MARKETING RESEARCH STUDY

FOR

CITY OF MEMPHIS ENVIRONMENTAL ENGINEERING

- Survey of Memphis Consumers' Opinions About Storm Water Pollution -

Prepared for:

City of Memphis Environmental Engineering

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Background and Objectives

In 1999, the City of Memphis (City) developed and began a public relations campaign designed to educate the public about the causes and prevention of storm water pollution. Prior to beginning the campaign, the City Environmental Engineering Department commissioned Research Dynamics, Inc. to measure Memphis residents' awareness and opinions about storm water pollution and other environmental issues through a marketing research study. Since the storm water education program has been in place, the City Environmental Engineering Department has commissioned three follow-up surveys (2000, 2002, and this 2004 survey) to measure changes in public knowledge about storm water pollution.

Specific questions to be answered by this study include:

- How concerned are respondents with various environmental issues facing Memphis?
- How many respondents are aware of the correct definitions of storm water and storm water pollution when read to them? What items did respondents say cause storm water pollution?
- How many respondents are aware of there being a problem with storm water pollution in Memphis?
- Do respondents feel businesses or individuals are responsible for causing storm water pollution? Whose responsibility do respondents feel it is to prevent storm water pollution?

- What term do respondents feel best describes the opening where storm water flows?
- Do respondents believe that storm water goes through a cleaning process before reaching the Mississippi River?
- How many respondents would stop doing something that they learned could cause pollution of the river?
- How interested are respondents in learning more about storm water pollution?
- How many respondents have seen, read, or heard anything about storm water pollution in the past year? Where did they see or hear it?

- How do respondents dispose of items such as automobile oil, fertilizers/ pesticides/herbicides, leaves/grass clippings, household cleaning products, and old paint?
- Do respondents clean up after their pets?
- How many respondents would be willing to pay $4 per month for a new program that would pay for projects to reduce flooding and pollution in rivers and lakes?

- How have the results to survey questions changed since the 1999, 2000, and 2002 surveys?

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Methodology

- A total of 250 random telephone interviews were conducted with adults 18 years old or older who live in Memphis.

- Interviews were conducted between December 1 and December 9, 2004.

- The margin of error for results based on the total sample of 250 respondents is +/- 6 points. This means that if all adults in Memphis were interviewed, in 95 out of 100 cases the results would differ by no more than 6 points in either direction from the results of the 250 respondents interviewed for this study.

- Note: The 1999 survey sample was composed with a sample size of 400, as compared to the 250 sample size in the 2000, 2002, and 2004 surveys. The smaller sample size should be kept in mind when reviewing survey results that compare the 1999, 2000, 2002, and 2004 surveys, but the margin of error was only one point lower (i.e., +/-5 points) in the 1999 survey.

- A copy of the questionnaire is appended.

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Summary of Findings

1. **Importance Of Environmental Issues**

   - Of four environmental issues facing the city of Memphis, more respondents in this 2004 survey considered **Running out of space for disposing trash** a Major Concern (68%), with **Storm water pollution** ranking second (56% Major Concern), followed by **Poor air quality** (50%), and **Not enough people recycling** (45%).
   - Since the most-recent survey, in 2002, the only issue experiencing a notable change in its Major Concern score was **Not enough people recycling** (an 11-point decrease, from 56% to 45%). This year, there was a four-point increase in the percentage of those surveyed who said **Storm water pollution** is a Major Concern (from 52% in 2002, to 56% in this 2004 survey).

2. **Awareness Of Definitions Of Storm Water And Storm Water Pollution**

   - Similar percentages of respondents this year said they were aware of two definitions: **Aware of the definition of storm water** (61%), **Aware of the definition of storm water pollution** (63%).
   - **Awareness of the definition of storm water pollution** improved four points this period (to 63%), **Awareness of the definition of storm water** moved up one point (to 61%).

3. **Causes Of Storm Water Pollution**

   - **Garbage/Trash/Debris** (38%) ranked first in this 2004 survey as an item respondents said gets into storm water causing storm water pollution, followed closely by **Leaves** (32%), and then **Oil/Motor oil** and **Paper/Bags/Cups** (23% each). While mentions of **Garbage/Trash/Debris** have consistently been cited as a cause of storm water pollution in these surveys, **Leaves** received more mention than in previous surveys.

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4. **Awareness Of Storm Water Pollution Problem In Memphis**

   - Twenty-two percent (22%) of this 2004 survey sample was of the opinion there **Is a problem with storm water pollution in Memphis**.
   - After rising eight points over the two previous surveys (to 26%), this year there was a four-point decrease in respondents saying there **Is a problem with storm water pollution in Memphis** (to 22%).

5. **Responsibility For Causing/Preventing Storm Water Pollution**

   - As far as who is responsible for causing storm water pollution, of the three choices provided to respondents, 10% said **Businesses** are responsible, 6% consider **Individuals** responsible, with most people saying **Businesses and Individuals are Equally responsible** (79%). After increasing eight points in the 2002 survey (to 13%), the percentage of respondents in this 2004 survey who think **Individuals** are responsible for causing storm water pollution decreased almost the same amount (seven-point decrease, to 6%).
   - Nine in ten survey participants this year, 91%, said **They themselves, Other people, and Businesses are Equally responsible** for preventing storm water pollution; this has basically been the sentiment of respondents in all four surveys conducted.

6. **Term For Opening Where Storm Water Flows**

   - Given four response choices, **Storm drain** was selected most often in this 2004 survey as the term that best describes the opening where storm water flows (35%), followed by **Sewer** (23%), and **Gutter** (18%); one-quarter chose the **Don't know** option (24%).
   - In all three surveys in which this survey question has been asked, **Storm drain** has been chosen somewhat more often that **Sewer** or **Gutter** as the term that describes the opening where storm water flows, with little change since the 2002 survey.

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7. **Storm Water Going Through A Cleaning Process**

   - In this 2004 survey, 8% of the survey sample thought that storm water **Does go through a cleaning process before reaching the Mississippi River**; this compares to 52% who said storm water does **Not go through a cleaning process before reaching the Mississippi River**, with 40% saying they **Don't know**.
   - There was no change from the 2002 survey in terms of the number of respondents -- 8% -- who believe storm water **Does go through a cleaning process before reaching the Mississippi River**.

8. **Stopping Actions That Could Cause Pollution Of The River**

   - For the fourth consecutive survey, at least 97% of respondents said they **Would stop doing something they learned could cause pollution of the river** (98% this year).

9. **Interest In Learning More About Storm Water Pollution**

   - Eighty percent (80%) of 2004 survey participants are either **Very Interested** (19%) or **Somewhat Interested** (61%) in learning more about storm water pollution, with only 20% **Not interested**.
   - Even though there has been a combined seven-point decrease over the course of the last two surveys in respondents being **Very Interested** in learning more about storm water pollution (from 26% in 2000, to 19% this year), the combined **Very Interested/Somewhat Interested** score has been at least 80% in all four surveys conducted.

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10. **Awareness Of Information About Storm Water Pollution**

    - In the past year, 21% of those surveyed this year reported having **Seen, Read, or Heard anything about storm water pollution**; this is basically the same as the 24% level in the 2002 survey, the only other time this question has been asked.
    - As in 2002, **Television** was named most often as where respondents Saw/Heard about storm water pollution (78% in 2002, 66% in 2004), but **Newspaper** was again over 50% as a source of storm water pollution information (53% in 2002, 55% in 2004).

11. **How Automobile Oil Is Disposed**

    - Twelve percent (12%) of those participating in this 2004 survey **Change their own oil**. Among those who change their own oil, 62% dispose of used Oil by **Taking it to a Recycling center**, with 21% reporting they **Put used Oil in the trash** and 7% **Pouring it down the drain** or **Storing it**; these scores have changed little since the original 1999 survey. Among those who change their own oil, 70% in this 2004 survey said they bought oil or other automotive fluids either **1 to 2 times in the past year** (27%) or **3 to 5 times in the past year** (43%).

12. **How Fertilizers/Pesticides/Herbicides Are Disposed**

    - Eight in ten respondents this year, 80%, **Have either a yard or garden**.
    - Of those respondents who have a yard or garden, 21% said **They themselves** apply Fertilizers/Pesticides/Herbicides on their yard or garden, 38% said an **Outside service** applies these products, and 41% of this year's survey sample said **No one applies** Fertilizers/Pesticides/Herbicides on their yard or garden. Since this survey question was first asked in 2000, the percentage of respondents who said **They themselves** apply Fertilizers/Pesticides/Herbicides has decreased from 35% to 21%, while, over the same period, use of an **Outside service** has increased from 28% to 38%.

12. **How Fertilizers/Pesticides/Herbicides Are Disposed** (continued)

    - Just over two-thirds of those respondents in this 2004 survey who apply Fertilizers/ Pesticides/Herbicides themselves, 68%, **Store leftover Fertilizers/Pesticides/ Herbicides and use them later**; similarly, among those who use an Outside service to apply these products, respondents said they believe their service **Stores leftover Fertilizers/Pesticides/Herbicides and uses them later** (61% this year).

13. **How Leaves/Grass Clippings Are Disposed**

    - Leaves and Grass clippings are **Bagged for the city to pick up** according to 75% of 2004 survey participants who have a yard or garden; this compares to 13% who **Compost Leaves/Grass clippings** and 8% who **Leave Leaves/Grass clippings in their yard**.
    - **Bagging Leaves/Grass clippings for the city to pick up** has been the preferred choice of between 67% and 79% of respondents beginning with the original survey in 1999, with no other method receiving more than 15% mention in any of the four surveys.

14. **How Household Cleaning Products Are Disposed**

    - This year, 65% of those surveyed said they **Store leftover Household cleaning products and use them later**, while 21% **Put leftover Household cleaning products in the trash**, and 9% **Take leftover Household cleaning products to a Recycling center**.
    - Since the previous 2002 survey, **Storing leftover Household cleaning products and using them later** decreased slightly as respondents' preferred disposal method (from 74% to 65%), while **Putting leftover Household cleaning products in the trash** rose from 14% to 21%.

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15. **How Old Paint Is Disposed**

- Other than the 28% of respondents this year who **Don't have any old Paint**, somewhat more people **Store leftover old Paint and use it later** (41%) than **Take leftover old Paint to a Recycling center** (18%) or **Put leftover old Paint in the trash** (12%).
- **Storing old Paint and using it later** continues to be the leading choice for disposing old Paint, but this 2004 survey did see an increase from 10% to 18% in the percentage of people who **Take old Paint to a Recycling center**.

