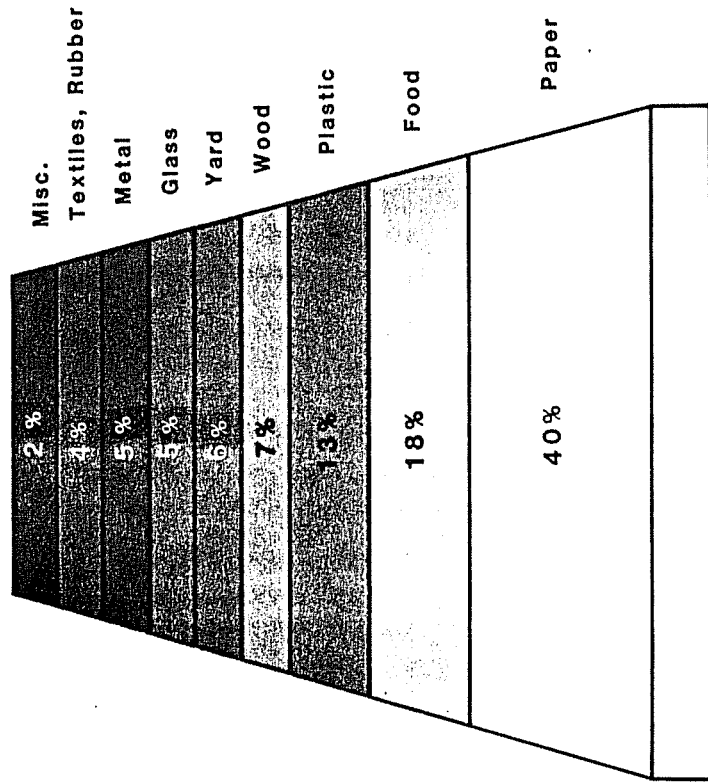
L24

HEADRAGLEY

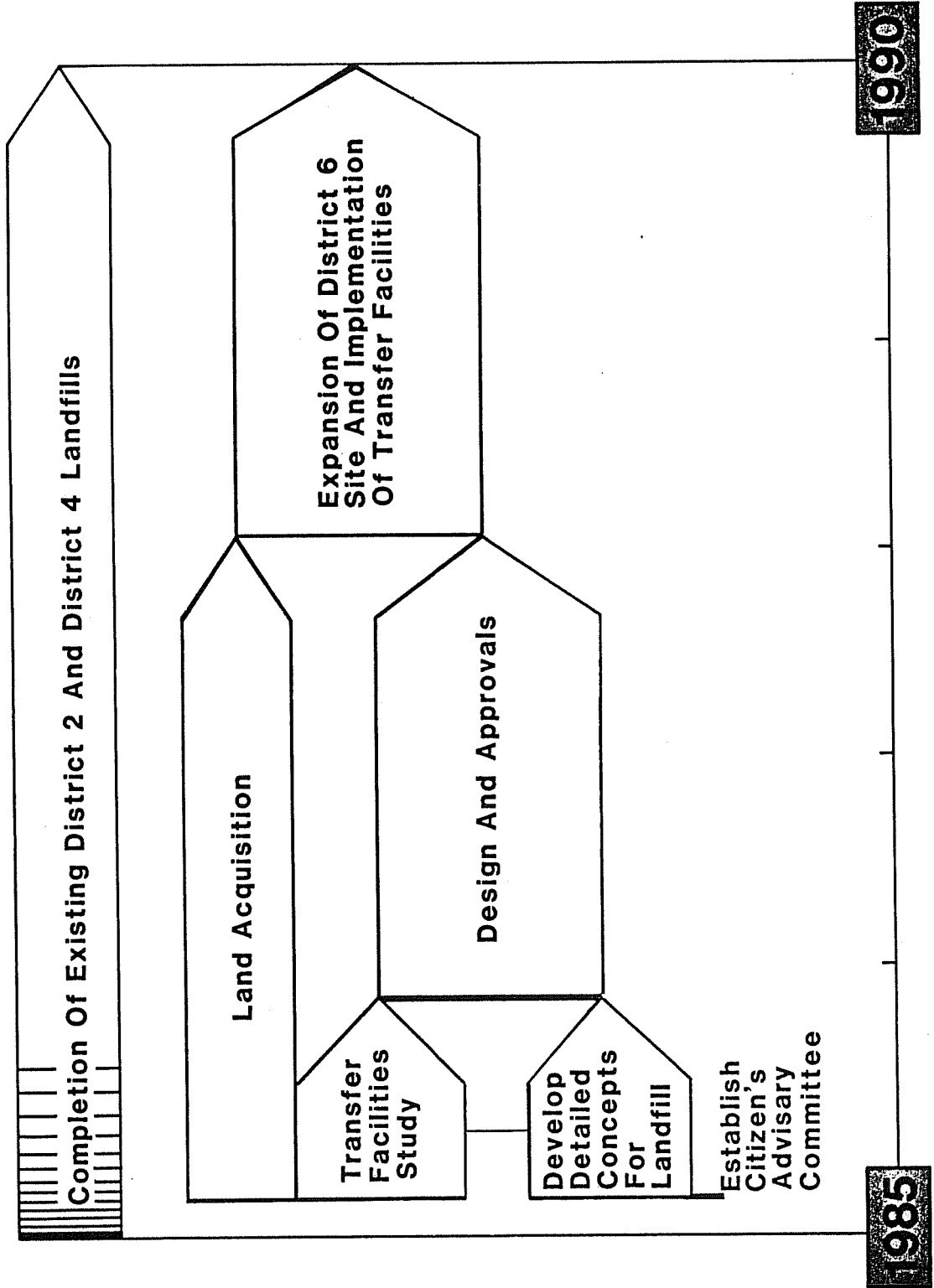
ASSINBOINE PARK

MACDONALD

# Composition Of Solid Waste



# Implementation Plan



## **APPENDIX E**

### **CITY OF WINNIPEG PUBLIC PARTICIPATION REPORTS**

- **CIWMP Phases 1-3**
- **Landfill EIA – Public Meeting**



# **BRADY LICENSING PUBLIC PARTICIPATION REPORT**

November 2011

For more information on this survey, please contact:

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## **BACKGROUND**

### **Overall Public Participation Strategy**

Brady Road public consultations took part in two stages:

1. From November 2010 to September 2011 – over the course of the Garbage and Recycling Master Plan consultations
2. October to November 2011 – the final stage before the environment licence application

### **Public Participation – Garbage and Recycling Master Plan**

City Council directed the City of Winnipeg to develop a Garbage and Recycling Master Plan before proposing any more changes to existing services. The City of Winnipeg also used this opportunity to integrate the process of obtaining a licence for Brady Road to provide a complete look at our systems.

The vision and plan for the future of garbage and recycling services will be built through a six-month public participation process that is broken down into three phases:

#### **Phase 1: Dialogue**

The public process kicks off by talking about issues and looking at values, finding out how stakeholders would like to see our services in the future. A working vision will be created at the end of the phase.

#### **Phase 2: Exploring**

This phase starts exploring different service options and digs deeper into details. This phase will take the vision from Phase 1 and determine how we are going to get there.

#### **Phase 3: Confirming**

The final phase shares the Garbage and Recycling Master Plan.

To provide a more interactive experience for residents, a new website was launched on [SpeakUpWinnipeg.com](http://SpeakUpWinnipeg.com). The new website features blog posts, videos, reports, information on public events and the opportunity to share comments publicly. A video tour of Brady Landfill was created and can be found online:

<http://garbage.speakupwinnipeg.com/2010/11/brady-road-landfill/>



## CONCLUSIONS

Over four-in-ten stakeholders felt that they were not as informed about Brady Road Landfill as they would like to be. Based on feedback received and questions asked during the Public Meeting, it is recommended that further information about Brady Road Landfill be added to the website:

- Brady Road lifespan and timeline of plans
- Organics processing
- Information on how to deal with odour and litter complaints
- Treatment of leachate and handling of biosolids
- Methane capture use
- Expansion of waste reduction activities

There was also a strong response from stakeholders indicating that they wanted to be kept informed of progress on Brady Road Landfill plans. It is recommended that:

- A bi-annual update newsletter be sent to surrounding homes and interested stakeholders.
- Public meetings or open houses be held in the community at key milestones.
- Open houses be held at Brady Road Landfill to educate the public on its role in waste management and diversion, and to provide transparency for its operations.

While it was suggested that the City form a Stakeholder Advisory Committee, comprised of selected residents and interested stakeholders, who would provide input on the project while being a conduit to the community, past experience has shown that these committees work best when there are specific issues that need to be addressed. This would not be the best way to work with the community as a whole on future project plans.

The public meeting was very well attended; however, the meeting facility and structure could have been better set up to accommodate an unexpected larger number of participants. To ensure future public meetings run more smoothly, the City will consider pre-registration of participants, while still welcoming walk-ins.

In working with an independent moderator there was a difference in expectations of how the meeting would be conducted, which could have been avoided had there been clearer communication between the City and the moderator. In the future, the City will work more closely with any moderator to ensure that both parties' expectations are met and meetings are ran the best way possible.

## **STAGE 1: BRADY LANDFILL PHASE 1 FEEDBACK**

On November 13, 2010, the City of Winnipeg hosted the Speak Up on Garbage Expo to kick off the six-month public participation process for the Garbage and Recycling Master Plan.

At the Expo, participants had an opportunity to:

- share their vision on what the future of garbage and recycling services should look like in Winnipeg,
- hear comments and presentations from a panel with expertise in waste management,
- participate in round table discussions on the topics of their choice (e.g., curbside organics collection, recycling, garbage services, Brady Road Landfill).

In addition feedback items were received through SpeakUpWinnipeg.com, social media initiatives and comments on earned media (e.g. winniepegfreepress.com).

The strongest themes found in the feedback related to the need to reduce the amount of waste being disposed of at Brady Landfill through diversion programs. This included:

- Increased options for the separation of waste at the landfill for further diversion and material recovery.
  - This would include materials such as lumber, bulky waste, construction material, household hazardous and electronic waste at the Landfill
- Brady as “industrial park” with businesses that divert and recycle products on-site and then sell them
- A tipping fee structure that promotes greater diversion
- Exploring energy from waste options
- Stronger education about the Landfill

## Phase 1 Surveys – Background & Methodology

Public feedback was collected through:

- Phone market research survey conducted by NRG Research Group
  - From November 23 - December 3, 2010
  - 1,664 respondents
- A web-based survey linked from our web site:
  - From November 25 - December 14, 2010
  - 300 respondents

Winnipeg residents were asked about their waste management habits, perceptions, service type and satisfaction. The sections of the survey related to Brady Road landfill are discussed in this report.

The confidence interval for the phone survey of over 1,600 respondents is +/-2.5 percent 19 times out of 20.

**While the feedback collected through the phone market research survey is scientifically valid, the results from our web-based survey is not scientific and only a summary of responses.**

Responses from our web-based survey are based on self-selecting respondents who are more likely to respond because they would like to express an opinion on the topic at hand. While these opinions are valuable, they cannot be viewed as representative of all Winnipeggers.

For a more representative reflection of the opinions of Winnipeggers, the phone survey responses are emphasized below to stress the greater weight their results hold.

## Phase 1 Surveys – Brady Landfill

Near the start of the survey respondents were asked to rate the importance and satisfaction on a series of waste management activities: garbage collection, recycling collection, landfill maintenance, and composting program. Using a 10 point scale, the results for landfill maintenance are provided:

Landfill maintenance: Importance	Phone survey	Web-based survey
Top box (8-10 score)	<b>68%</b>	68%
Mid box (5-7 score)	<b>23%</b>	25%
Low box (1-4 score)	<b>4%</b>	5%

Landfill maintenance: Satisfaction	Phone survey	Web-based survey
Top box (8-10 score)	<b>27%</b>	9%
Mid box (5-7 score)	<b>41%</b>	38%
Low box (1-4 score)	<b>10%</b>	15%

The next question asked about the landfill was: *The City currently maintains a landfill site at Brady Road, which is at the south end of the city. How familiar are you with Brady Road landfill?* As the figure below shows, about two-thirds of respondents are at least somewhat familiar with the Brady landfill.