16. **Cleaning Up After Pets**

- Well over half of this year's survey sample **Doesn't have a pet** (65%) or **Doesn't have a pet they walk** (7%), however, among those who do have a pet they walk, many more **Clean up after their pet** than **Don't clean up after their pet** (23% vs. 5%).
- After there not being much difference between those who **Clean up after their pet** and those who **Don't clean up after their pet** in the 1999 and 2000 surveys, the last two surveys have seen much larger segments of respondents say they **Clean up after their pet** than **Not clean up after their pet**.

17. **Willingness To Pay Monthly Fee For New Program**

- Just as in the 2002 survey (the only other time this survey question was asked), respondents in this 2004 survey were nearly evenly split in terms of their reaction to the prospect of paying $4 per month for a new program that would pay for projects to reduce neighborhood flooding and reduce pollution and trash in our rivers and lakes: 42% **Would pay $4 per month** this year, while 48% would **Not pay**; in 2002, 40% **Would pay $4 per month**, 46% would **Not pay**. A segment of respondents, 10% this year, 14% in 2002, **Didn't know if they would pay**, with some saying they need more information before making a decision.

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Conclusions

1) Overview Of Survey Results. This 2004 survey marked the fourth survey conducted with Memphis residents regarding their knowledge and awareness of the issue of storm water pollution; the first of these surveys was conducted in 1999. Having now four surveys' worth of survey data allows us to point out some fairly significant trends in opinion, which, in turn will help the City determine where to devote future resources designed to further educate Memphis residents about storm water pollution. While we'll be discussing instances of the public gaining knowledge throughout this section of Conclusions, there were two major survey questions the results of which offer strong evidence that storm water pollution is an issue of importance to Memphians.

   First, the survey opened with respondents being asked to rate the importance of four environmental issues facing the city of Memphis. In this 2004 survey, 56% of the survey sample judged Storm water pollution to be a Major Concern; this was higher than the 50% who said Poor air quality is a Major Concern and higher than the 45% who considered Not enough people recycling a Major Concern. The only issue of the four tested that had a higher 2004 Major Concern score than Storm water pollution was Running out of space for disposing trash, which had a 68% Major Concern score. Not only did Storm water pollution hold its own in this 2004 survey in terms of how much of a concern the issue is compared to similar environment-related issues, but, of these four issues, Storm water pollution is the only one whose Major Concern score is higher in 2004 than it was in the original 1999 survey. These results regarding the four environmental issues of concern certainly show that Storm water pollution is as much of a concern (if not more) as other similar issues, and this year's increase in Storm water pollution's Major Concern score -- the only increase among the four issues tested -- may well reflect the City's efforts to educate the public about storm water pollution.

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The second major survey question that provided survey participants the opportunity to demonstrate their knowledge and awareness of the issue of storm water pollution asked respondents whether they are Very Interested, Somewhat Interested, or Not Interested in learning more about storm water pollution. Including this 2004 survey, the percentage of respondents interested in learning more about storm water pollution -- expressed as the combination of those either Very Interested and Somewhat Interested in learning more -- has now been at least 80% in all four surveys, and has been quite consistent since the first survey, in 1999. We were a bit surprised at the high level of respondent interest in learning more about storm water in the first survey, but since that strong interest level has clearly been maintained over the last five years, it looks to represent another indication of the success of the City's awareness-building efforts. In addition, the fact that this 80%+ level of interest in learning about storm water pollution has remained strong at such a high level over several years would seem to suggest that there remains a desire to learn even more about storm water pollution in the future.

2) Items That Cause Storm Water Pollution. There were a couple of implications of the survey question that asked respondents to name items that get into storm water causing storm water pollution.

   In terms of knowledge, there was, as in the previous surveys, an extensive list of items survey participants said cause storm water pollution; even if a few of these items were mentioned in error, correct awareness that these many, diverse items cause storm water pollution has to be due, in part, to knowledge people have gained through the City's storm water pollution education efforts.

   Though many individual items were mentioned as causing storm water pollution, in looking at specific items respondents said cause storm water pollution, many of the items cited fit into a few categories: Garbage, Leaves, Automotive fluids, Chemicals, Paper.

Given that many of the items mentioned by participants as causing storm water pollution relate to one of the major categories noted at the bottom of the previous page, it would seem to make sense that if respondents in this survey -- and, often, in the previous surveys as well -- were of the opinion that items in these categories cause storm water pollution, it would probably be a good idea for future educational efforts of the City to draw attention to these major categories of items. The thought behind this suggestion is that if these major categories have resonated with a lot of people as causing storm water pollution, they may well, through the City's awareness-building efforts, also make an impression on those who currently aren't aware those categories of items cause storm water pollution.

Not only should the City continue to educate the public about the items that cause storm water pollution, but, when it comes to items such as Automotive fluids and Chemicals, it will be equally important for the City to also continue to inform the public about the proper way of disposing these items.

We also wanted to note the relatively high number of respondents in the last couple of surveys who named Leaves as an item that causes storm water pollution; it may be due to recent wet weather, or even the time of the year in which the survey was conducted, but in the past couple of surveys now, we have seen a noticeable increase in Leaves being mentioned as a cause of storm water pollution. Given this, perhaps how Leaves should be dealt with could be the focus of a future aspect of the City's educational campaign.

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3) Recycling/Annual Days. While not a huge increase, this 2004 survey did see more people say they would dispose of old Paint by Taking it to a Recycling center. On a related note, we also heard a few survey participants this year mention taking various items to specific annual days devoted to the proper disposing of those items.

   We would recommend the City consider building on this apparent interest in Recycling and specific annual days by making these topics more prominent in future educational efforts designed to make people aware of what causes storm water pollution and how it can be prevented.

4) The Newspaper. In this 2004 survey (as was the case in 2002, the only other time the survey question has been asked), over half of the respondents who had seen, read, or heard something about storm water pollution in the past year said that awareness was gained through the Newspaper. Usually when this type survey question is asked, Television is more often cited as a source of information than Newspaper (even if in fact the information was learned, at least in part, somewhere besides TV); however, in this 2004 survey, Television was only slightly more often said to be a source of information about storm water pollution than was the Newspaper. Given that the Newspaper has been an above-average source of respondents' information about storm water pollution, the City should continue efforts to have articles about the causes and prevention of storm water pollution in newspapers (both in The Commercial Appeal, as well as in other smaller newspapers in Memphis).

5) Paying $4 For The New Program. This 2004 survey was the second survey in which respondents have been asked if they would be willing to pay $4 per month for a new program that would pay for projects to reduce neighborhood flooding and reduce pollution and trash in rivers and lakes.

Respondent reaction to this program this year was nearly identical to what we found in the most-recent survey, in 2002. In both the 2002 survey and in this 2004 survey, there was a very slight six-point difference between the percentage of respondents who Would pay $4 for the new program, and the percentage who would Not pay the $4 (40% Would, 46% Would not, 14% Don't know in 2002; 42% Would, 48% Would not, 10% Don't know in 2004). For a hypothetical concept like this program to have such very similar levels of reaction in two surveys separated by two years reinforces and adds weight to those results and shows that there really is split opinion about the program as it was explained in the survey question.

Survey participants offered several side comments in answering this question about the potential new program that were quite instructive. Basically, respondents made it quite clear that they would be open to considering paying for this program if they knew more about the program's specifics, if they knew more about where the money would be going, and if they knew more about how results of the program would be communicated to the public. We did want to say though, that there did seem to be genuine interest in this program -- even among those who said at the current time they would Not pay for the program -- especially if more information about the program is provided.

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6) Demographic Segments. Various demographic segments differed in their responses to certain survey questions, with some of these differences having been seen in previous storm water pollution surveys.

In terms of age groups, there were a couple of key questions in this 2004 survey that indicated younger people (age 18-34 as defined in this survey) are perhaps less knowledgeable of storm water pollution than are older people. Therefore, any awareness-building efforts geared toward younger people should include media and activities frequented by younger people.

By gender, we saw an outcome we have noted in surveys on other subjects; that is, Males being more knowledgeable than Females about storm water pollution, but Females being more interested in learning more about the subject than Males. Because we have seen this pattern of results in other surveys, it is possible, and worth keeping in mind for future storm water pollution education efforts, that Males don't want to admit a lack of knowledge or admit they need more knowledge; in other words, we would not necessarily take the above-mentioned results to mean Males know more about storm water pollution than Females.

There were sizeable differences between Blacks and Whites in terms of awareness of the definitions of storm water and storm water pollution (Whites more aware) and in terms of concern about environmental issues and wanting to learn more about storm water pollution (Blacks more concerned and more interested in learning more). The magnitude of some of these differences suggests that the concern and interest among Blacks in the subject of storm water pollution is something that should be addressed by the City's awareness-building efforts.

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DETAILED FINDINGS

How Much Of A Concern Are Various Environmental Issues Facing Memphis?

- 2004 Results -

- In the first survey question, respondents were asked how concerned they were with four environment-related issues facing Memphis.
- None of the four issues was considered Not a Concern by more than 13% of those surveyed this year.
- As far as being a Major Concern to participants in this 2004 survey, at 68%, **Running out of space for disposing trash** received the most mention, followed by **Storm water pollution** (56%).
- Half of this year's survey sample considered **Poor air quality** a Major Concern (50%), while 45% said **Not enough people recycling** is a Major Concern facing Memphis.

Issues	Major Concern (250)	Minor Concern (250)	Not A Concern (250)
Running out of space for disposing trash	68%	20	12
Storm water pollution	56%	35	9
Poor air quality	50%	37	13
Not enough people recycling	45%	43	12

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Note: Percentages read across.

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How Did The Percentage Of Respondents Saying Each Environmental Issue Is A Major Concern Change Since 1999?

- For the fourth consecutive survey, **Running out of space for disposing trash** was clearly the environment issue more respondents considered a Major Concern; in all four surveys there has been at least a 12-point difference between the Major Concern score of **Running out of space for disposing trash** and the second ranking issue.
- Three of the four environmental issues listed below saw no more than a four-point change in their Major Concern score from the previous 2002 survey to this 2004 survey; the exception was **Not enough people recycling**, an issue which 56% of those surveyed in 2002 considered a Major Concern, but only 45% in this 2004 survey.
- The percentage of survey respondents who said **Storm water pollution** is a Major Concern increased four points this year (from 52% to 56%), and has now increased a total of 11 points since the 45% level in the 2000 survey. For the first time in any of the four surveys that have been conducted, **Storm water pollution's** Major Concern score ranked second out of the four issues tested; furthermore, **Storm water pollution** is the only one of the four issues whose Major Concern score is higher in this 2004 survey than it was in the original 1999 survey (56% vs. 52%).

	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Major Concern				
Running out of space for disposing trash	69%	76%	69%	68%
Poor air quality	54	52	48	50
Not enough people recycling	52	53	56	45
Storm water pollution	52	45	52	56

How Many Respondents Said They Were Aware Of The Definitions Of Storm Water And Storm Water Pollution Read To Them?

- 2004 Results -

- Respondents were next presented with the definitions of storm water and storm water pollution, and asked whether they were aware of those definitions.
- Sixty-one percent (61%) of the 2004 survey sample reported being **Aware of the definition of storm water**, with basically the same percentage, 63%, saying they are **Aware of the definition of storm water pollution**.

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How Did The Percentage Of Respondents Who Said They Were Aware Of The Definitions Of Storm Water And Storm Water Pollution Change Since 2000?

- The definitions of storm water and storm water pollution reported on the previous page were not included on the survey questionnaire in the original 1999 survey, therefore only results for the 2000, 2002, and 2004 surveys are trended in the table below.
- **Awareness of the definitions of both storm water and storm water pollution** have been a few points above or below 60% in each of the three survey periods reported below. However, since 2000, there has been a slight five-point decrease in respondent **Awareness of the definition of storm water** (from 66% to 61%), while, at the same, **Awareness of the definition of storm water pollution** has increased six points since 2000 (from 57% to 63%), and now is actually higher than the level of **Awareness of the definition of storm water** for the first time in the three surveys that have asked this survey question.

	2000 (250)	2002 (250)	2004 (250)
Aware Of:			
Storm water definition	66%	60%	61%
Storm water pollution definition	57	59	63

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What Items Did Respondents Say Get Into Storm Water To Cause Storm Water Pollution?

- 2004 Results -

- After being given definitions of storm water and storm water pollution, respondents were asked to name items that might get into storm water, thereby causing storm water pollution. The various categories of items mentioned by at least 2% of all survey participants are listed on page 21. In addition, the Appendix lists all the exact items mentioned by respondents, before the items were categorized for the table on page 21.
- Because these causes of storm water pollution were given in respondents' own words and therefore had to be categorized for the table on the page 21, comparing results from all four surveys is not as easy to do as with other survey questions in which respondents are given specific answer choices.
- As has been the case in the previous three surveys, **Garbage/Trash/Debris (in general)** was mentioned most often in this 2004 survey when survey participants were asked what items get into storm water to cause storm water pollution (38% in this 2004 survey).
- **Leaves** were given as a cause of storm water pollution by about one-third of this year's survey sample (32%); this percentage was noticeably higher than in previous surveys, and could reflect, in part, recent wet weather combined with the annual falling of leaves.
- Two other items were mentioned by more than 20% of the respondents this year as a cause of storm water pollution, and have been frequently cited as causes of storm water pollution in previous surveys: **Oil/Motor oil** and **Paper/Bags/Cups** (23% each).
- In addition to **Oil/Motor oil**, other automobile-related categories of mention as a cause of storm water pollution this year included **Gas** (6%), **Anti-freeze/Other automotive fluids** (4%), and **Tires** (2%).

(continued)

What Items Did Respondents Say Get Into Storm Water To Cause Storm Water Pollution? (continued)

- 2004 Results -

- Not only were **Leaves** and **Oil/Motor oil** mentioned by respondents as being among the three leading causes of storm water pollution as discussed on the previous page, but other items that, like **Leaves** and **Oil/Motor oil**, would be tested in later survey questions (but had not been mentioned at this point in the survey) were also cited as items that get into storm water to cause storm water pollution: **Chemicals** (15%), **Pesticides** (7%), **Paint** (4%), **Animal waste** (3%), **Fertilizers** (2%), and **Herbicides** (2%). While these items weren't mentioned especially often, the fact that they were mentioned shows that at least some respondents had a pretty good idea of some of the key items that cause storm water pollution, even before participating in this survey.
- A combined 25% of this 2004 survey sample named **Cans, such as for coke, beer, etc.** (14%) or **Bottles** (11%) as items that get into storm water to cause storm water pollution; these items, together with **Paper/Bags/Cups**, which, as discussed earlier was mentioned by 23% of respondents as a cause of storm water pollution, suggest that containers for food and drink are a major source of storm water pollution (in addition to the 2% of respondents who said **Food** itself gets into storm water causing storm water pollution).

(please see table on the next page)

What Items Did Respondents Say Get Into Storm Water To Cause Storm Water Pollution? (continued)

- 2004 Results -

Items That Cause Storm Water Pollution	Total (250)
Garbage/Trash/Debris (in general)	38%
Leaves	32
Oil/Motor oil	23
Paper/Bags/Cups	23
Chemicals (in general, including from yards)	15
Cans (coke, beer, etc.)	14
Bottles	11
Limbs/Fallen trees/Branches/Sticks	7
Pesticides	7
Gas	6
Anti-freeze/Other automotive fluids	4
Cigarettes	4
Dead animals	4
Dirt/Mud	4
Paint	4
Waste from businesses (including chemicals)	4
Animal waste	3
Fertilizers	2
Food	2
Herbicides	2
Needles	2
Plastic	2
Sewage	2
Tires	2
Waste (in general)	2
Other	20
Don't know	12

Note: Appendix lists all of the specific items given by respondents.
Note: Multiple responses are allowed, resulting in the total percentage adding to more than 100%.

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How Many Respondents Are Aware Of There Being A Problem With Storm Water Pollution In Memphis?

- 2004 Results -

- By about a 3:1 ratio, more people in this 2004 survey said they are **Not aware of a problem with storm water pollution in Memphis** than said they are **Aware of a problem with storm water pollution in Memphis** (76% vs. 22%).

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How Did The Percentage Of Respondents Aware Of A Problem With Storm Water Pollution In Memphis Change Since 1999?

- With the four-point decrease this 2004 survey saw in respondents being **Aware of a problem with storm water pollution in Memphis** (from 26% to 22%), since the original 1999 survey there has now been basically no change in respondent **Awareness of a problem with storm water pollution in Memphis**. The 22% of 2004 survey participants **Aware of a problem with storm water pollution in Memphis** equals the average percentage of respondents in the first three surveys who said they were **Aware of a problem with storm water pollution in Memphis**.

	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Aware Of Problem With Storm Water Pollution In Memphis?				
Yes, Aware of problem	18%	23%	26%	22%
Not aware of problem	78	75	71	76
Don't know	4	2	3	2

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What Group Do Respondents Feel Is Most Responsible
For Causing Storm Water Pollution?
What Group Is Most Responsible For Preventing Storm Water Pollution?

- 2004 Results -

- In consecutive survey questions, respondents were asked who is responsible for causing storm water pollution, and then who is responsible for preventing the problem.
- As far as who is responsible for causing storm water pollution, 79% of respondents said **Businesses and Individuals are Equally responsible**; among those singling out one of these groups, **Businesses** were named slightly more often than **Individuals** as being responsible for causing storm water pollution (10% vs. 6%).
- When it comes to preventing storm water pollution, the vast majority of those surveyed, 91%, believe **They themselves, Other people, and Businesses are Equally responsible**, though 7% did specifically say **Businesses** are responsible for preventing storm water pollution. No respondents said **They themselves** are responsible for prevention.

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What Change Has Taken Place Since 1999 In The Groups Respondents Feel Are Most Responsible For Causing And Preventing Storm Water Pollution?

- In a fairly notable result, this 2004 survey saw confirmation of the substantial decrease in respondents saying **Businesses** are responsible for causing storm water pollution -- the decrease from 19% in 2000, to 10% in 2002 was maintained with this year's 10% score. After more than doubling from 5% in 2000, to 13% in 2002, there was a seven-point decrease this year in **Individuals** being named as the party responsible for causing storm water pollution (from 13% to 6%).
- By contrast, as far as who is responsible for preventing storm water pollution, results in this year's survey differed little from what had been seen in the three previous surveys: at least 85% of respondents in all four surveys were of the opinion **They themselves, Other people, and Businesses are Equally responsible** for preventing storm water pollution (91% in this 2004 survey).

	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Responsible For Causing Storm Water Pollution				
Businesses	21%	19%	10%	10%
Individuals	7	5	13	6
Both equally	69	73	74	79
Don't know	3	3	3	5
Responsible For Preventing Storm Water Pollution				
The respondent	2%	1%	1%	-%
Other people	2	2	1	1
Businesses	8	8	5	7
All groups equally	85	86	92	91
Don't know	3	3	1	1

26

What Term Do Respondents Feel Best Describes The Opening Where Storm Water Flows?

- 2004 Results -

- A new question added in the 2000 survey asked respondents which of three terms they felt best describes the opening where storm water flows. Respondents were also given the opportunity to say they Don't know if any of the terms describe the opening.
- None of the answer choices was chosen substantially more often than the others this year, meaning that there is no clear consensus on the term that best describes the opening where storm water flows. **Storm drain** was selected by 35% of respondents as the term the describes the opening where storm water flows, while 23% said the best term is **Sewer**, 18% **Gutter**, and 24% **Don't know** if any of the three specific terms that were provided describes the opening where storm water flows.

27

How Has The Percentage Of Respondents Who Feel Various Terms Best Describe The Opening Where Storm Water Flows Changed Since 2000?

- This survey question concerning the term for the opening where storm water flows was not added to the survey questionnaire until 2000, therefore only results for the 2000, 2002, and 2004 surveys are trended in the table below.
- Even though far from a majority view, in all three surveys **Storm drain** is the only term for the opening where storm water flows that has been selected by over 30% of respondents (35% in this 2004 survey, up from 33% in 2002).
- The two other specific terms for the opening where storm water flows have seen one period of increased selection and one period of decreased selection since the first time this survey question was asked, in the 2000 survey. As a result, the percentage of 2004 survey participants who chose **Gutter** or **Sewer** as the term that describes the opening where storm water flows is within three points of the level seen in the original 2000 survey (21% to 18% for **Gutter**, 21% to 23% for **Sewer**).

Terms	2000 (250)	2002 (250)	2004 (250)
Storm drain	39%	33%	35%
Gutter	21	15	18
Sewer	21	24	23
Don't know	19	28	24

28

Do Respondents Believe Storm Water Goes Through A Cleaning Process Before Reaching The Mississippi River?

- 2004 Results -

- This year, 8% of the survey sample was of the opinion that storm water **Goes through a cleaning process before reaching the Mississippi River**; this compares with a much higher percentage, just over half of all respondents, 52%, who believe storm water does **Not go through a cleaning process before reaching the Mississippi River**.
- Four in ten survey participants, 40%, **Don't know if storm water goes through a cleaning process before reaching the Mississippi River**; this may be an indication that a good number of Memphians could stand to be better educated on this topic.