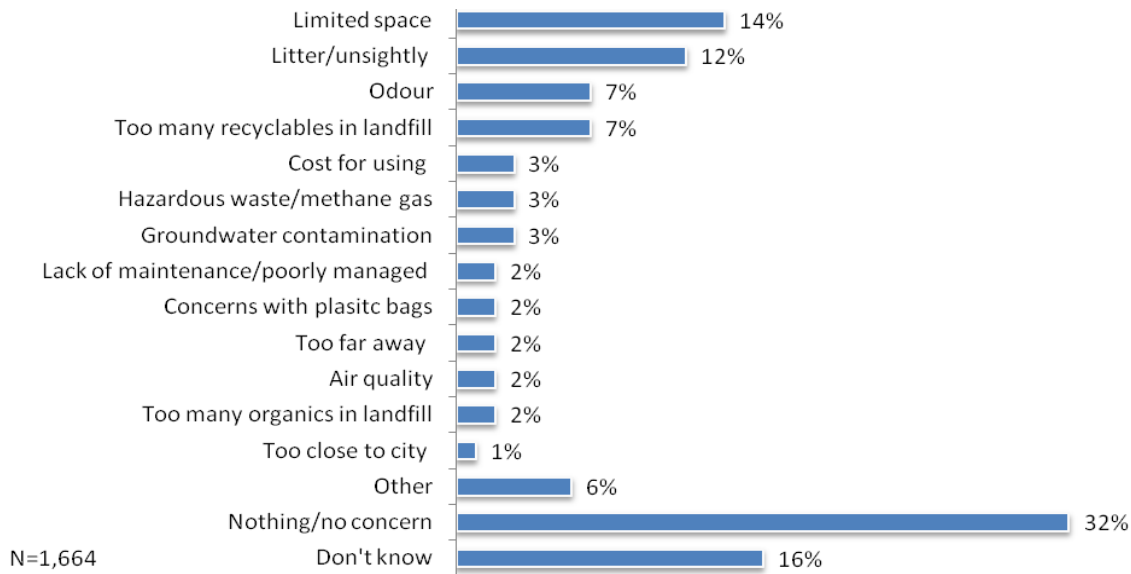
	Phone survey	Web-based survey
Very familiar	<b>30%</b>	27%
Somewhat familiar	<b>36%</b>	43%
Not very familiar	<b>24%</b>	28%
Never heard of	<b>10%</b>	1%

Respondents, who had any familiarity of Brady Landfill, were asked: *How often, if ever, do you go to Brady Road landfill?*

	Phone survey	Web-based survey
Never been to the landfill	<b>44%</b>	39%
Less than once a year	<b>35%</b>	40%
About several times a year	<b>18%</b>	18%
About once a month or more	<b>2%</b>	1%

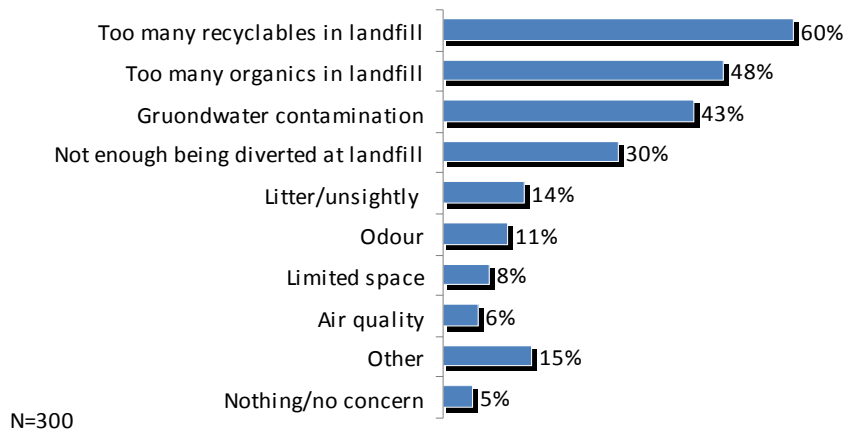
Respondents were asked: *What are your main concerns regarding Brady Road landfill?*

**Brady Landfill Concerns – Phone survey Open-ended question**



\*Totals will exceed 100% due to multiple responses

**Brady Landfill Concerns – Web-based survey Closed-ended question (up to three mentions)**



\*Totals will exceed 100% due to multiple responses

Respondents were provided the following background information pertaining to Brady Landfill: *Landfills have a limited lifespan for which they can operate. Brady Road currently has about 100 years before the City needs a new landfill.* They were then asked: *How concerned are you about the lifespan of the City’s landfill?* Most respondents (55%) were not very concerned about Brady Road’s lifespan.

	<b>Phone survey</b>	<b>Web-based survey</b>
Very concerned	<b>13%</b>	19%
Somewhat concerned	<b>29%</b>	36%
A little concerned	<b>22%</b>	23%
Not concerned at all	<b>33%</b>	16%

## STAGE 1: BRADY LANDFILL PHASE 2 FEEDBACK

Phase 2 of the process ran from March to April 2011.

Public feedback was collected in multiple ways throughout Phase 2:

- Phone market research survey conducted by Leger Marketing
  - From March 26 - April 20, 2011
  - 1,560 respondents
- A web-based survey linked from our web site:
  - From March 29 - April 11, 2011
  - 346 respondents
- Posts on our website
- Phone calls through 311 Contact Centre
- Emails from our web form or direct to staff
- Feedback forms and dotmocracy sheets that were available at eleven open houses and Home Expressions

Date	Open House Location	Attendance	Dotmocracy (varied per sheet)	Feedback Forms
Mon, Mar 14	Canad Inns Garden City, 2100 McPhillips St	64	28-38	35
Tues, Mar 15	Dakota Collegiate, 661 Dakota St	22	4-10	9
Wed, Mar 16	Sturgeon Creek CC, 210 Rita St	22	8-15	8
Thurs, Mar 17	Cindy Klassen Rec Complex, 999 Sargent Ave	55	22-38	21
Sat, Mar 19	Park City West CC, 115 Sandford Fleming Rd.	5	3-4	2
Sat, Mar 19	Bronx Park CC, 720 Henderson Hwy	33	15-25	17
Mon, Mar 21	École Henri Bergeron, 363 Enfield Cres	19	6-13	8
Tues, Mar 22	St. John's Leisure Centre, 601 Aikins St	29	13-26	14
Wed, Mar 23	Crescentwood CC, 1170 Corydon Ave	47	32-44	30
Thurs, Mar 24	St. Norbert CC, 3450 Pembina Hwy	30	17-23	17
Wed, Mar 30	Millenium Library, 251 Donald St	31	15-22	7
March 30 - April 3	Home Expressions, 375 York Ave (Convention Centre)	950	33-185	8

Among the various free-form methods to comment, the summary of the feedback received on Brady Landfill included:

- General support of reducing the amount disposed
- Need for diversion at tipping face
- Interest in Waste-to-Energy potential

## Phase 2 Surveys – Background & Methodology

Winnipeg residents were asked their opinion on the options being considered as part of the Garbage and Recycling Master Plan; as well as the usage, habits, perceptions and satisfaction of waste management services. The sections of the survey related to Brady Road landfill are discussed in this report.

The confidence interval for the phone survey of 1,560 respondents is +/-2.5 percent 19 times out of 20.

**While the feedback collected through the market research phone survey is more scientifically valid, the results from our web-based survey and from the feedback forms and dotmocracy sheets received from open houses are not scientific.**

Responses from the open houses and from our web-based survey are based on self-selecting respondents who are more likely to respond because they would like to express an opinion on the topic at hand. While these opinions are valuable, they cannot be viewed as representative of all Winnipeggers.

For a more representative reflection of the opinions of Winnipeggers, the market research phone survey is emphasized to stress the greater weight their results hold.



## Phase 2 Surveys – Brady Landfill

Near the start of the survey respondents were asked to rate the importance and satisfaction on a series of waste management activities: garbage collection, recycling collection, landfill maintenance, and composting program. Using a 10 point scale, the results for landfill maintenance are provided:

Landfill maintenance: Importance	Phone survey	Web-based survey
Top box (8-10 score)	67%	71%
Mid box (5-7 score)	30%	22%
Low box (1-4 score)	3%	3%

Landfill maintenance: Satisfaction	Phone survey	Web-based survey
Top box (8-10 score)	29%	11%
Mid box (5-7 score)	67%	77%
Low box (1-4 score)	4%	9%

The next question asked about the landfill was: *The City currently maintains a landfill site at Brady Road, which is at the south end of the city. How familiar are you with Brady Road landfill?* As the figure below shows, about three-quarters of respondents are at least somewhat familiar with the Brady landfill.

	Phone survey	Web-based survey
Very familiar	40%	36%
Somewhat familiar	32%	38%
Not very familiar	16%	22%
Never heard of	11%	3%

Respondents, who had any familiarity of Brady Landfill, were asked: *How often, if ever, do you go to Brady Road landfill?*

	Phone survey	Web-based survey
Never been to the landfill	43%	39%
Less than once a year	36%	46%
About several times a year	19%	13%
About once a month or more	2%	2%

Respondents were asked: *How much do you support the following opportunities to be built at Brady Landfill?*

A composting facility that would produce material that could be sold, given to the public, or used on City property	Phone survey	Web-based survey
Strongly support	<b>61%</b>	65%
Somewhat support	<b>23%</b>	23%
Neutral	<b>8%</b>	10%
Somewhat oppose	<b>2%</b>	1%
Strongly oppose	<b>2%</b>	0%

An industrial “green” park for local industries that would remake the materials on site to reusable items for sale	Phone survey	Web-based survey
Strongly support	<b>53%</b>	54%
Somewhat support	<b>28%</b>	28%
Neutral	<b>10%</b>	15%
Somewhat oppose	<b>1%</b>	1%
Strongly oppose	<b>2%</b>	0%

Respondents were provided the following background information pertaining to potential changes at Brady Landfill: *The City is considering changing the focus of Brady Landfill to allow for more onsite diversion programs, which could include a depot for hazardous waste, electronic waste, construction materials, reusing materials and the like.* They were then asked: *How supportive are you of such changes?* Most respondents (80%) were supportive of such changes.

	Phone survey	Web-based survey
Strongly support	<b>53%</b>	54%
Somewhat support	<b>27%</b>	30%
Neutral	<b>9%</b>	12%
Somewhat oppose	<b>2%</b>	1%
Strongly oppose	<b>3%</b>	1%

At the Open Houses, respondents were also asked provide feedback on *how much they supported green opportunities at Brady Landfill*. Green opportunities summarized the following opportunities:

- Community depot for recycling and reusing material
- “Green Park” for local industries that would remake the materials on site into reusable items for sale
- Composting facility that would produce material that could be sold, given to the public, or used on City property

Open House	
Strongly support	78%
Somewhat support	10%
Neutral	7%
Somewhat oppose	1%
Strongly oppose	3%

N=221

## STAGE 2 BRADY LANDFILL FEEDBACK

City staff were be available to share information and welcome feedback on the future of Brady Landfill and the environmental impact assessment at:

- A public meeting – October 27, 2011, 6:30pm-8:30pm, St Norbert Community Centre – 3450 Pembina Hwy
- The Green Lifestyle and Natural Living Show – October 22nd & 23rd, 2011, Winnipeg Convention Centre

Information about Brady Road was posted on the website:

<http://garbage.speakupwinnipeg.com/2011/10/the-future-of-brady-road-landfill/>

A press release and news stories helped to raise public awareness of the event. Other ways that stakeholders were made aware of the public meeting, and were directed to the website, included:

- Print advertisements that ran in:
  - Winnipeg Free Press – October 20 and 22
  - Canstar Community Newspaper (Sou'wester) – October 19
- Over 6,200 invitation letters were mailed to neighbouring residents
- Several invitations were e-mailed directly to stakeholder groups, including the RM of MacDonald
- Garbage and Recycling Master Plan eNewsletter was e-mailed to over 260 subscribers
- A button on the front of Winnipeg.ca linking to the project web page

Over 140 stakeholders attended the public meeting.