29

What Change Has Taken Place Since 1999 In The Percentage Of Respondents Who Believe Storm Water Goes Through A Cleaning Process Before Reaching The Mississippi River?

- No more than 15% of respondents in any of the four surveys said storm water **Goes through a cleaning process before reaching the Mississippi River**; in the two most-recent surveys, 2002 and 2004, only 8% of the survey sample has held this opinion.
- Though at its lowest point in this 2004 survey, 52%, a majority of respondents in all four surveys have now said storm water does **Not go through a cleaning process before reaching the Mississippi River**.
- In three of the four surveys, more than one-third of those surveyed -- 40% in this 2004 survey -- **Don't know if storm water goes through a cleaning process before reaching the Mississippi River**; so, even though among those with a specific opinion storm water is much more often seen as **Not going through a cleaning process** than **Going through a cleaning process**, there are many people don't feel they know enough about the subject to hold an opinion.

	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Does Storm Water Go Through A Cleaning Process?				
Yes, Does go through a cleaning process	11%	15%	8%	8%
Does not go through a cleaning process	54	65	56	52
Don't know	35	20	36	40

30

How Many Respondents Would Stop Doing Something They Learned Could Cause Pollution Of The River?

- 2004 Results -

- In what is probably not a surprising survey result -- and certainly a result that would be hoped for -- 98% of those interviewed in this 2004 survey **Would stop doing something they learned could cause pollution of the river**.

31

What Change Has Taken Place Since 1999 In The Percentage Of Respondents Who Would Stop Doing Something They Learned Could Cause Pollution Of The River?

- With the 98% of respondents in this 2004 survey who **Would stop doing something they learned could cause pollution of the river**, all four years' surveys have seen either 97% or 98% of survey participants say they **Would stop doing something they learned could cause pollution of the river**.

	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Stop Doing Something That Causes Pollution Of River?				
Yes, Would stop	97%	97%	97%	98%
Wouldn't stop	-	1	2	1
Don't know	3	2	1	1

32

How Interested Are Respondents In Learning More About Storm Water Pollution?
- 2004 Results -

- Regarding how interested they are in learning more about storm water pollution, a combined 80% of those interviewed in this 2004 survey said they are interested, either **Very Interested** (19%) or **Somewhat Interested** (61%). While it might be preferred that the "Very Interested" score be higher relative to the "Somewhat Interested" score, the above-mentioned 80% level of being interested in learning more about storm water pollution is certainly respectable.
- Two in ten respondents, 20%, are **Not Interested** in learning more about the issue of storm water pollution.

33

How Did Interest In Learning More About Storm Water Pollution Change Since 1999?

- While it's true that the 20% level of 2004 survey participants being **Not Interested** in learning more about storm water pollution is slightly higher than in the three previous surveys, the rather impressive trend of at least 80% of respondents in all four surveys being **Very Interested** or **Somewhat Interested** in learning more about storm water pollution -- as high as 86% in 1999 -- has been maintained with this year's 80% **Very Interested/Somewhat Interested** score.
- There has been a seven-point decrease in the percentage of survey respondents **Very Interested** in learning more about storm water pollution (from 26% in the original 1999 survey and in 2000, to 19% in this 2004 survey), which, as mentioned on the previous page, suggests the **Very Interested** score ideally would be higher, relative to the **Somewhat Interested** score.

	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Interest In Learning More About Storm Water Pollution				
Very Interested	26%	26%	22%	19%
Somewhat Interested	60	57	60	61
Not Interested	14	17	18	20

34

In The Past Year, How Many Respondents Have Seen, Read, Or Heard Anything About Storm Water Pollution?

- 2004 Results -

- A survey question first asked in 2002 wanted to know if respondents have seen, read, or heard anything about storm water pollution in the past year.
- In this 2004 survey, 21% of those surveyed said they **Have seen, read, or heard about storm water pollution in the past year**.

35

How Has The Percentage Of Respondents Who Have Seen, Read, Or Heard Anything About Storm Water Pollution In The Past Year Changed Since 2002?

- This 2004 survey saw a very slight, three-point decrease in respondents **Having seen, read, or heard about storm water pollution in the past year** (from 24% in 2002, to 21% this year).

	2002 (250)	2004 (250)
Seen, Read, Or Heard Anything About Storm Water Pollution/Past Year?		
Yes, Seen, Read, or Heard about storm water pollution	24%	21%
No, Have not Seen, Read, or Heard about storm water pollution	76	79

36

Where Did Respondents See Or Hear About Storm Water Pollution?

- 2004 Survey -

- The 53 survey participants who said they had seen, read, or heard about storm water pollution in the past year were then asked whether they saw or heard the information on Television, on Radio, in the Newspaper, in a Brochure, or elsewhere.
- Two-thirds of those who Saw, Read, or Heard something about storm water pollution in the past year said they saw that information on **Television** (66%). While it's not unusual for **Television** to be the leading source of information on a subject, **Newspaper** was cited by over half of 2004 survey respondents who had Seen, Read, or Heard something about storm water pollution in the past year as the source of that information (55%).
- Fairly equal percentages of respondents this year reported learning about storm water pollution from a **Brochure** (15%) or on the **Radio** (13%).

Other Ways Respondents Saw Or Heard About Storm Water Pollution

- 2004 Results -

- Internet.
- MLG&W bill.
- People talking about it.
- Sierra Club reports.

38

How Have The Ways In Which Respondents Have Seen, Read, Or Heard About Storm Water Pollution Changed Since 2002?*

- In this, the second survey in which those respondents who had Seen, Read, or Heard about storm water pollution were asked where they had seen or heard that information, **Television** was once again the most-often mentioned source of that information, though down slightly from 2002's 78% to 66% in this 2004 survey.
- As alluded to on page 36, with its 55% mention in this year's survey, both the 2002 and 2004 surveys have now seen a notable level of those who Saw, Read, or Heard something about storm water pollution in the past year say they read information in the **Newspaper** (53% in 2002, 55% in 2004).
- The 3% of 2002 respondents who said they read information about storm water pollution in a **Brochure** rose to 15% this year.

Where Saw/Read/Heard About Storm Water Pollution/Past Year?	2002 (60)	2004 (53)
Television	78%	66%
Newspaper	53	55
Radio	15	13
Brochure	3	15
Other	12	6

* Only asked of respondents who have seen/read/heard about storm water pollution in the past year.

39

How Many Respondents Change The Oil In Their Automobile Themselves?

- 2004 Results -

- The focus of survey questions next moved to learning how respondents dispose of various items, the first of which was used oil.
- Before asking how they dispose of used oil, respondents were asked if they usually change their own oil. This year, 12% of those interviewed said they **Change their own oil**, 88% **Don't change their own oil**. (Although not shown in a graph or table, the percentage of respondents who Change their own oil has been no higher than 20% in any of the four surveys, though it is at its lowest level in this 2004 survey.)

40

How Do Respondents Dispose Of Their Used Automobile Oil?
- 2004 Results -

- The 30 respondents who said they usually change their own oil were then asked in which of five ways they most often dispose of their used Oil.
- By a 3:1 margin this year, those who change their own oil more often dispose of their used Oil by **Taking it to a Recycling center** than by **Putting it in the trash** (62% vs. 21%); these two methods of disposal accounted for 83% of those respondents who change their own oil, with no other method of disposing used Oil given by over 7% of oil changers.
- Although not shown in the graph below, here is how the two respondents who Store their used Oil dispose it after storing: 1) Take to a Recycling center; 2) Put in the trash.

41

How Have The Ways In Which Respondents Dispose Of Their Used Oil Changed Since 1999?*

- Since the original 1999 survey, the percentage of respondents who change their own oil and said they usually dispose of their used Oil by using the most popular method overall, **Taking it to a Recycling center**, has remained quite consistent, ranging from 62% in 2000 and this 2004 survey, to 68% in 1999.
- Over the course of the past few surveys, **Putting it in the trash** has risen as a way of disposing used Oil (from 11% in 1999, to 21% in this 2004), passing **Storing it**, whose mention as a way of disposing used Oil has decreased from 15% in 1999, to 7% this year.

How Dispose Of Used Oil	1999 (75)	2000 (50)	2002 (45)	2004 (30)
Take it to a recycling center	68%	62%	66%	62%
Store it	15	10	9	7
Put it in the trash	11	18	18	21
Put it in the street	1	4	-	-
Pour it down the drain	1	-	-	7
Other	4	6	7	3

* Only asked of respondents who change their own oil.

Approximately How Many Times Per Year Do Respondents Purchase Oil/Automotive Fluids At A Retail Store?

- 2004 Results -

- In addition to being asked how they dispose of their used oil, those survey participants who change their own oil were also asked approximately how many times per year they purchase oil or other automotive fluids at a store such as AutoZone or Wal-Mart.
- Seven in ten oil changers in this year's survey, 70%, reported purchasing oil or other automotive fluids at a store like AutoZone or Wal-Mart either **1 to 2 times** (27%) or **3 to 5 times** (43%).

43

How Many Respondents Have Either A Yard Or Garden?

- 2004 Results -

- Eighty percent (80%) of the 2004 survey sample **Has either a yard or garden**, while 20% doesn't; the two previous surveys that asked this question saw a similar number of respondents say they Have either a yard or garden, 79% and 85%, respectively, in 2000 and 2002. In the 1999 survey, this survey question asked respondents if they live in a house (rather than whether or not they have a yard or garden), with 80% of respondents saying they did live in a house.

44

How Many Respondents Said Fertilizers/Pesticides/Herbicides Are Used On Their Yard/Garden, Either By Themselves Or A Service?

- 2004 Results -

- Among those survey participants who have either a yard or garden, 21% of the **Respondents themselves** said they apply Fertilizers/Pesticides/Herbicides on their yard or garden.
- The remainder of 2004 survey respondents who have either a yard or garden was evenly divided between saying an **Outside service** applies Fertilizers/Pesticides/Herbicides or saying **No one applies** these items (38% and 41%, respectively).

45

Since 2000, What Change Has Taken Place In How Many Respondents Said Fertilizers/Pesticides/Herbicides Are Used On Their Yard/Garden, Either By Themselves Or A Service?*

- In a change in question wording from the 1999 survey, respondents in the 2000, 2002, and 2004 surveys who have a yard or garden were asked whether Fertilizers, Pesticides, or Herbicides are applied by They themselves, by an Outside service, or by No one. (In 1999, respondents were simply asked if Fertilizers/Pesticides/Herbicides are used on their lawn.) Therefore, only results for the 2000, 2002, and 2004 surveys are shown below.
- All three surveys in which this survey question has been asked have seen roughly the same number of people who have a yard or garden say **No one applies** Fertilizers/ Pesticides/Herbicides on their yard or garden (37% in 2000, 41% both in 2002 and 2004).
- Where change has occurred is that in each of the two surveys since this question was first asked in 2000 there has been an increase in respondents saying an **Outside service** applies Fertilizers/Pesticides/Herbicides on their yard or garden (an increase from 28% in 2000, to now 38% in this 2004 survey), while, over that same period, since 2000, both subsequent surveys have seen a decrease in **Respondents themselves** applying Fertilizers/ Pesticides/Herbicides (decreasing from 35% in 2000, to 21% in this 2004 survey).

	2000 (192)	2002 (213)	2004 (201)
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden			
The respondent	35%	26%	21%
Outside service	28	33	38
No one applies	37	41	41

* Only asked of respondents who have a yard or garden.

What Do Respondents Do With Their Leftover Fertilizers/Pesticides/Herbicides?

- 2004 Results/Based On Who Applies -

- The table on the next page compares how respondents dispose of leftover Fertilizers/ Pesticides/Herbicides, based on whether The respondent or an Outside service applies such products on their yard or garden.
- Among the 43 survey participants in this year's survey who said They themselves apply Fertilizers/Pesticides/Herbicides, over two-thirds **Store the product and use it later** when there is some leftover (68%); this was considerably higher than the 19% who put leftover Fertilizers/Pesticides/Herbicides **In the trash**, and the 9% who take these products to a **Recycling center**.
- As with those respondents who said They themselves apply Fertilizers/Pesticides/ Herbicides, when asked how they believe their Outside service disposes of leftover Fertilizers/Pesticides/Herbicides, **Store it and use it later** was by far the most often-given response (61%), with 25% of survey participants who use an Outside service saying they **Don't know** how the service disposes of leftover Fertilizers/Pesticides/Herbicides.

(please see table on the next page)

What Do Respondents Do With Their Leftover Fertilizers/Pesticides/Herbicides?* (continued)

- 2004 Results/Based On Who Applies -

What Do With Leftover Fertilizers/Pesticides/Herbicides	Respondent Applies (43)	Service Applies (76)
Store it and use it later	68%	61%
Put it in the trash	19	4
Take it to a recycling center	9	9
Pour it down the drain	-	1
Other**	4	-
Don't know	-	25

* Only asked of respondents who said fertilizers/pesticides/herbicides are used.

** See Appendix.

48

What Do Respondents Do With Their Leaves/Grass Clippings?

- 2004 Results -

- Of those respondents who have a yard or garden, three out of four, 75%, **Bag Leaves/Grass clippings for the city to pick up**; this was far higher than the 13% of respondents who report **Composting** their Leaves/Grass clippings or the 8% who **Leave their Leaves/Grass clippings in their yard**, the two other actions taken by more than 2% of those surveyed.

49

What Change Has Taken Place Since 1999 In What Respondents Do With Leaves/Grass Clippings?*

- The three surveys since the benchmark 1999 survey have seen very little change in what respondents said they usually do with Leaves and Grass clippings.
- At least two-thirds of the survey participants in all surveys report **Bagging their Leaves/Grass clippings for the city to pick up**, with a range of only 12 points over the course of the four surveys (between 67% and 79%, 75% in this 2004 survey).
- Each of the four surveys has seen **Composting** be mentioned slightly more often than **Just leaving Leaves/Grass clippings in the yard**, with the difference being no more than the five-point difference this year (13% vs. 8%).
- No more than 2% of respondents in any of the four surveys said they have used any other means of dealing with Leaves/Grass clippings.

What Do With Leaves/Grass Clippings	1999 (319)	2000 (192)	2002 (213)	2004 (201)
Bag it for the city to pick up	67%	70%	79%	75%
Compost it yourself at your home	15	14	10	13
Just leave it in your yard	11	13	7	8
Use for mulch	2	2	1	2
Put it in the street	2	1	-	1
Service disposes	1	-	1	1
Don't have any leaves/grass clippings	-	-	1	-
Other	2	-	1	-

* Only asked of respondents who have a yard or garden.

50

What Do Respondents Do With Their Leftover Household Cleaning Products?

- 2004 Results -

- This year's survey sample said **Storing and using it later** was most often what they do with Household cleaning products when they have some leftover (65%).
- A combined nearly one-third of those surveyed **Put leftover Household cleaning products in the trash** (21%) or **Take leftover Household cleaning products to a Recycling center** (9%).

51

What Change Has Taken Place Since 1999 In What Respondents Do With Leftover Household Cleaning Products?

- In the 1999 survey, one of the choices given respondents for what they do with leftover household cleaning products was simply "Store it." However, due to a feeling that some respondents did not understand the implication of that response choice was supposed to be that "Storing it" meant "Store the product and use it up," this response choice was changed in the 2000, 2002, and 2004 surveys to "Store it and use it later."
- While this change in wording might seem minor, we do feel that many respondents chose other response alternatives in the 1999 survey because of uncertainly over what "Store it" meant, which, as a result, may have understated the score for "Store it" in 1999.
- This 2004 survey saw a slight decrease in the percentage of respondents who **Store leftover Household cleaning products and use them later** (from 74% in 2002, to 65% in this 2004 survey), while there was a slight increase since the 2002 survey in **Putting leftover Household cleaning products in the trash** (from 14% to 21%).

What Do With Leftover Household Cleaning Products	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Store it/Use it later*	41%	59%	74%	65%
Put it in the trash	32	26	14	21
Take it to a recycling center	11	8	5	9
Pour it down the drain	5	4	5	4
Put it in the street	1	-	-	-
Don't have any household cleaning products	10	2	2	1
Other	-	1	-	-

* Phrased "Store it" in 1999, "Store it and use it later" in 2000, 2002, and 2004.

52

What Do Respondents Do With Their Old Paint?

- 2004 Results -

- **Storing and using later** (41%) was mentioned most often as what respondents in this 2004 survey usually do with their old Paint when they have some leftover.
- However, because 28% of those surveyed said they **Don't have any Paint**, the 18% of respondents who **Take old Paint to a Recycling center** was not that far below the 41% who **Store old Paint and use it later**.
- Twelve percent (12%) of respondents **Put old Paint in the trash**.

53

How Have The Ways In Which Respondents Dispose Of Old Paint Changed Since 1999?

- Just as we discussed on page 51, regarding the change since 1999 in how Household cleaning products are disposed, the more detailed response choice "Store it and use it later" in the three surveys since the original 1999 survey has likely resulted in the percentage of respondents saying they **Store their old Paint and use it later** increasing from 32% in 1999 to over 40% in the 2000, 2002, and 2004 surveys.
- Perhaps the most noteworthy result in the table below concerns **Taking old Paint to a Recycling center**, which, after being the usual way of dealing with old Paint for about 10% of those surveyed in the first three surveys, increased to 18% in this 2004 survey.

•While there was an increase in **Taking old Paint to a Recycling center** in this 2004 survey, slight decreases occurred for **Storing old Paint and using it later** (from 47% to 41%) and **Putting old Paint in the trash** (from 16% to 12%). Over the course of the past two surveys, there has been an 11-point decrease in respondents **Putting old Paint in the trash** (from 23% to 12%).

What Do With Old Paint	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Store it/Use it later*	32%	44%	47%	41%
Put it in the trash	20	23	16	12
Take to a recycling center	9	8	10	18
Put it in the street	1	1	1	-
Don't have any paint	37	23	25	28
Other	1	1	1	1

* Phrased "Store it" in 1999, "Store it and use it later" in 2000, 2002, and 2004.

Summary Of How Respondents Dispose Of Various Items

- 2004 Results -

- The table below summarizes how 2004 survey respondents dispose of Oil, Fertilizers/ Pesticides/Herbicides, Household cleaning products, and Paint.
- For Fertilizers/Pesticides/Herbicides and Household cleaning products, Storing those products and using them later was the preferred method of disposal for about two-thirds of those participating in this 2004 survey (68% and 65%, respectively), and about three times more often than the second-most often used disposal method for both items, Putting it in the trash (19% and 21%, respectively). By contrast, regarding old Paint, there was not as large a difference in the two means of disposal used most often by respondents -- Storing it and using it later and Taking to a Recycling center (41% vs. 18%).
- For used Oil, Taking it to a Recycling center was the leading disposal method (62%), with Putting it in the trash ranking second (21%).

	Disposed Items			
How Dispose	Oil	Fertilizers/ Pesticides Herbicides	Household Cleaning Products	Paint
Take to recycling center	62%	9%	9%	18%
Put in trash	21	19	21	12
Store it/Use it later	7	68	65	41
Pour down drain	7	-	4	-
Put in street	-	-	-	-

Note: Included are the disposal alternatives that were tested for all of the various disposed items except Leaves/Grass clippings, because the disposal alternatives for Leaves/Grass clippings did not match those of the other items.

55

How Many Respondents Clean Up After Their Pet?

- 2004 Results -

- One of the final survey questions asked respondents if they clean up after their pet when they walk their pet.
- First, seven in ten survey participants, 70%, either **Don't have a pet** (65%) or **Have a pet they don't walk (such as a cat), or have a pet that does not leave the respondent's property** (7% "No answer" segment).
- Among those who do have a pet they walk, far more said they **Do clean up after their pet** (23% of all respondents) than do **Not clean up after their pet** (5% of all respondents).

56

How Has The Percentage Of Respondents Who Said They Clean Up After Their Pet Changed Since 1999?

- In all four survey periods, more respondents have said they **Do clean up after their pet** when they walk their pet than do **Not clean up after their pet**.
- However, while the first two surveys, in 1999 and 2000, saw a relatively small difference between the number of people who **Do clean up after their pet** and the number who do **Not clean up after their pet** (differences of six points and nine points, respectively), the 2002 and 2004 surveys have seen a much larger difference, highlighted by the 18-point difference this year (23% **Do clean up after their pet**, 5% do **Not clean up after their pet**).

	1999 (400)	2000 (250)	2002 (250)	2004 (250)
Clean Up After Pet?				
Yes, Clean up after pet	23%	23%	19%	23%
Don't clean up after pet	17	14	5	5
Don't have a pet	50	54	62	65
No answer	10	9	14	7

How Many Respondents Would Be Willing To Pay $4 Per Month For A New Program That Would Pay For Projects To Reduce Neighborhood Flooding And Reduce Pollution And Trash In Our Rivers And Lakes?