92 e-mails were collected during the consultation process. These emails will be used in future communications around Brady Road Landfill progress.

Public feedback was collected in multiple ways throughout stage 2:

- Feedback forms were available:
  - At the public meeting – 68 respondents
  - Online on our website – 19 respondents
- Posts on our website
- Phone calls through 311 Contact Centre
- Emails from our web form or direct to staff

## Stage 2 Summary of Comments

Among the various free-form methods to comment, below is a summary of the feedback received along with responses (where applicable).

DATE RECEIVED	COMMENT	RESPONSE
Oct 20/11	<p>I am extremely pleased that a public meeting is being held to discuss the future of Brady Road Landfill. I understand the reasoning for the meeting to be held at the St. Norbert Community Centre due to it being nearby areas commonly 'affected' by the landfill, however I am wondering if these public meetings will be extended to other areas of the City of Winnipeg, such as the Northwest area, as travelling by bus (as vehicles are not always available to residents in this area) will also be offered.</p> <p>I would love to have a public meeting in the NW area of the City and even one in the NE area of the City available so that everyone is able to hear the presentation, learn about the facility and what is done with our waste and offer our comments.</p>	<p>Over the course of the Garbage and Recycling Master plan's public consultation, which was held from November 2010 to September 2011, we discussed the future of Brady. With feedback received we are now in the final stages of our environment licence application. There two public opportunities to learn more about the future of Brady Road landfill:</p> <ul style="list-style-type: none"> <li>* <a href="#">A public meeting</a> - October 27, 2011, 6:30pm-8:30pm</li> <li>* <a href="#">The Green Lifestyle and Natural Living Show</a> - October 22nd &amp; 23rd, 2011 (please note, there is an admission fee)</li> </ul> <p>Otherwise, you can review the material that will be presented on our website:  <a href="http://garbage.speakupwinnipeg.com/2011/10/the-future-of-brady-road-landfill/">http://garbage.speakupwinnipeg.com/2011/10/the-future-of-brady-road-landfill/</a></p> <p>On the website you can submit comments and provide any questions about the plan that you would like us to answer. As well, within the next week there will also be a short survey to solicit feedback.</p> <p>If you would still like to meet with someone to discuss the plans we could always have someone phone you or potentially set up a meeting.</p>

<p>Oct 20/11</p>	<p>Is it possible to get a copy of the EIA ( Environmental Impact Assesment) for review?</p> <p>Or is it posted to be viewed somewhere publicly?( I can't seem to find it with an Internet search or the city website)</p> <p>As much as I trust Stantec I would like to make my own conclusions concerning how they came up with their Key findings of the EIA performed on the Brady road Landfill site...</p>	<p>The full EIA will be available once the licensing proposal has been filed with the Province by year's end, at which time the Province will place it in the public registry for review and comments.</p>
<p>Oct 21/11</p>	<p>Just read the new proposed plans for Brady and they seem good. As I read the material removed from Brady, such as glass, metal, wood etc, I wondered how do you do that with the everyday garbage and not the construction material that must also be brought there? Should have a video showing the general public how it is done NOW.</p> <p>Also for the composting idea, suggest that as an incentive to our citizens who are not sure of this idea, give a citizen a bag of free compost every second year ( takes a while to make and the demand might be higher than supply) so that they can actually see the real results of composting. To help facility this, have various locations in Wpg, to make it customer friendly and accessible. Can't use Brady as the location, as the only ones who would go there for this would be the local area. I live in the EK area, and I would rather donate my compost material to a non profit organisation or a community garden area etc.</p>	<p>The new plans at Brady initially involve dealing differently with small loads, which are mostly self-hauled by residents. These loads now are buried in a separate area in the landfill. Currently, the only materials that can be dropped off for recycling at Brady include metal appliances, bicycles or tires. The new plans call for all small self-hauled loads to be directed to a Community Resource Recovery Centre (CRRC) to be located near the Brady site entrance. At the CRRC, residents will be able to segregate a number of categories of materials (e.g. appliances, used construction materials, landscaping waste, household hazardous waste, electronic waste, tires, bicycles, etc.) into bins and/or piles, and these materials will then be recycled as much as possible. A separate area at Brady will be developed for diverting large commercial loads of materials that can be recycled such as construction waste (drywall, wood, shingles, concrete), tires, landscaping waste, soil and possibly cardboard.</p> <p>Your idea of offering compost to the public is a good one and is a practice which communities normally follow. There are four CRRC's planned for Winnipeg, one in each sector of the City (with the first one being at Brady) and these would be convenient locations to use for pickup of this material by residents.</p> <p>The idea of using videos to show the public how the systems operate is a good one and will be considered.</p>

Oct 24/11	I believe that a Rec park is the best solution for Brady landfill and should include a ski and snowboard hill in the wintertime so that our children and adults have a place close to home to enjoy the outdoors.	No response required.
Oct 24/11	Count the aluminum cans! Environmental alright! What is this from Honest Vandal?	No response required.
Oct 24/11	<p>I live in the new development of Bridgwater Forest and am appauled at the amount of waste from each home construction that goes to Brady Land Fill. There is tonnes of new lumber that is discarded because it is overage for the build or there are large pieces of lumber that could be used or resold ie. a 12ft 2X6 that has had 5 feet cut off of it and the remaining 7 feet discarded. there are hundreds of uses for such material. The builders are regulated by MRHC to have bins for each build however, there should be 3 bins. Recyclables (cardboard) wood (big and small could be recycled if large enough or shredded for use on pathways or landscaping or composting) and the third bin for garbage.</p> <p>Take a drive through any new area in the city and you will see waste that is deplorable.</p> <p>What about the amount of materials that are not contained by the bins and blown across the landscape, how is this not considered an environmental impact when you have pieces of plastic, tar paper, insulation, cardboard blowing across the area into fields, waterways, forest and property. After living at my property for a year I estimate that I collect 1-2 garbage bags of material off the boulevard and my yard on a weekly basis that has not been contained by the bins.</p> <p>Why is the excess lumber not collected and given to Habitat for Humanity to either resell (at their re-sell store) or used in the construction of homes.</p> <p>Take a drive through Sage Creek, South Pointe, Bridgwater Forest, Cantebury Park etc etc.....</p>	No response required.

Oct 24/11	Why is it always the northend? As soon as there is a problem even down to garbage disposal there is comments about the northend. I haul garbage daily and i see bins and yards that are full all over the city.. Maybe the northend's garbage problem would be solved if the city would have more pick up days. But then again who am i to talk i'm just the owner of "First Nation Sensation Moving & Hauling". What do i know i live downtown! ;)	No response required.
Oct 25/11	Instead of big centralized trucks moving all that organic waste around it would be much more efficient to start composting programs in schools and community clubs, get people to compost in their backyards, put leaf mulch back into their flowerbeds. I shouldn't have to pay taxes to support a big heavy inefficient approach that involves huge trucks driving all over the city and wearing down the infrastructure. You can't be serious about community gardens at the landfill, it stinks, it's not easily accessible, who knows what's in the soil. This plan seems to take the current system and try to tweek it using buzz words and 90s approaches. Winnipeg would benefit much more from engaging and educating citizens directly about returning organics to the soil. I've managed to do so by having my neighbors give me their organic waste and wouldn't be surprised if I am net 50-75 bags per year more than our household throws out, all in one small backyard, no tax money or required.	<p>Your suggestion of backyard and community-based composting would be an ideal solution for dealing with organics and we commend your personal efforts in this regard. However, we are not aware of any large cities with significant organics diversion that rely solely on this means of composting. We certainly would like to see this happen and will be continuing to promote composting at source, but believe that curbside collection and centralized composting will be required to achieve the magnitude of diversion targeted under our master plan. Furthermore, our public consultations over the past year indicate that there is public support for our approach.</p> <p>If community gardens were to be located at the Brady Landfill, they would be located on natural soils separate from the actual landfill operation. However, this is just an idea at this point and the purpose of floating this idea is to get feedback such as yours. We hope that this response answers your questions and thank you for your comments.</p>



<p>Oct 25/11</p>	<p>I live on Point West Drive very close to the Brady Landfill and I have 2 comments.</p> <p>1. The stench from it is disgusting. We moved here 9 years ago and then only a few days a year we could smell it, mostly in the spring but the last few years the stench has been happening for many many days a year all year round. This summer most evenings it was so disgusting we couldn't even sit outside.</p> <p>2. Waverley from Bison Drive to the perimeter is getting so rough from all the large truck traffic and the amount of garbage left in the ditches has been disgusting. Wasn't the city to extend Kenaston to go directly to Brady Road ?</p> <p>I see the environment impact says the smell will be improved so I sure hope so as it has become much worse in the last couple of year.</p>	<p>Re: 1. Improved odour control is a key focus in the improvements at Brady. Currently we are carrying out a new method of covering the waste on a frequent basis that so far is proving to be effective in controlling odour. Furthermore, there are upcoming changes that will help to control odours, including the following:</p> <ul style="list-style-type: none"> <li>• Monitoring odours at the perimeter of the site on a regular basis, especially under adverse wind conditions to identify any significant odours and to allow for early action to mitigate the odours at the source</li> <li>• Moving towards one smaller operating area which will result in less exposed garbage</li> <li>• Moving the future operation further south</li> <li>• Installing a landfill gas collection and flaring system</li> <li>• Composting of some of the more odour producing organics such as kitchen waste organics and biosolids</li> </ul> <p>Re: 2. Work is underway to extend Kenaston south to a new intersection on the Perimeter Highway. As part of the 4-laning of Waverley Street, after traffic moves onto the new lanes the old Waverley pavement will be resurfaced between Bison and Sandusky. South of Sandusky, Waverley Street will be realigned to head west to connect with the new Kenaston extension.</p> <p>The section of Waverley between Kirkbridge and Point West will be converted to a residential collector street (part of Tim Sale Drive) and will be rehabilitated as the residential development proceeds. This section will be removed from the truck route network and the current access to the Perimeter highway will be closed. When this happens garbage truck traffic coming from the north will use Kenaston or the realigned 4-lane Waverley Street and will no longer travel next to the Richmond West neighbourhood.</p>
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<p>Oct 25/11</p>	<p>I have lived in Richmond West for the past 15 years. When I moved here there was never a smell from the Brady Landfill. Over the past few years the smell has become increasingly noticeable and noxious. We are fortunate in that we live south EAST of the the dump, but we will not consider buying a house in Waverly West because of the landfill and the horrible odor that is regularly wafting over the neighborhoods directly south of the site. There have been days when we have a rare east wind and the smell has been absolutely disgusting and I have found myself quite upset by it. If the landfill must remain there, then better management of it is certainly required so that this problem is eliminated. This is air pollution.</p> <p>My brother lives in the country and has been very surprised that what has been rejected at country dump sites is accepted at Brady, particularly large dead animals. He has hauled dead horses there. I was surprised by that as well.</p>	<p>Improved odour control is a key focus in the improvements at Brady. Currently we are carrying out a new method of covering the waste on a frequent basis that so far is proving to be effective in controlling odour. Furthermore, there are upcoming changes that will help to control odours, including the following:</p> <ul style="list-style-type: none"> <li>• Monitoring odours at the perimeter of the site on a regular basis, especially under adverse wind conditions to identify any significant odours and to allow for early action to mitigate the odours at the source</li> <li>• Moving towards one smaller operating area which will result in less exposed garbage</li> <li>• Moving the future operation further south</li> <li>• Installing a landfill gas collection and flaring system</li> <li>• Composting of some of the more odour producing organics such as kitchen waste organics and biosolids</li> </ul> <p>Brady is in fact allowed to accept dead animals from most sources and the burial of these animals is carried out in a separate area. Odours from this operation are also expected to be reduced with the new cover practice mentioned earlier.</p>
<p>Oct 25/11</p>	<p>Wow, I can't believe nobody has commented. Well, a lot of the ideas are good though I don't know if the best place for a sports field is right beside the garbage pile.</p> <p>I figured somebody would say something about the \$50 fee!</p>	<p>No response required.</p>

Oct 26/11	This site is too close to residents and should be shut down and new facility should be located North of the city where development will not approach for 50 years.	<p>When the Brady site opened in 1973, it was remote from residents. In 1985, when the decision was made for Brady to be the only City-operated active landfill, it was still relatively remote from residents. Since that time residential developments have continued to move closer to Brady. With the planned changes at Brady, the garbage burial operation will progressively move further from residential developments and with more waste diversion, smaller operating areas and improved operations will be implemented. These changes will minimize impacts from the operation on residents.</p> <p>Brady is located on an ideal site for an environmental and waste containment standpoint. The study leading up to the 1985 decision was only able to identify one potential site to the north within a reasonable haul distance. This site was not recommended since the soil and groundwater conditions required for a landfill were inferior to Brady and it was located outside of the City of Winnipeg proper.</p>
Oct 27/11	I like the idea of a recreational area and wetlands. I can't imagine anyone paying \$500000-1M for the new homes going up in Waverly West want to look out of their windows and have a dump for their view! Does anyone know when this project is to be completed? I live by the dump so I'm pretty excited to see the changes!	<p>The present landfilling operation will only be visible to nearby residents for about another 5 years. Within this time, the operation will become more compact, berms (dykes) will be used to screen the operation, and landscaping of finished slopes will be underway. Also, operational improvements such as more frequent covering of waste and gull control will help to make the operation less obvious.</p> <p>There is sufficient capacity at Brady for at least 100 years. In spite of this, the objective is to continuously work towards reducing garbage burial requirements. Council's recent approval of the garbage and recycling master plan is a commitment to this direction.</p>

<p>Oct 27/11</p>	<p>There is a meeting tonight in St Norbert re. the future of Brady. Will there be similar meetings in say Transcona, North Kildonan, West Kildonan, St. James etc. etc.?? If not why not??</p>	<p>Over the course of the Garbage and Recycling Master plan's public consultation, which was held from November 2010 to September 2011, we discussed the future of Brady. With feedback received we are now in the final stages of our environment licence application.</p> <p>There were two public opportunities to learn more about the future of Brady Road landfill:</p> <ul style="list-style-type: none"> <li>• A public meeting – October 27, 2011, 6:30pm-8:30pm</li> <li>• The Green Lifestyle and Natural Living Show – October 22nd &amp; 23rd, 2011</li> </ul> <p>Otherwise, you can review the material that will be presented on our website:  <a href="http://garbage.speakupwinnipeg.com/2011/10/the-future-of-brady-road-landfill/">http://garbage.speakupwinnipeg.com/2011/10/the-future-of-brady-road-landfill/</a></p> <p>On the website you can submit comments and provide any questions about the plan that you would like us to answer. As well, there is a short survey to solicit feedback.</p> <p>If you would still like to meet with someone to discuss the plans we could always have someone phone you or potentially set up a meeting.</p>
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<p>Oct 30/11</p>	<p>The Brady Road Landfill site is too close to the new Waverly West development, Richmond West and St. Norbert. This year the garbage smell travelled to these neighbourhoods on a regular basis. I am not sure what the independent consultants were measuring when they say "Instances of odour are short-lived and not routine". Maybe they only spent a couple days in the area but as a resident who lives in the surrounding neighbourhood the smell seemed to be a weekly problem.</p> <p>I think any garbage disposal site should be a lot further from residential neighbourhoods.</p>	<p>When the Brady site opened in 1973, it was remote from residents. In 1985, when the decision was made for Brady to be the only City-operated active landfill, it was still relatively remote from residents. Since that time residential developments have continued to move closer to Brady. With the planned changes at Brady, the garbage burial operation will progressively move further from residential developments and with more waste diversion, smaller operating areas and improved operations will be implemented. Improved odour control is a key focus in the improvements at Brady.</p> <p>Currently we are carrying out a new method of covering the waste on a frequent basis that so far is proving to be effective in controlling odour. There are also upcoming changes that will help to control odours, including:</p> <ul style="list-style-type: none"> <li>-Monitoring odours at the perimeter of the site on a regular basis, especially under adverse wind conditions to identify any significant odours and to allow for early action to mitigate the odours at the source</li> <li>-Moving towards one smaller operating area which will result in less exposed garbage</li> <li>-Moving the future operation further south</li> <li>-Installing a landfill gas collection and flaring system</li> <li>-Composting some of the more odour producing organics such as kitchen waste organics and biosolids under controlled conditions</li> </ul>
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<p>Nov 3/11</p>	<p>WE WERE UNABLE TO ATTEND THE MEETING OCT 27 AT THE COMMUNITY CENTRE,DUE TO OUR KIDS GAMES BUT JUST WANT TO LET YOU KNOW WHATEVER YOU ARE DOING AT THE GARBAGE DUMP IS NOT WORKING,WE HAVE BEEN LIVING AT 220 LEMAIRE ST.FOR THE LAST 17 YEARS AND THE SMELL COMMING FROM THE LANDFILL HAS NEVER NEVER BEEN AS BAD AS IT IS RIGHT NOW AS SOME DAYS WE CAN'T EVEN OPEN OUR WINDOWS,WE NEVER SMELLED IT LIKE WE DO NOW. PLEASE DO SOMETHING ABOUT IT</p>	<p>One of the causes for increased odors since january of this year is our receipt of biosolids. Due to changes in provincial regulations biosolids can no longer be land applied as fertilizer. As a result we receive all of the biosolids generated at the treatment plants.</p> <p>We apply the biosolids in thin layers and cover them with the Municipal Solid Waste (MSW) that we receive. However, during certain times of the year the volume of MSW is not enough to cover all of the biosolids which leads to odors.</p> <p>Last week we were having to excavate some old waste to repair a slide along the north perimeter and any time we have to move old waste significant odors are released, this in conjunction with west winds resulted in strong odors for much of last week. That work is now complete.</p> <p>We are working on several fronts to reduce odors as we move forward. First, we have recently started applying straw at the end of each day to the active face and any exposed biosolids, which significantly reduces odors. Secondly, we will be extracting and flaring landfill gas. There will be no visible flame, but the system will place the landfill under negative pressure which will greatly assist in reducing odors. Lastly our active area of the landfill is steadily moving further west. Increased distance from St Norbert allows greater time for odors to dissipate.</p> <p>If you have future odor concerns please contact me directly.</p>
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<p>Nov 3/11</p>	<p>I am a recent resident of the new Waverley West development and we paid a sizeable sum of money for our brand new home. I was assured time and time again by the Ladco Developers, as well as my builder, that living close to Brady Landfill would not be a problem when we built our home. I was told the landfill would be moving further south next year and that there were no reported odours from residents in the area. This summer we could smell landfill odour on a weekly basis and on occasion we had to move our activities inside because the smell became too strong. Our property taxes have recently been assessed at \$6,000 per year, so I would hope that for all the property taxes we are paying the city will do whatever it takes to eliminate the odour, reduce methane gas emissions for our general health and the environment, and obstruct the view of the landfill. I love the area we live in due to its proximity to our everyday activities and our new neighbours are wonderful, the landfill is our only concern at this time. I am curious to know why the landfill smell is worst in the evening? Is a lot of garbage buried at this time?</p>	<p>With the planned changes at Brady, the garbage burial operation will progressively move further from residential developments and with more waste diversion, smaller operating areas and improved operations will be implemented. The present landfilling operation will only be visible to nearby residents for about another 5 years. Within this time the operation will become more compact, berms (dykes) will be used to screen the operation and landscaping of finished slopes will be underway. Also, operational improvements including more frequent covering of waste and gull control will help to make the operation less obvious.</p> <p>Improved odour control is a key focus in the improvements at Brady. Currently we are carrying out a new method of covering the waste on a frequent basis that so far is proving to be effective in controlling odour. Furthermore, there are upcoming changes that will help to control odours, including the following:</p> <ul style="list-style-type: none"> <li>-Monitoring odours at the perimeter of the site on a regular basis, especially under adverse wind conditions to identify any significant odours and to allow for early action to mitigate the odours at the source</li> <li>-Moving towards one smaller operating area which will result in less exposed garbage</li> <li>-Moving the future operation further south</li> <li>-Installing a landfill gas collection and flaring system</li> <li>-Composting under controlled conditions, some of the more odour producing organics such as kitchen waste organics and biosolids</li> </ul> <p>We are not exactly sure why the landfill odour would be worst in the evening. This is not because more garbage is being buried at this time, but may be related to cover operations being completed at the end of the work day and odours not being dissipated until the cover is completely in place. In any event the changes referred to earlier should improve this situation.</p>
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<p>Nov 3/11</p>	<p>Brad Road is spewing garbage and litter throughout the entire area. Plastic bags are blowing across farm fields for miles, and now can be seen as far away as Oak Bluff. The highway is lined with trash that falls off trucks enroute to the dump. The fences along the dump do nothing to stop light materials from being blown away. It is a disgusting eyesore, especially in this day and age. Obviously no realistic thought given to future planning of the city. The smell that will engulf the new residents of the developements moving closer, will cause an outrage among the new home buyers, who aren't made aware of the problem, as it certainly is not a selling feature. When the wind blows from the south, life in suburbia is going to be unbearable. Also, what about ground water issues from the dump... the La Salle and Red River are close by.</p> <p>What about the old dump sites east of Brady Road and along Cadboro Road, that have been and will be excavated to make room for the new developements. The Stench of the water coming out of the Cadboro Road site was unbelievable... what was in that water.. and what are the ramifications of possible contaminated ground water and sump pits and pumps spewing out the seepage into the yards and streets of the new area? What are the findings of any testing done before development went ahead ?</p>	<p>When the Brady site opened in 1973, it was remote from residents. In 1985, when the decision was made to have only one landfill located at Brady, it was still relatively remote from residents. Since that time residential developments have continued to move closer to Brady. With the planned changes at Brady, the garbage burial operation will progressively move further from residential developments and with more waste diversion, smaller operating areas and improved operations will be implemented. Improved odour and litter control are key improvements being implemented at Brady.</p> <p>Regarding groundwater, the deep clay soils at this site provide effective containment of harmful substances.</p> <p>Regarding the former landfill on Cadboro Road that is being excavated, the consultant for the developer advises that:</p> <ul style="list-style-type: none"> <li>-The former landfill is currently being fully excavated and removed to Brady Road Landfill to rehabilitate the site to meet environmental quality guidelines and be dedicated as a green space.</li> <li>-Water currently being managed on-site is leachate, a liquid that is found within landfilled waste as a product of water mixing with decomposing waste. Environmental investigations of the site were undertaken prior to excavation and continue to-date. As part of those investigations, site water that does not meet regulated guidelines is sent to the North End Water Pollution Control Centre for treatment.</li> <li>-Removal of the landfill will be completed in 2012. As the site is located in thick clay and the waste source is being completely removed, the possibility of contaminants seeping out of the site is remote.</li> </ul>
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## Stage 2 Public Meeting Questions and Answers

This is a summary of the questions raised at the public meeting, along with the responses provided. Note that the questions and answers are paraphrased and provide a representation of the dialogue that occurred at the public meeting.