- 2004 Results -

- In a question added for the 2002 survey and asked again in 2004, respondents were asked if they would be willing to pay $4 per month for a new program that would pay for projects to reduce pollution and trash in rivers and lakes.
- Survey participants were nearly evenly divided this year in their opinion about this program. Forty-two percent (42%) of those surveyed **Would pay for the program**, while a very similar percentage of respondents, 48%, said they would **Not pay for the program**.
- Only 10% of respondents **Don't know** if they would pay for the program; included in this segment, as well as some of those with a specific opinion of the program, were people who said they might support the program if they knew more about it, if they knew where their money would be going, or if they knew they would be getting results of the program.

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How Has The Percentage Of Respondents Willing To Pay $4 Per Month For A New Program That Would Pay For Projects To Reduce Neighborhood Flooding And Reduce Pollution And Trash In Our Rivers And Lakes Changed Since 2002?

- It is fairly important that in this 2004 survey, as was the case in 2002, there was the very same slight six-point difference in the percentage of respondents saying they **Would pay** and would **Not pay** for the program (40% vs. 46% in 2002, 42% vs. 48% in 2004). The fact that the scores were so similar in the two surveys -- and reflecting basically split opinion -- adds weight to these results and indicates that there are indeed many Memphians in favor of this program, and just as many against it.
- Because opinion is so clearly divided on this program, should the City go forward with this program it is going to be very important, as discussed on the previous page, for there to be an extensive education campaign designed to let people know more about where their money will be going and how they will be informed about the program's results.

	2002 (250)	2004 (250)
Willing To Pay $4 Per Month For New Program?		
Yes, Willing to pay $4 per month	40%	42%
No, Not willing to pay $4 per month	46	48
Don't know	14	10

Sample Demographic Profile

- 2004 Results -

- The table on the next page profiles the demographic characteristics of the 250 respondents participating in this survey.

Age

- The median age of the survey's respondents is **51 years old**. (Note: The median is the middle value when all values are arrayed from the lowest value to the highest value.)

Race/Ethnicity

- The racial breakdown of respondents in this year's sample was fairly even, with 53% of respondents **White** and 46% **Black** (with 1% **Asian**).

Geographic Location

- Four geographic areas of Memphis represented 75% of respondents, and received either 18% of 19% of the total number of interviews: **East** (19%), **North** (19%), **South** (19%), and **Northeast** (18%).

Gender

- The survey sample was comprised of 69% **Females**, 31% **Males**.

(please see table on the next page)

Sample Demographic Profile
(continued)

- 2004 Results -

	Total (250)
Age	
18-24	8%
25-34	13
35-44	17
45-54	19
55-64	19
65-74	10
75 or older	14
Median	51
Race/Ethnicity	
White	53%
Black	46
Asian	1
Geographic Location (Component Zip Codes In Parenthesis)	
East (38117/38119/38120/38122)	19%
North (38105/38107/38108/38112/38127/38128)	19
South (38106/38109/38114/38116)	19
Northeast (38133/38134/38135)	18
Southeast (38115/38118/38125/38141)	14
Midtown (38104/38111)	11
Gender	
Female	69%
Male	31

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ADDITIONAL ANALYSIS

- In addition to analyzing survey results for the 250 respondents in total, we looked at some demographic sub-segments of respondents to determine how their responses to the various survey questions differed from the responses of other respondents.
- The following pages analyze sub-segments of respondents based on:
    - Respondents' age (pages 62-65)
    - Respondents' gender (pages 66-68)
    - Respondents' race (pages 69-72)
    - Respondents' geographic location (pages 73-74)
- Although this additional analysis section focuses on survey questions in which noticeable differences existed within the demographic categories being compared, if there are other survey questions whose responses you would like to see compared by the various breakdowns described above, we will supply that information to you.
- In looking at the following results, keep in mind that some survey questions were not asked of the full sample of respondents; for example, questions about fertilizers/ pesticides/herbicides were only asked of the 201 respondents who have a yard or garden.
- Note: This Additional Analysis section includes information only from the 2004 survey.

(continued)

Additional Analysis -- Respondents' Age

- The tables beginning on page 64 note survey questions on which there was a difference between the responses of respondents 18-34 years old, 35-54 years old, and 55 years old or older.
- Survey participants age 18 to 34 differed from those age 35-54 and 55 or older in their responses to several survey questions:
    - More likely to consider **Storm water pollution** a Major Concern (65%).
    - Above average in saying storm water does **Not go through a cleaning process before reaching the Mississippi River** (64%).
    - More often said **No one applies** Fertilizers/Pesticides/Herbicides on their yard or garden (50%).
    - Would be more likely to **Store Household cleaning products and use them later** (77%).
    - Less likely to **Take old Paint to a Recycling center** (8%).
- The middle age segment of respondents, those age 35-54, stood out from the two other age groups of respondents on one survey question:
    - A bit more likely to be **Wiling to pay $4 per month for a new program to reduce flooding and pollution in rivers and lakes** (53%).
    - Opinion of respondents age 55 or older differed from those in the two younger age groups on a few survey questions:
    - Less likely to say **Running out of space for disposing trash** is a Major Concern (60%).
    - More **Aware of a problem with storm water pollution in Memphis** (30%).
    - Twice as likely to say they **Don't know** what term of the three provided best describes the opening where storm water flows (35%).

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(continued)

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Additional Analysis -- Respondents' Age
(continued)

- On three survey questions, there were noticeable differences in respondent opinion across all three age groups:
  - As respondents' age segment increased, those who said they are **Aware of the definitions of storm water and storm water pollution** also increased. The **Awareness of the definition of storm water** was 42% among 18-34 year-olds, then rose to 60% within the 35-54 age segment, and then to 71% of respondents age 55 or older; the percentages were very similar for **Awareness of the definition of storm water pollution** (43%, 62%, and 73%, respectively).
  - The above-mentioned trends were reversed in terms of how old Paint is disposed. Just over half of those 18-34, 53%, said they **Dispose of old Paint by Storing it and using it later**, as compared to 43% of respondents age 35-54, and 31% of those age 55 or older who **Dispose of old Paint by Storing it and using later**.

(please see tables on the next two pages)

Additional Analysis -- Respondents' Age
(continued)

	Total	Age 18-34	35-54	55+
	(250)	(53)	(89)	(104)
Issues That Are A Major Concern (Question #2)				
Running out of space for disposing trash	68%	77%	73%	60%
Storm water pollution	56	65	53	54
Aware Of Definition Of Storm Water? (Question #3)				
Yes, Aware of definition	61%	42%	60%	71%
Aware Of Definition Of Storm Water Pollution? (Question #4)				
Yes, Aware of definition	63%	43%	62%	73%
Aware Of Problem With Storm Water Pollution In Memphis? (Question #6)				
Yes, Aware of problem	22%	19%	18%	30%
Term That Best Describes Opening Where Storm Water Flows (Question #9)				
Don't know	24%	17%	15%	35%
Does Storm Water Go Through A Cleaning Process? (Question #10)				
Not cleaned	52%	64%	51%	44%

(continued)

Additional Analysis -- Respondents' Age
(continued)

	Total	Age 18-34	35-54	55+
	(250)	(53)	(89)	(104)
Seen/Read/Heard About Storm Water Pollution In Past Year? (Question #13a.)				
Yes, Have Seen/Read/Heard about storm water pollution	21%	9%	20%	29%
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden? (Question #18)				
No one applies	37%	41%	50%	40%
What Do With Leftover Household Cleaning Products? (Question #21)				
Store it/Use it later	65%	77%	64%	60%
What Do With Old Paint? (Question #22)				
Store it/Use it later	41%	53%	43%	31%
Take to a recycling center	18	8	19	19
Pay $4 Per Month For New Program (Question #24)				
Yes, Would pay	42%	40%	53%	35%

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Additional Analysis -- Respondents' Gender

- Differences on survey questions between Male and Female survey participants are shown in the tables on the next two pages.
- Noticeably more Males than Females gave the following survey responses:
    - **Aware of the definition of storm water** (70% of Males, vs. 56% of Females) and **Aware of the definition of storm water pollution** (71% vs. 59%).
    - **Aware of a problem with storm water pollution in Memphis** (29% vs. 19%).
    - Believe **Storm drain** is the term that best describes the opening where storm water flows (47% vs. 30%).
    - Storm water does **Not go through a cleaning process before reaching the Mississippi River** (63% vs. 47%).
    - Said **They themselves** apply Fertilizers/Pesticides/Herbicides on their yard or garden (34% vs. 15%).
- Females were more likely than Males to hold the following opinions:
    - For three of the four environmental issues tested, considered those issues a Major Concern: **Running out of space for disposing trash** (71% of Females, vs. 61% of Males), **Storm water pollution** (59% vs. 49%), and **Poor air quality** (54% vs. 40%).
    - **Don't know** which of three terms best describes the opening where storm water flows (27% vs. 16%) and **Don't know if storm water goes through a cleaning process before reaching the Mississippi River** (45% vs. 29%).
    - As far as learning more about storm water pollution, **Very Interested/Somewhat Interested in learning more about storm water pollution** (84% vs. 71%).
    - Said an **Outside service** applies Fertilizers/Pesticides/Herbicides on their yard or garden (43% vs. 28%).