### ODOUR ISSUES

**1. Odour is an issue and was really bad this year. What is being done to deal with this?**

The odour this year is mainly related to the increased amount of biosolids received at Brady. At the beginning of September we started trying a new cover method, which so far is proving to be a good solution. We encourage feedback from residents through 311 on any odour issues.

**2. How is composting going to be different from recent private composting operations, which have created significant odour problems? How can we guarantee that our composting operations will not produce the same odours?**

Odour should not be an issue with a properly run composting operation. We intend to compost properly and according to the licence.

**3. The McGillivray composting operation did not compost sewage sludge and still has bad odour problems. How can we be guaranteed that this won't happen once Brady starts composting? What can the public do if there are problems in the future?**

Composting has been carried out at Brady for 21 years with no odour problems. Enhanced composting operations will be regulated, including odours. We will follow up and address all odour issues. We encourage feedback from residents through 311 on any odour issues.

**4. Why was residential zoning allowed around Brady? How is zoning being handled with respect to odour?**

Odour was not considered to be a limitation to residential development north of Brady based on experience with developments near facilities such as the North End sewage treatment facility. Also, there may be additional distance from the landfill because of planned business/commercial use immediately north of the Perimeter Highway.

### BIOSOLIDS

**5. Where are bio-waste and biosolids coming from? This is a major issue.**

Biosolids come from the solids fraction of sewage treatment. This material was mostly applied to agricultural land prior to December 31, 2010. With new regulations, this practice is no longer an option. Planning is underway to develop and implement alternatives to

burying biosolids. One alternative is to compost a portion of the biosolids at Brady using techniques proven to be acceptable in other cities, such as in Edmonton.

**6. Are biosolids from outside of Winnipeg being taken at Brady?**

No.

**LEACHATE**

**7. How is leachate treatment different from how sewage is treated?**

While leachate is much more potent than sewage, the treatment methods are the same. Winnipeg's treatment practices rank amongst the best in Canada.

**8. What are the alternatives for leachate treatment so that less has to be transported?**

We continue to examine alternatives for leachate treatment, such as a dedicated treatment plant located at the landfill.

**MANAGING GARBAGE**

**9. Brady is too far. In dirtiest parts of the city residents have no money or vehicles to bring waste to Brady, which results in illegal dumping. How is this going to be dealt with?**

The Garbage and Recycling Master Plan recently approved by Council includes establishing up to four Community Resource Recovery Centres where residents could drop off material that could be processed and reused, resold or recycled (e.g., construction and demolition material, household items). This should help reduce illegal dumping.

**10. Why can't all the waste streams be separated like in European systems? Why are we throwing everything away instead of diverting it?**

European diversion systems have evolved over a long period of time as alternatives to landfilling because of lack of land for disposal. Winnipeg's new Garbage and Recycling Master Plan is a significant commitment to diverting more waste.

**11. Is there an asbestos management plan? How is it being treated?**

We have a management plan to deal with proper burial of asbestos at Brady.

**COMPOSTING/ORGANICS**

**12. How are plastic bags handled in the yard waste composting operation? How are they currently being separated in our "Leaf it with us" program?**

Currently the plastic bags are ground up with the leaves and yard waste and the material is composted to produce a low quality compost for landscaping use at the landfill.

**13. When will plastic bags be banned for yard waste collection?**

The new yard waste collection program will start in the fall of 2012 and will only collect material placed in compostable leaf and yard waste bags, or hard-walled containers (e.g., standard size garbage cans, blue boxes). Plastic bags will not be accepted as they are not biodegradable and would contaminate the finished compost.

**14. Why will it take five years to get a kitchen waste collection program? How will the kitchen waste be collected?**

Kitchen waste collection and composting is much more complex and costly than yard waste. Work will start on this program soon. However, it typically takes about five years to determine and implement the most effective and economical system. Kitchen waste is typically collected in small green roll out carts.

**15. Is the City partnering with BFI (Prairie Green) on a business organics composting program?**

No.

**FLOODING**

**16. Can Brady filling be done to create flood protection tying into the perimeter system for St. Norbert?**

No, because dikes containing garbage are not acceptable flood protection structures.

**17. Are there any studies as to what happens if Brady is flooded?**

Flooding at Brady would be an extreme event and we are addressing this in the Environmental Impact Assessment.

**OTHER**

**18. What is the cost of the proposed changes at Brady?**

We don't know the exact cost yet since it depends on the outcome of the licence application.

**19. How high is the site going to be? What are the development stages? A plan is needed that can be followed and will you be coming back to the public for feedback?**

The site will be 28 metres above prairie level (current maximum height). We will update the public and seek comment as we develop the site improvements.

**20. Is there going to be a new entrance to Brady?**

Changes to access locations on the Perimeter near Brady are under review by the Province and may include a different access route to Brady.

**21. Is there a guarantee that the landfill gas system will be installed within six to eight months as promised? And will it remove most of the odour?**

The installation should begin in the spring of 2012 and be operational in the fall. The landfill gas system will support other measures such as better cover, a smaller working area and less organics burial to control odours.

**22. Have there been any studies into selling the land at Brady and using the money to relocate the site?**

Relocating a landfill is a very resource intensive process. There would be no cost benefit in doing this since an alternate suitable site would not likely be found in Winnipeg.

**23. What is the impact of Brady on property and land values?**

The experience with the BFI Landfill in the R.M. of Rosser and with wind farms is that there is no measurable impact on land values near such facilities. Current housing prices in Waverley West also indicate there is no impact.

**24. Why was there information in the media that Brady would be closing soon?**

We have always been transparent about the long life of Brady Landfill and have not announced any intent to close Brady soon.

## Stage 2 Public Meeting Feedback Form

### 1.0 BACKGROUND AND METHODOLOGY

A feedback form was administered at the public meeting held on October 27, 2011. In addition, the feedback form was also available to fill out online. The objective of the feedback form was to capture stakeholders' opinions of the future opportunities for Brady Road Landfill.

Feedback form responses received:

- At the public meeting (paper version) – 68 respondents
- Online on our website – 19 respondents

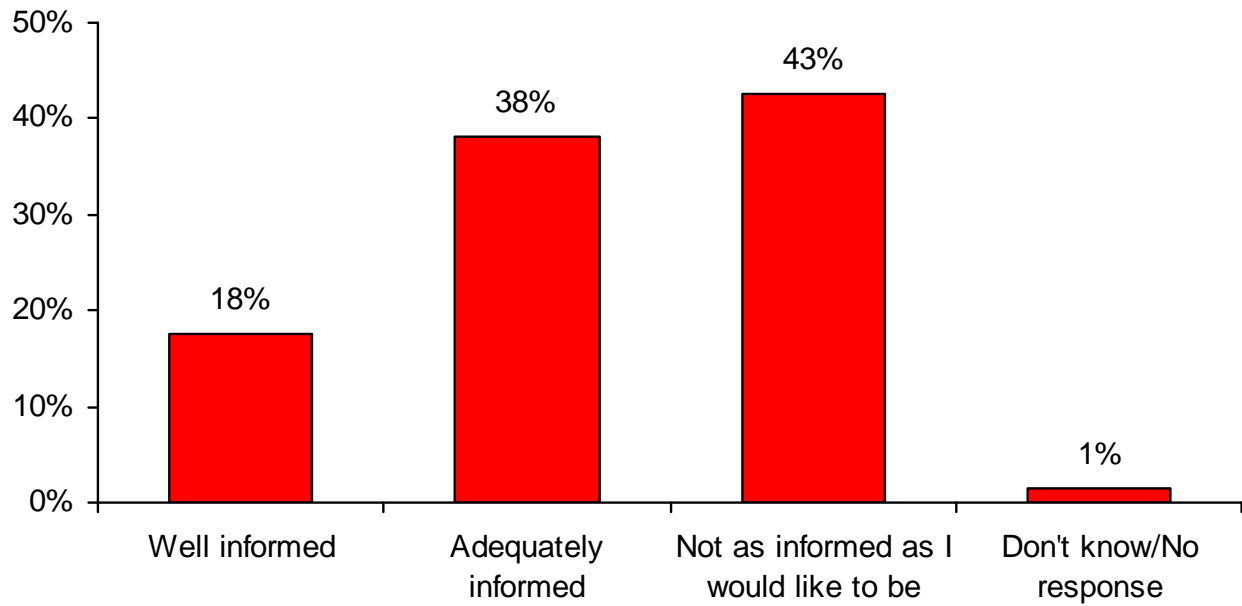
**Since the respondents of the feedback form are self-selecting, the results of the survey are not scientific and only a summary of the responses received.** This means that no estimates of sampling error can be calculated and, therefore, no margin of error is attributed to the results in the report.

## 2.0 RESEARCH RESULTS

### 2.1 Brady Road Landfill Information

Over four-in-ten respondents (43%) felt that they were not as informed about Brady as they would like to be. 38% felt they were adequately informed.

*“How informed do you feel about Brady Road Landfill?” (n=68)\**

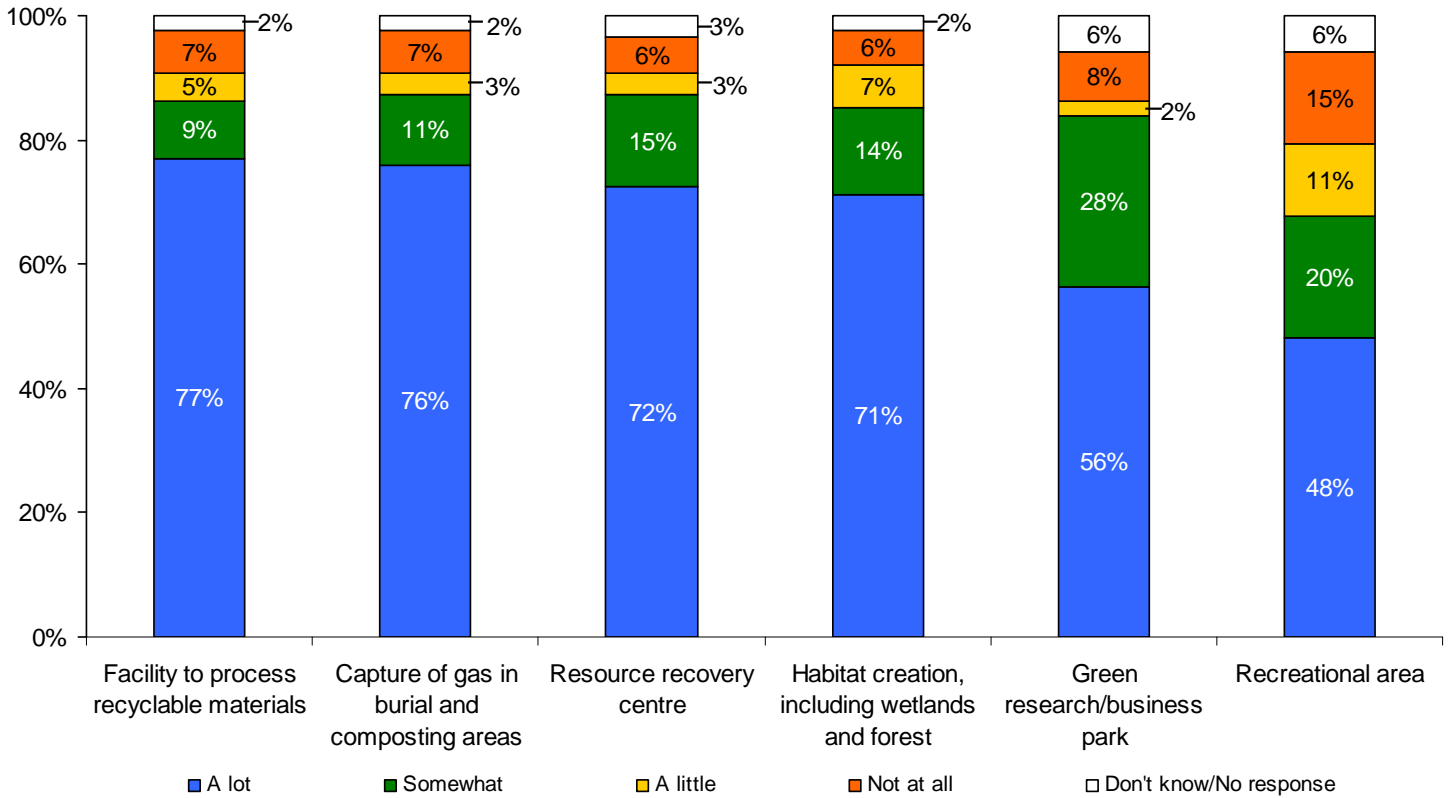


\* n represents the number of responses received for that question. This question was only asked in the paper version of the Feedback Form.

## 2.2 Support for Opportunities at Brady Road Landfill

There was strong support for a “facility to process recyclable materials” (86%), “capture of gas in burial and composting areas” (87%), and a “resource recovery centre” (87%). A “recreational area” (68%) had the least amount of support.

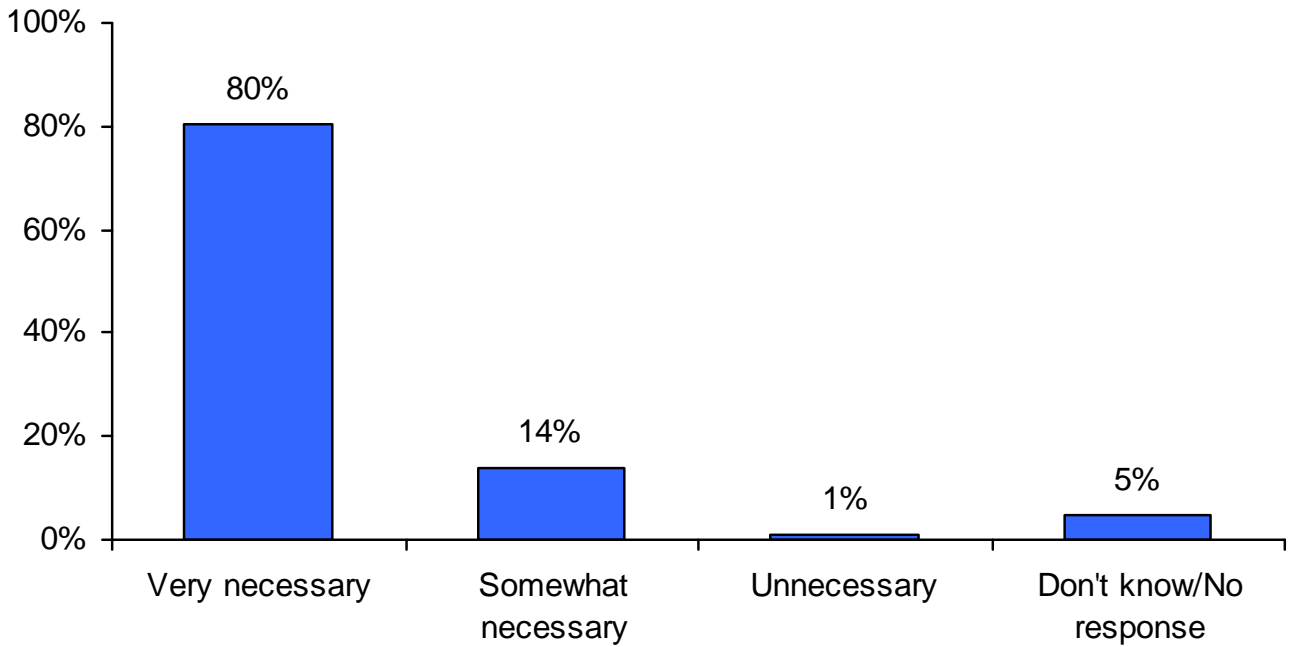
*“How much do you support the opportunities we identified for Brady Road Landfill?” (n=87)*



## Extent of Proposed Changes

Four-fifths (80%) of respondents found that the opportunities presented were “very necessary”.

*“These opportunities are designed to help protect our environment by reducing the amount of garbage that is landfilled and reusing / recycling as much of the material as possible. Do you feel that these opportunities are:” (n=87)*

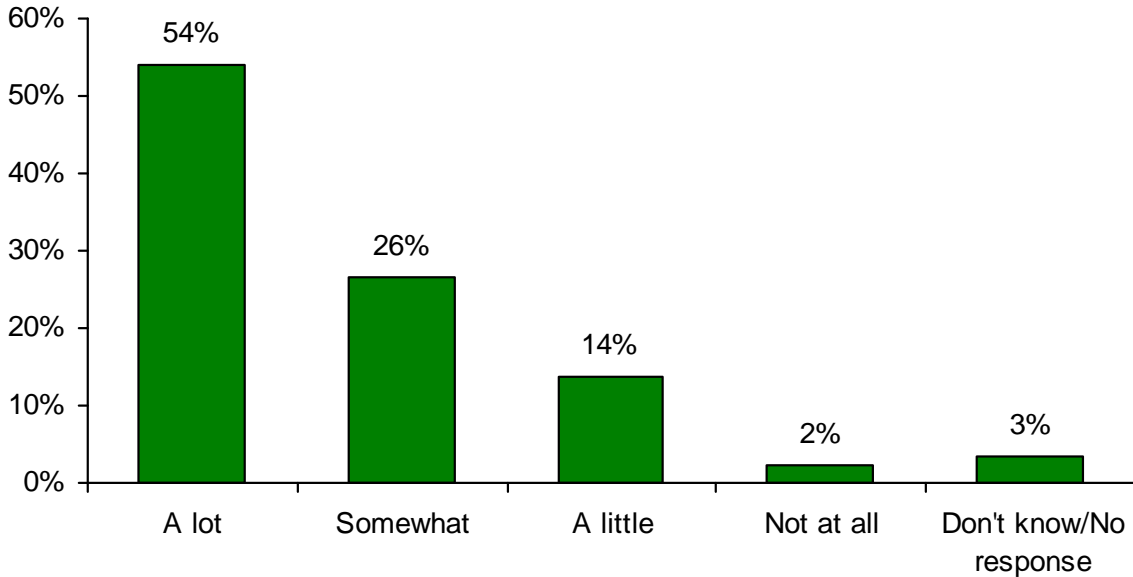




### 2.3 Impact of Proposed Changes

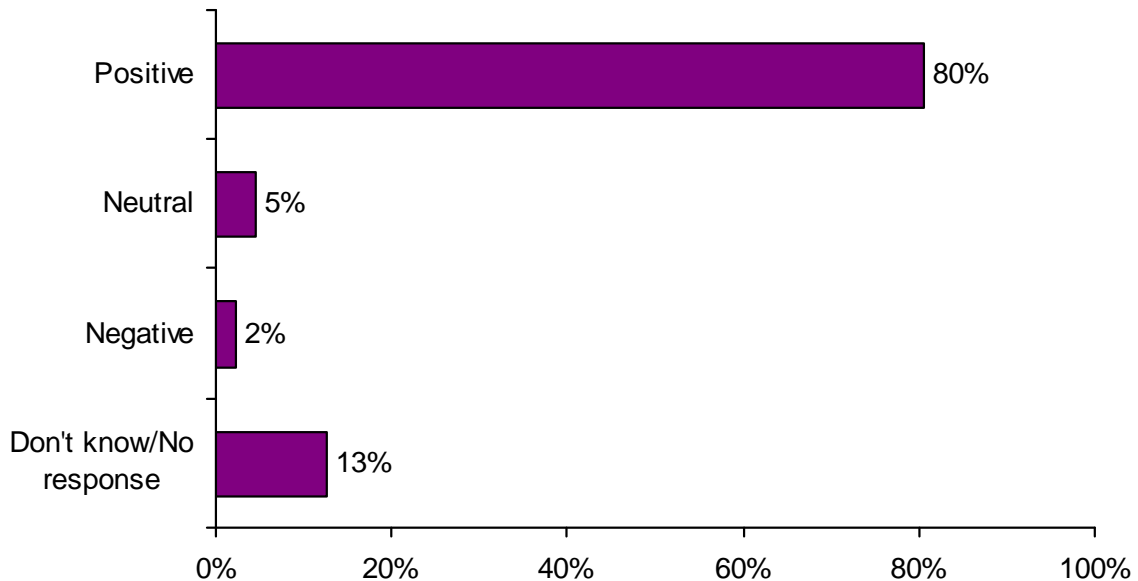
Over half (54%) of respondents expect the opportunities at Brady Road Landfill to affect them a lot.

*“Do you expect these opportunities at Brady Road Landfill to affect you:” (n=87)*



The majority (80%) of respondents felt that the overall effect of these opportunities would be positive.

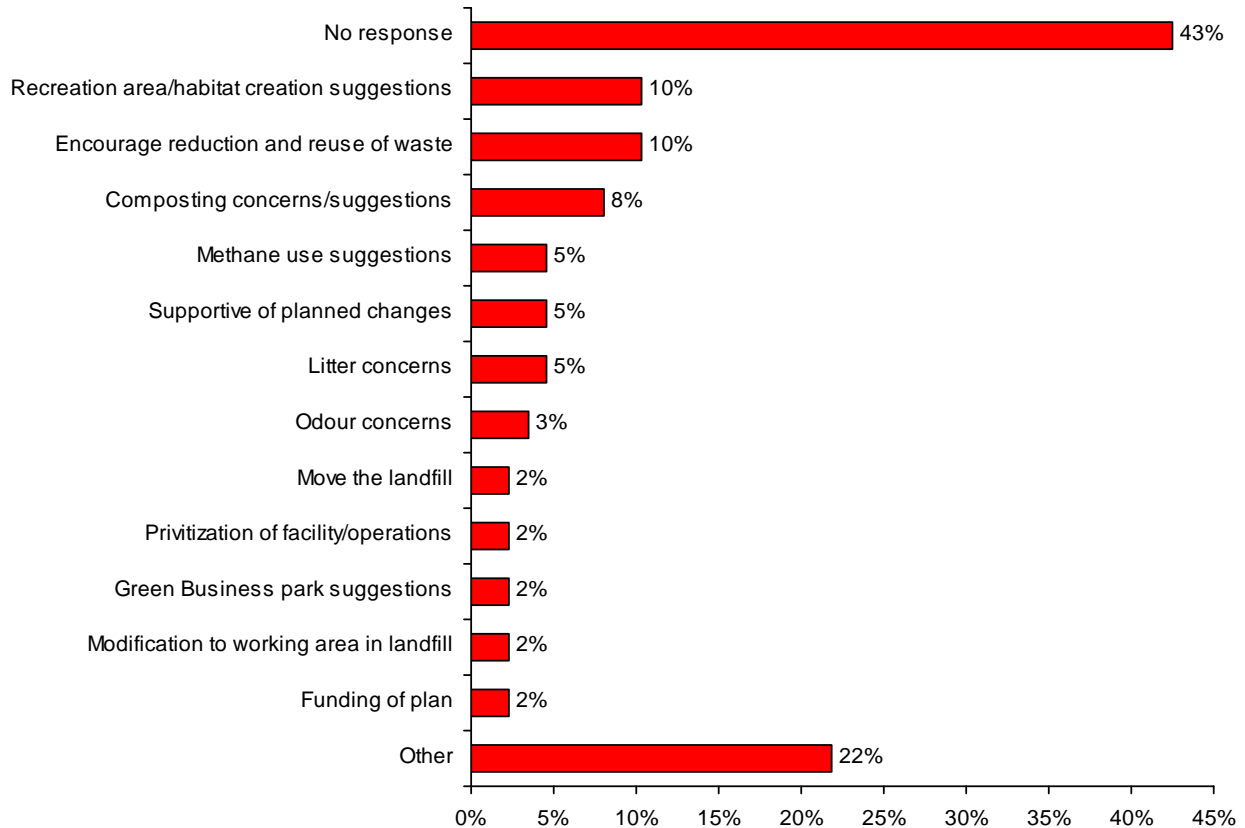
*“Would the overall effect of these opportunities be:” (n=87)*



## 2.4 Other Opportunities for Brady Road Landfill

Most respondents (43%) didn't provide additional suggestions of other opportunities that could improve Brady Road Landfill. Among those with comments, most (10%) had recreation area/habitat creation suggestions or (10%) wanted to encourage reduction and reuse of waste.