(please see tables on the next two pages)

Additional Analysis -- Respondents' Gender
(continued)

	Total	Gender: Male	Gender: Female
	(250)	(78)	(172)
Issues That Are A Major Concern (Question #2)			
Running out of space for disposing trash	68%	61%	71%
Storm water pollution	56	49	59
Poor air quality	50	40	54
Aware Of Definition Of Storm Water? (Question #3)			
Yes, Aware of definition	61%	70%	56%
Aware Of Definition Of Storm Water Pollution? (Question #4)			
Yes, Aware of definition	63%	71%	59%
Aware Of Problem With Storm Water Pollution In Memphis? (Question #6)			
Yes, Aware of problem	22%	29%	19%
Term That Best Describes Opening Where Storm Water Flows (Question #9)			
Storm drain	35%	47%	30%
Don't know	24	16	27
Does Storm Water Go Through A Cleaning Process? (Question #10)			
Not cleaned	52%	63%	47%
Don't Know	40	29	45

(continued)

Additional Analysis -- Respondents' Gender
(continued)

	Total	Gender	
		Male	Female
	(250)	(78)	(172)
Interest In Learning More About Storm Water Pollution (Question #12)			
Very/Somewhat Interested	80%	71%	84%
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden? (Question #18)			
The Respondent	21%	34%	15%
An outside service	38	28	43

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Additional Analysis -- Respondents' Race

- Tables on pages 71 and 72 report survey questions on which there was a difference between the responses of White respondents and Black respondents.
- White respondents' survey responses differed from those of Black respondents for the following questions:
    - Considerably more likely to be both **Aware of the definition of storm water** (73% of Whites, vs. 47% of Blacks) and **Aware of the definition of storm water pollution** (75% vs. 49%).
    - Said **Storm drain** is the term that best describes the opening where storm water flows (50% vs. 19%).
    - **They themselves** apply Fertilizers/Pesticides/Herbicides on their yard or garden (27% vs. 15%).
    - **Take old Paint to a Recycling center** (27% vs. 6%).
- There were survey results in which Blacks' responses varied from those of Whites:
    - In some cases by substantial margins, more Blacks than Whites considered all four of the environment issues to be a Major Concern: **Running out of space for disposing trash** (83% of Blacks, vs. 57% of Whites), **Storm water pollution** (66% vs. 46%), **Poor air quality** (68% vs. 36%), and **Not enough people recycling** (51% vs. 40%).
    - Either said **Sewer** was the term that best describes the opening where storm water flows (30% vs. 17%) or **Didn't know** which of three terms best describes the opening (31% 16%).
    - **Very Interested/Somewhat Interested in learning more about storm water pollution** (85% vs. 75%).

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(continued)

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Additional Analysis -- Respondents' Race
(consider)

- There were survey results in which Blacks' responses varied from those of Whites: (continued)
    - Said **No one applies** Fertilizers/Pesticides/Herbicides on their yard or garden (51% of Blacks, vs. 33% of Whites).
    - More likely to **Bag Leaves/Grass clipping for the city to pick up** (80% vs. 69%).

(please see tables on the next two pages)

Additional Analysis -- Respondents' Race
(continued)

	Total	Race: White	Race: Black
	(250)	(132)	(115)
Issues That Are A Major Concern (Question #2)			
Running out of space for disposing trash	68%	57%	83%
Storm water pollution	56	46	66
Poor air quality	50	36	68
Not enough people recycling	45	40	51
Aware Of Definition Of Storm Water? (Question #3)			
Yes, Aware of definition	61%	73%	47%
Aware Of Definition Of Storm Water Pollution? (Question #4)			
Yes, Aware of definition	63%	75%	49%
Term That Best Describes Opening Where Storm Water Flows (Question #9)			
Storm drain	35%	50%	19%
Sewer	23	17	30
Don't know	24	16	31
Interest In Learning More About Storm Water Pollution (Question #12)			
Very/Somewhat Interested	80%	75%	85%

(continued)

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Additional Analysis -- Respondents' Race
(continued)

	Total (250)	Race White (132)	Black (115)
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden? (Question #18)			
The Respondent	21%	27%	15%
No one applies	41	33	51
What Do With Leaves/Grass Clippings? (Question #20)			
Bag for the city to pick up	75%	69%	80%
What Do With Old Paint? (Question #22)			
Take to a recycling center	18%	27%	6%

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Additional Analysis -- Respondents' Geographic Location

- The table on the next page notes major survey questions on which responses differed based on whether a respondent lived in North Memphis, East Memphis, South Memphis, Northeast Memphis, Southeast Memphis, or Midtown Memphis. The zip codes comprising each geographic area can be found in the footnote accompanying the table.

Major Issues (Question #2)

- The Major Concern score for all four of the environmental issues tested was highest in South Memphis, while the lowest Major Concern scores were generally found in East Memphis.

Definitions (Question #3 and #4)

- East Memphis survey participants were the most likely, among the six areas of Memphis shown in the table on the next page, to be aware both of the definition of storm water, as well as the definition of storm water pollution. Awareness for these two concepts was lowest in North Memphis.

Use Of Fertilizers/Pesticides/Herbicides (Question #18)

- Respondents in North Memphis, East Memphis, South Memphis, and Northeast Memphis didn't differ too much in terms of who they said applies fertilizers/pesticides/herbicides on their yard or garden. However, those surveyed in Southeast Memphis were only about half as likely as respondents as a whole to say No one applies Fertilizers/Pesticides/Herbicides (22%). Midtown Memphis respondents were above average in saying They themselves apply Fertilizers/Pesticides/Herbicides on their lawn or garden (38%), but below average in saying an Outside service applies these products (14%).

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(please see table on the next page)

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Additional Analysis -- Respondents' Geographic Location (continued)

		Area Of Memphis*					
	Total (250)	North (48)	East (47)	South (46)	North-east (43)	South-east (34)	Mid-town (28)
Issues That Are A Major Concern (Question #2)							
Running out of space for disposing trash	68%	69%	56%	78%	67%	74%	64%
Storm water pollution	56	59	48	65	55	58	53
Poor air quality	50	55	34	73	43	42	54
Not enough people recycling	45	32	49	54	39	45	50
Aware Of Definition Of Storm Water? (Question #3)							
Yes, Aware of definition	61%	47%	74%	65%	66%	61%	52%
Aware Of Definition Of Storm Water Pollution? (Question #4)							
Yes, Aware of definition	63%	49%	79%	60%	70%	55%	64%
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden? (Question #18)							
The Respondent	21%	15%	15%	18%	22%	30%	38%
An outside service	38	36	40	32	48	48	14
No one applies	41	49	45	50	30	22	48

* Zip codes:
38105/38107/38108/38112/38127/38128 (North)
38117/38119/38120/38122 (East)
38106/38109/38114/38116 (South)
38133/38134/38135 (Northeast)
38115/38118/38125/38141 (Southeast)
38104/38111 (Midtown)

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Appendix

Question #5 -- Respondents' Definitions Of Storm Water Pollution
(List of All Responses -- Page 1 of 6)

- Chemicals from factories and plants. Waste. Trash. Waste from toilets.
- Leaves. Tree debris.
- Trash. Old bottles. Paper.
- Debris. Leaves. Dog waste.
- Rain water. Snow.

- Trash. Oil. Antifreeze. Leaves. Paint.
- Leaves. Trash. Paper. Cups. Items from restaurants people throw out of car windows.
- Fluid from old cars sitting around or being repaired in drives. Trash. Old furniture. Oil in the street from cars. Clean out old house, all the stuff from that.
- Spit. Saliva. Animal mess.
- Leaves. Chemicals.

- Snow. Ice.
- Leaking oil from cars.
- Building materials. Asphalt from repairing streets. Oil, filling station runoff. Chemicals from plants, like mercury. Car emission residue.
- Pesticides. Chemicals.
- Trash. Beer bottles. Cans.

- Runoff from asphalt. Industrial waste. Heavy metals. Trash. Plastic. Stuff falling off trucks on highway.
- Leaves. Trash. Paper.
- Leaves.
- Toxic waste from factories. Acid.
- Oil. Insecticides.

- Oil.
- Oil. Antifreeze. Gas. Herbicides.
- Household chemicals put down drain, like Ajax. Oil from cars.
- Body waste from bathroom drains. Waste water treatment plant.
- Rain. Trash. Paper. Dirt.

- Trash. Leaves. Debris.
- Garbage. Dead animals. Trash thrown from cars.
- Dump garbage on the street. Working on car and dump everything in the drain.
- Newspaper. Trash. Chemicals. Household oil. Household cleaners.
- Dirt. Oil. Leaves.

- Paint. Pesticides. Empty containers.
- Garbage. Cigarettes. Paper cups. Bags. Old furniture.
- Pesticides. Debris. Tree limbs.
- Oil. Tree branches. Bottles.
- Leaves.

Question #5 -- Respondents' Definitions Of Storm Water Pollution
(List of All Responses -- Page 2 of 6)

- Trash. Cans. Bottles.
- Chemicals. Plastic bottles. Needles. Potato chip bags.
- Garbage bags. Cans. Paper.
- Beer cans. Fast-food bags. Boxes.
- Chemicals. Paper. Bottles.

- Oil. Leaves. Dangerous liquids.
- Oil. Paper. Tires. Wood.
- Oil. Gas. Medical waste. Personal hygiene products.
- Leaves. Sticks. Cans.
- Bottles. Cans.

- Limbs. Bottles. Cans.
- Garbage. Tires. Car parts. Leaves. Cigarettes. Cans. Food.
- Oil. Cleaning products. Chemicals.
- Leaves. Limbs. Paper. Cans. Bottles.
- Leaves. Oil. Paint.
- Paper. Cans. Bottles.

- Oil. Gas. Leaves. Bottles. Paper.
- Leaves. Food. Paper. Cans.
- Chemicals. Waste.
- Leaves. Limbs. Paper. Cans.
- Paper. Plastic items. Cans. Bottles.
- Diseases. Germs.

- Leaves. Paper products that people discard.
- Car exhaust. Lawn fertilizers. Pesticides. Herbicides.
- Garbage. Animal excretions. Gas. Pesticides.
- Cups. Trash. Cigarette butts.
- Trash. Paint. Stuff people dump.
- Bacteria. Disease. Dead animals. Fish.

- Trash. Leaves.
- Garbage. Litter.
- Chemicals. Containers that hold chemicals. Old electronic equipment.
- Leaves. Trash. Cans. Paper products.
- Oil. Gas.
- Pesticides. Asbestos. Oil.

- Oil changes.
- Trash.
- Debris from streets. Leaves. Litter. Things that fall off cars.
- Garbage. Leaves. Dirt.
- Oil.

Question #5 -- Respondents' Definitions Of Storm Water Pollution
(List of All Responses -- Page 3 of 6)

- Toxic waste. Waste.
- Leaves. Garbage.
- Debris. Bottles. Leaves.
- Leaves. Debris.
- Oil. Gas.

- Rats.
- Leaves. Garbage.
- Leaves. Debris.
- Trash. Garbage. Cans.
- Chemicals.

- Petroleum by-products from parking lots, like leaking oil.
- Chemicals for lawns. Oil. Leaves.
- Trash. Sewer water.
- Trash. Leaves.
- Trash. Needles. Syringes.

- Trash. Dog droppings.
- Debris. Oil.
- Chemicals. Pesticides. Herbicides.
- Bacteria.
- Pesticides. Runoff from farm fields.
- Chemicals.

- Soda cans. Cigarettes.
- Chemicals. Trash. Dead animals.
- Fertilizer. Chemicals. Anti-freeze.
- Chemicals. Trash people throw out.
- Leaves. Oil. Gunk. Grease.
- Leaves. Trash out of cars. Cigarette butts.