*“Do you think there are other opportunities that could improve Brady Road Landfill and protect the environment?” (n=87)*



\*Totals will exceed 100% due to multiple responses

Some other responses included:

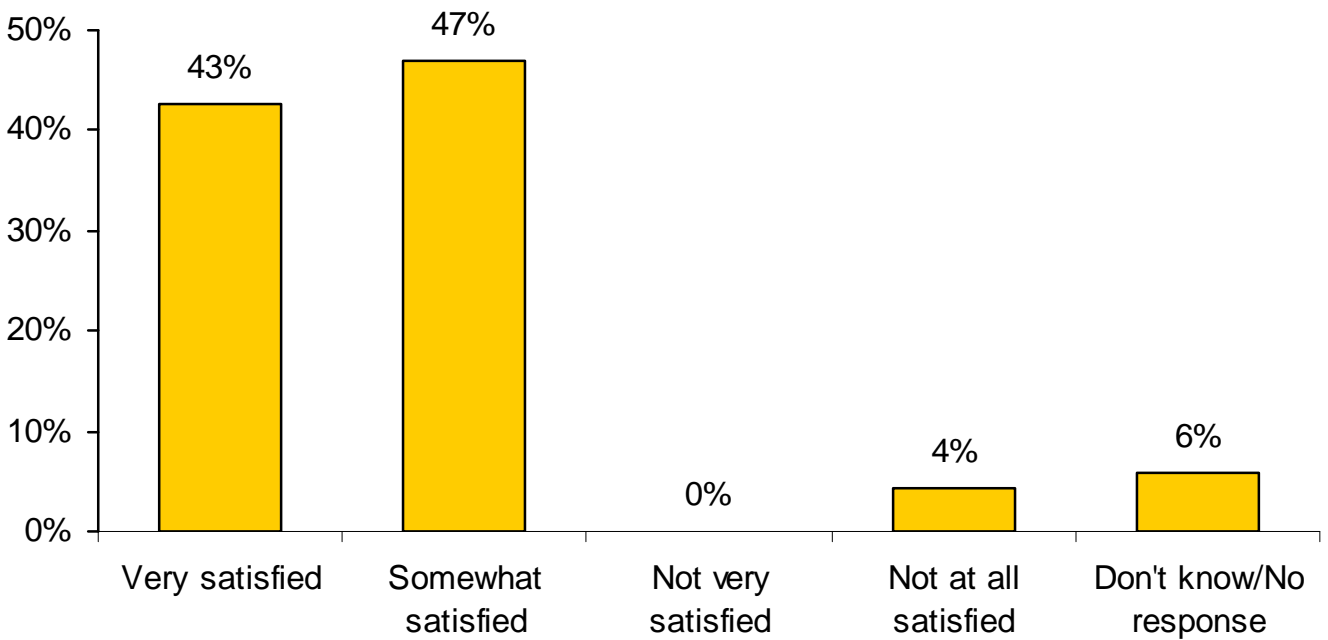
- “Please examine alternative leachate management options. The Winnipeg Wastewater Treatment facilities are designed to reduce nutrient loading only not metals, dioxins and furans, edcs, etc.”
- “1) Regular surface water sampling in "wetland" 2) Plan to control windblown litter 3) Improve safety issues at Brady + Perimeter with MB Highways”
- “This intended process seems very slow. I would like to see factories built to incinerate and compost the waste matter. Recycling is the way to go - everyone should be more conscious of what goes into the garbage.”

- “I like the idea of a Resource Recovery Centre but I don't believe you should be charge a fee to drop off these items since we are already going to be charge a \$50 fee. To encourage more recycling, don't continue to charge fees for every time someone drops off recycling items.”
- “- Open a site further from the city
  - Complete sites started then close the landfill
  - No composting under any circumstances
  - There appears to be a disconnect at city planning developing residential next to a landfill”
- “- Mandatory satellite drop off sites in the 4 corners of WPG
  - This should be part of the Licensing Conditions issues by the Prov. of Manitoba to the City of Winnipeg”
- “There are opportunities with the yard waste composting and the mix of plastic bags into the pile issue. Various areas are learning how to deal with this using a screener. The screener will take the plastic bags out. City of Brandon uses a screener to take out plastics and the landfill manager has said he would be willing to share the equipment if whoever needed it would cover the cost of transporting it. The City of Portage La Prairie just purchased a screener. Before the screener, it cost them thousands to rent the machine and they paid the person \$12,000 each time they screened their yard waste to get rid of plastic bags. Now they purchased one and it is both cost effective and efficient. It pays back for itself after a couple of uses. And since the City plans on large scale composting in the future, this may be needed anyway. I believe steps should be taken to model what the City of Brandon is doing and apply that here and even send the landfill manager from Brandon to Winnipeg to discuss what he has learned throughout this process of converting behaviours, and this would help Winnipeg rather than reinvent the wheel.”
- “I think restrictions or by-laws could be imposed on businesses and commercial locations to dictate how they are to handle their garbage and recycling. This would force people to do it, and sadly that might be what it takes.”

## 2.5 Satisfaction with Public Meeting

The majority (90%) of respondents were satisfied with the public meeting.

*“Overall, how satisfied are you with this public meeting?” (n=68)<sup>†</sup>*

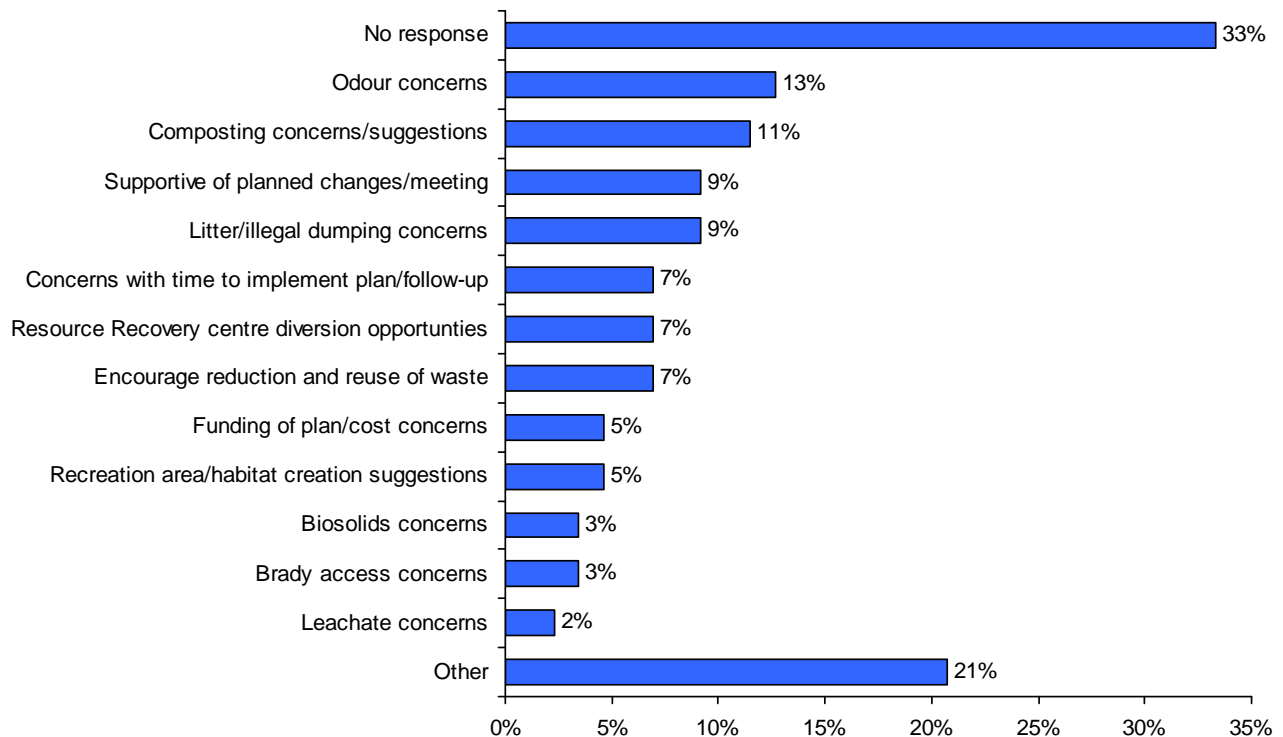


<sup>†</sup> This question was only asked in the paper version of the Feedback Form handed out at the Public Meeting.

## 2.6 Final Comments

Most respondents (33%) didn't provide additional comments. Among those with comments, most (13%) had odour concerns or (11%) composting concerns/suggestions.

*"Please let us know any other comments or concerns you have about Brady Road Landfill:" (n=87)*



\*Totals will exceed 100% due to multiple responses

Some other responses included:

- “1)The access to Brady Road from the Perimeter going west is very dangerous (deadly). I would like to see alternative access. Overpass extra turning lane. 2)I would like to see some form of education or policing of private loads that are not properly secured. Waverly is strewn with refuse destined for the landfill.”
- “A study that shows allergy or chemical sensitivity would be beneficial to home owners planning to by in the St.Norbert area.”
- “- No composting
  - More odor control
  - Rodent control (really bad in residential near landfill. Rodents live in our garages, etc.)
  - No biosolids (we smell this too)”

- “My major concern is odour and the sooner that is more under control the better. It should be better published that people should call 311 when odour occurs.”
- “Should have more data on 1) air pollution VOC, Hg, Pb, etc 2) Influence on surface water, Red River is nearby”
- “Have another forum and let everybody know what info was collected and what the powers to be have in mind to do with this knowledge.”
- “-Think about burning waste  
- Have the consumers be more aware of garbage ->The only things that help is getting on peoples money”
- “I would like to see wetlands developed towards the residential districts at Waverley & the perimeter to allow ease of access for local residents. Which would also be visually appealing from the road. I would prefer if existing recycling facilities are utilized to process reclaimed materials. Thus reducing the need for new infrastructure and transforming Brady into an industrial zone. I would like to see an outline of potential cost recoverys from some of these reclaim material efforts. I would like to know what will be done if the finished compost material.”
- “Putting a dome over the site it would also stop paper from blowing around.”

## **APPENDIX A**

### **FEEDBACK FORM**

## BRADY ROAD LANDFILL PUBLIC MEETING FEEDBACK FORM

1. How informed do you feel about Brady Road Landfill?

Well informed	Adequately informed	Not as informed as I would like to be
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How much do you support the opportunities we identified for Brady Road Landfill?

	Not at all	A little	Somewhat	A lot	Don't know
a) Resource recovery centre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Green research/business park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Facility to process recyclable materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Capture of gas in burial and composting areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Recreational area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Habitat creation, including wetlands and forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. These opportunities are designed to help protect our environment by reducing the amount of garbage that is landfilled and reusing / recycling as much of the material as possible. Do you feel that these opportunities are:

Very necessary	Somewhat necessary	Unnecessary	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***please see over***



4. a) Do you expect these opportunities at Brady Road Landfill to affect you:

- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| A lot                    | Somewhat                 | A little                 | Not at all               | Don't know               |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

b) Would the overall effect of these opportunities be:

- |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Positive                 | Neutral                  | Negative                 | Don't know               |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5. Do you think there are other opportunities that could improve Brady Road Landfill and protect the environment?

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6. Overall, how satisfied are you with this public meeting?

- Very satisfied
- Somewhat satisfied
- Not very satisfied
- Not at all satisfied

Please let us know any other comments or concerns you have about Brady Road Landfill:

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***Thank you for your feedback.***

## **APPENDIX B**

### **INVITATION LETTER**



Water and Waste Department • Service des eaux des déchets

October 17, 2011

## Invitation to Residents near Brady Road Landfill

We invite you to a public meeting on the future of Brady Road Landfill.

<b>Date</b>	Thursday, October 27, 2011
<b>Time</b>	6:30 - 8:30 pm
<b>Presentation</b>	7:00 pm
<b>Location</b>	St. Norbert Community Centre, 3450 Pembina Hwy

We have been operating Brady Landfill under a permit since 1973. Provincial regulations have changed and landfills in Manitoba are now required to be licensed. As part of the licensing process, we prepared an environmental impact assessment. We hired an independent consulting firm to perform this assessment.

At the meeting, we will:

- share the results of the environmental impact assessment,
- share opportunities for the future of Brady Road Landfill (e.g., resource recovery centre, green research/business park, recreational area, wetlands), and
- welcome your feedback.

If you can't attend the meeting, you can find information and share your comments with us:

- through our website at [garbage.speakupwinnipeg.com](http://garbage.speakupwinnipeg.com)
- by contacting our 311 Centre, open 24 hours every day, by phone at 311 or by email at [311@winnipeg.ca](mailto:311@winnipeg.ca)



Water and Waste Department • Service des eaux des déchets

Le 17 octobre 2011

## **Invitation aux résidents et aux résidentes qui demeurent près de la décharge du chemin Brady**

Nous vous invitons à une séance ouverte sur l'avenir de la décharge du chemin Brady.

<b>Date</b>	Le jeudi 27 octobre 2011
<b>Heure</b>	de 18 h 30 à 20 h 30
<b>Présentation</b>	19 heures
<b>Lieu</b>	Centre communautaire de Saint-Norbert, 3450, ch. Pembina

La décharge du chemin Brady fonctionne sous licence depuis 1973. Depuis, les règlements provinciaux ont changé et les décharges du Manitoba doivent faire l'objet d'un permis. Nous avons préparé une évaluation de l'impact environnemental qui fait partie du processus d'obtention de ce permis. Nous avons engagé une société extérieure d'experts-conseils pour faire cette évaluation.

Pendant la séance ouverte :

- nous présenterons les résultats de l'évaluation de l'impact environnemental;
- nous parlerons des possibilités qui existent par rapport à l'avenir de la décharge du chemin Brady (p. ex., centre de récupération des ressources, parcs verts de recherche et parcs commerciaux, zone de loisirs, marécages);
- vous pourrez nous faire part de vos réactions.

Si vous ne pouvez pas assister à la séance ouverte, vous pouvez obtenir des renseignements et faire des commentaires :

- sur notre site Web à [garbage.speakupwinnipeg.com](http://garbage.speakupwinnipeg.com);
- en communiquant avec le Centre 311 qui est ouvert 24 heures sur 24, sept jours par semaine, par téléphone au 311, ou par courrier électronique, à [311@winnipeg.ca](mailto:311@winnipeg.ca).

## **APPENDIX C**

## **PRESENTATION**



# The Future of Brady Road Landfill

October 27, 2011



## Agenda

- An overview of current operations at Brady Road Landfill
- Operating requirements
- Environmental impact assessment findings
- Future opportunities for Brady Road Landfill
- Question and answer period





# Brady Landfill Today

Darryl Drohomerski  
Manager of Solid Waste Services



## Brady Landfill Today

- The City's sole landfill since 1998
- Entire site is about 790 hectares – larger than River Heights
  - about 1/8 of the site is used for garbage burial
- Supported by tipping fees



## Garbage

- Handles more than 400,000 tonnes of garbage each year – about 1/3 of this is organic waste
- Emits greenhouse gases equal to the annual emissions from about 70,000 passenger vehicles
- Produces up to six tanker trucks of leachate every day for treatment (the harmful liquid produced by moisture filtering down through garbage)



## Current Diversion Efforts at Brady

- More than 11,800 tonnes of material is kept out of the landfill and reused each year
  - more than 5,000 tonnes of glass used for road base
  - over 4,000 bicycles collected to date for refurbishing
  - more than 2,500 appliances per year recycled for the metal





## Current Diversion Efforts at Brady

- More than 500 tonnes of metal recycled



## Current Diversion Efforts at Brady

- More than 2,000 tonnes of wood waste turned into flooring and other products



## Current Diversion Efforts at Brady

- 4,200 tonnes of yard waste composted



## Current Diversion Efforts at Brady

- Over 100 tonnes of tires made into new products





## Operating Requirements

- Operating under a permit since 1973
- Provincial regulations have evolved and landfills in Manitoba are now required to be licensed
- Need to conduct an environmental impact assessment as part of the licensing process
- Stantec, an independent consulting firm, has conducted the assessment



## Environmental Impact Assessment Brady Road Landfill

J. M. McKernan, M.E.S., M.Sc., P. Biol., Principal  
Practice Leader, Environmental Services Manitoba  
Stantec Consulting Ltd.



## Key Technical Assessment Findings

- **The landfill does not significantly impact the quality of groundwater beneath the landfill**
  - the landfill is situated on a thick layer of clay separating it from the groundwater
  - the groundwater in this area is not used as a drinking water source because of its naturally occurring salt content
- **Instances of odour are short-lived and not routine**
  - improved operational practices and diversion opportunities will further reduce odours
- **The landfill is not harmful to human health**
  - medical data indicates no human health implications throughout the 40 years this landfill has been operating

## Implications of Findings

- The deep clay subsurface has significantly minimized harmful substances from reaching the groundwater
- Use of artificial liners under future garbage burial areas will create even more protection
- Retrofitting current burial areas for landfill gas recovery, and improved diversion and operations, will even further reduce the instances of odour

## Environmental Site Improvements

Improvement	Benefits
Install a landfill gas recovery system	Reduces odour, greenhouse gas emissions
Install a liner at the bottom of the burial areas	Further protects groundwater
Build an engineered wetland	Further protects surface water
Improve the cover and vegetation over completed burial areas	Greatly reduces the production of leachate and bird and animal nuisance



## The Future of Brady Road Landfill

Darryl Drohomerski  
Manager of Solid Waste Services





## The New and Improved Brady Landfill

- Rename the site to The Brady Road Resource Management Facility, to reflect:
  - 35 – 50% less garbage requiring burial by 2020 once the Garbage and Recycling Master Plan is in place
  - increased diversion opportunities



## New Diversion Opportunities

- Facility to process recyclable materials
- Composting facility that would produce material that could be sold, given to the public, or used on City property
- “Green Business Park” for local industries that would remake the materials on site into reusable items for sale
- Research and business development centre



## New Diversion Opportunities

### Community Resource Recovery Centre

Drop-off area for material that could be processed and reused, resold or recycled (e.g., construction and demolition material, household items)



## Other Opportunities

Capture of gas in burial and composting areas will create potential for energy recovery

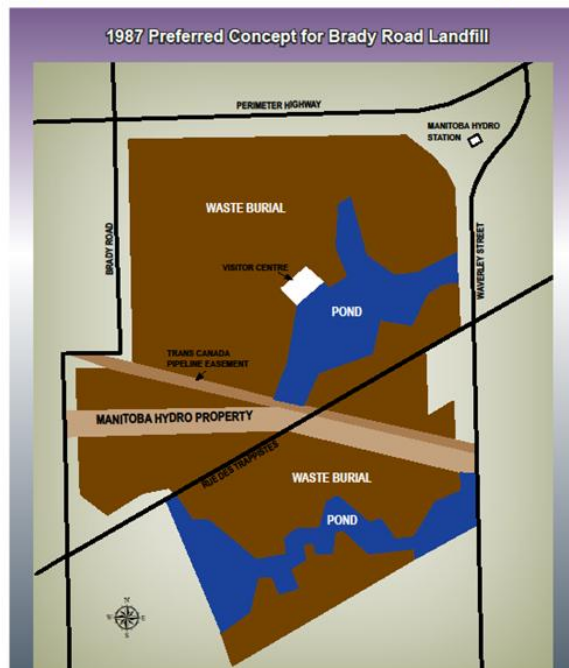


## Other Opportunities

- Recreation area (e.g., park, sports field)
- Community gardens
- Habitat creation including wetlands and forest

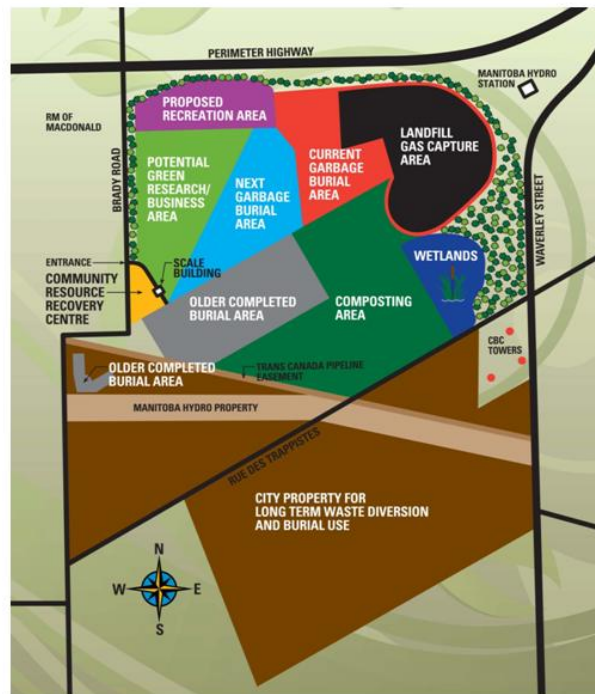


## Brady Road Landfill Plan (1987)





# Brady Road Resource Recovery Facility



## Next Steps

- Incorporate your feedback into the Environment Impact Assessment
- Submit Environment Act Proposal to Province by end of 2011
- Report back to community on outcome of licence application (e.g., website, media release)
- Rezone the site to accommodate diverse uses
- Ongoing community conversation on details of future plans



## **APPENDIX F**

# **STANTEC CONSULTING'S ENVIRONMENTAL IMPACT ASSESSMENT**

**(Free-standing Report)**

# **APPENDIX G**

## **CITY OF WINNIPEG DRAFT OPERATING PLAN**

**(Free-standing Report)**

## **APPENDIX H**

### **KEY RELEVANT DOCUMENTS**

## APPENDIX H – KEY RELEVANT DOCUMENTS

- Cherry, J.A., and J.E. Smith, 1990: Wood Preservative Migration through a Clayey Aquitard in Winnipeg: 1. Field Investigation. Waterloo Centre for Groundwater Research, University of Waterloo, April 16, 1990.
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