- Leaves. Bags.
- Tires. Cans. Bottles.
- Insecticides.
- Leaves.
- Lawn chemicals.
- Leaves. Gasoline.

- Leaves. Trash.
- Paper. Trash.
- Oil. Gas. Pesticides. Lawn chemicals.
- Leaves.
- Trash. Cans. Bottles. Waste. Debris. Limbs. Leaves.
- Dirt. Leaves. Residue from asphalt streets.

Question #5 -- Respondents' Definitions Of Storm Water Pollution
(List of All Responses -- Page 4 of 6)

- Chemicals.
- Oil.
- Plastic bags. Cans. Garbage. Fast-food thrown in the street.
- Oil. Trash. Cleaning fluids.
- Oil. Fertilizer.

- Oil.
- Leaves. Trash. People throw things in the street. Bottles. Cans. Potato chip bags.
- Waste from chemical plants. Oil spills from barges that go down the river. Throwing trash in the river. Garbage. Coke cans.
- Animal waste. Plastic. Paper.
- Oil. Chemicals. Plastic bottles. Glass.

- Mosquitoes. Leaves. Garbage. Rats.
- Chemicals. Oil.
- Pesticides. Paint. Paper cups.
- Fertilizer. Herbicides. Chemicals. Oil.
- Leaves. Paper. Bottles. Cans.

- Oil. Plastic cups.
- Paper. Cups. Cans.
- Oil. Cans.
- Paint. Chemicals from gardens. Oil.
- Leaves. Fast-food trash. Cans. Bottles.

- Oil. Paint.
- Cans. Paper.
- Needles. Hospital trash. Leaves. Bottles.
- Oil. Gas. Dead animals. Dirt. Leaves.
- Oil. Gas. Cigarettes.
- Leaves. Grass. Cans. Cups.

- Anti-freeze. Oil. Gas. Cans. Paper. Plastic items.
- Paper. Tree branches. Leaves.
- Leaves. Plastic items. Paper.
- Dirt. Sticks. Detergent. Oil.
- Oil. Gasoline. Fluorocarbons. Leaves. Trash. Litter.
- Pesticides. Leaves.

- Chemicals. Motor oil.
- Chemicals. Debris from yard waste.
- Trash.
- Chemicals from plants.
- Oil. Gasoline products.
- Leaves. Debris. Twigs. Limbs. Garbage.

Question #5 -- Respondents' Definitions Of Storm Water Pollution
(List of All Responses -- Page 5 of 6)

- Debris. Leaves. Paper. Dirt.
- Discards from household items.
- Gas. Garbage. Animals. Things people throw from their cars on to the street.
- Bugs. Garbage. Litter.
- Leaves. Branches. Pine needles. Waste.

- Shopping carts. Leaves. Oil. Gas.
- Trash.
- Leaves. Oil. Paper.
- Debris. Leaves.
- Leaves. People throwing things out of their cars.

- Trash. Cigarettes. Paper products.
- Trash. Paper.
- Pesticides. Fertilizers.
- Litter. Beer cans. Cigarettes.
- Leaves. Debris.

- Leaves. Bags.
- Leaves. Oil from cars.
- Pesticides. Leaves.
- Pesticides. Oil.
- Leaves. Bottles. Paper.

- Oil from cars. Trash thrown out of cars.
- Leaves. Debris.
- Trash. Paper. Cans. Sewage.
- Trash. Paper cups. Leftover food.
- Cans. Waste. Trash. Toxic waste. Pesticides.
- Sewage. Dirt. Oil. Transmission fluid. Paint thinner.

- Trash. Garbage. Tree limbs.
- Oil. Trash. Paper.
- Cigarette butts. Trash.
- Sewage. Trash.
- Car fluids. Dirty water.
- Paper. Cans. Limbs.
- Leaves. Cans. Paper. Bottles.

- Insecticides.
- Trash. Dog waste.
- Garbage. Tires. Air conditioners.
- Trash. Agricultural products. Industrial pollution. Oil. Leaves.
- Trash. Leaves.
- Petroleum. Chemicals.

Question #5 -- Respondents' Definitions Of Storm Water Pollution
(List of All Responses -- Page 6 of 6)

- Agri-chemicals. Animal waste.
- Leaves.
- Leaves. Oil.
- Leaves. Trash. Pampers. Cans. Bottles. Fast-food papers.
- Leaves. Trash. Limbs. Furniture and household stuff people throw out.

- Garbage. Trash.
- Leaves. Yard spray.
- Garbage. Leaves.
- Paper.
- Fertilizer. Gas. Oil. Paint. Chemicals.

- Leaves.
- Oil.
- Litter. Plastic. Paper. Glass. Rubber.
- Chemicals. Poison. Oil.
- Chemicals. Garbage.

- Roofing shingles.
- Chemicals. Leaves. Debris. Garbage.
- Garbage. Leaves. Branches.
- Pesticides. Chemicals.
- Leaves. Cans.

- Chemicals. Bottles. Food packages. Paper.
- Plastic bottles. Food. Fast-food containers.
- Leaves. Sand.
- Chemicals. Leaves. Cans.
- Oil. Chemicals. Cans. Paint cleaner.

- Leaves. Plastic bottles.
- Paper items. Bottles.
- Chemicals. Animal waste. Plastic items.
- Motor oil. Trash. Household cleaners. Pollution.
- Trash. Dirt. Leaves.

Questions #15a., #19a., #22 -- Other Ways In Which Items Are Disposed
(Each Item Mentioned By One Respondent -- Page 1 of 1)

Question #15a. -- Disposal Of Used Oil

- Pour it around in grassy areas of the yard around the fence.

Question #19a. -- What Respondent Does With Leftover Fertilizers/Pesticides/Herbicides

- Give it away.

Question #22 -- What Do With Leftover Old Paint

- Give it away.
- Put it at the street so it can be seen to be picked up.
- Mix it with water and pour it in the sewer.

Respondent Telephone #

Interviewer **Date**

Good evening, I'm _____ with Research Dynamics marketing research. We are conducting a brief public opinion survey. We are not selling anything.

1. Are you at least 18 years old?

Yes.....1 ->CONTINUE
No......2 ->ASK TO SPEAK TO ANY OTHER HOUSEHOLD MEMBER WHO IS AT LEAST 18 YEARS OLD AND REPEAT INTRODUCTION ABOVE. IF UNAVAILABLE, EITHER MAKE NOTE TO CALL BACK OR TERMINATE.

In this survey, we would like to ask your opinion about various issues facing the city of Memphis.

2. First, I am going to read a list of a few issues facing the city of Memphis. Please tell me if you consider each issue to be a Major concern, Minor concern, or Not a concern. (READ LIST OF CONCERNS. CIRCLE ONE RESPONSE FOR EACH CONCERN.)

	Major Concern	Minor Concern	Not A Concern
Poor air quality	1	2	3
Storm water pollution	1	2	3
Not enough people recycling	1	2	3
Running out of space for disposing trash	1	2	3

3. Storm water is the runoff from rain and melted snow that flows into the city's storm drain system. Were you aware of this? (CIRCLE ONE ONLY.)

Yes.....1
No.....2

Don't know (DON'T READ).....3

4. Storm water pollution occurs when items get into the storm water, whether accidentally or on purpose. Were you aware of this? (CIRCLE ONE ONLY.)

Yes.....1
No.....2

Don't know (DON'T READ).....3

5. As far as you know, what items get into storm water that cause storm water pollution? (WRITE RESPONSE IN BLANK.)

_____

6. Are you aware of there being a problem with storm water pollution in Memphis? (CIRCLE ONE ONLY.)

Yes.....1
No.....2

Don't know (DON'T READ).....3

7. Based on the definition of storm water pollution I read earlier, who do you feel is responsible for causing storm water pollution? Would it be...(READ LIST. CIRCLE ONE ONLY.)

Businesses.....1
Individuals.....2
Both equally.....3

Don't know (DON'T READ).....4

8. And whose responsibility do you feel it is to prevent storm water pollution? Would it be...(READ LIST. CIRCLE ONE ONLY.)

You yourself.....1
Other people.....2
Businesses.....3
All of these equally.....4

Don't know (DON'T READ).....5

9. Which of the following terms do you feel best describes the opening where storm water flows? (READ LIST. CIRCLE ONE ONLY.)

Gutter.....1
Storm drain.....2
Sewer.....3
Don't know.....4

10. As far as you know, does storm water go through a cleaning process before it reaches the Mississippi River, or does it not go through a cleaning process? (CIRCLE ONE ONLY.)

Cleaned.....1
Not cleaned.....2

Don't know (DON'T READ).....3

11. If you learned that something you were doing could cause pollution of the river, would you stop doing it? (CIRCLE ONE ONLY.)

Yes.....1
No.....2

Don't know (DON'T READ).....3

12. How interested are you in learning more about the issue of storm water pollution? Would you say...(READ LIST. CIRCLE ONE ONLY.)

Very interested.....1
Somewhat interested.....2
Not interested.....3

Don't know (DON'T READ).....4

13a. In the past year, have you seen, read, or heard anything about storm water pollution? (CIRCLE ONE ONLY.)

Yes.....1 -> CONTINUE
No.....2 -> GO TO QUESTION #14

13b. ONLY ASK IF "YES" CIRCLED IN QUESTION #13a.: Did you see or hear about storm water pollution....(READ LIST. CIRCLE ALL THAT APPLY.)

On television.....1
On radio.....2
In the newspaper.....3
In a brochure.....4

Other (IF VOLUNTEERED)

14. Do you usually change the oil in your automobile yourself? (CIRCLE ONE ONLY.)

Yes.....1 -> CONTINUE
No.....2 -> GO TO QUESTION #17
Don't know (DON'T READ).....3 -> GO TO QUESTION #17

15a. ONLY ASK IF "YES" CIRCLED IN QUESTION #14: How do you usually dispose of your used oil? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Store it.....2
Take it to a recycling center.....3
Put it in the trash.....4
Pour it down the drain.....5

Other

15b. ONLY ASK IF "STORE IT" CIRCLED IN QUESTION #15a.: And after you store your used oil, how do you usually dispose of it? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Take it to a recycling center.....2
Put it in the trash.....3
Pour it down the drain.....4

Other

16. ONLY ASK IF "YES" CIRCLED IN QUESTION #14: Approximately how many times per year do you buy oil or other automotive fluids at a store like AutoZone or Wal-Mart? (WRITE NUMBER IN BLANK.)

17. Do you have either a yard or garden? (CIRCLE ONE ONLY.)

Yes.....1 -> CONTINUE
No.....2 -> GO TO QUESTION #21
Don't know (DON'T READ).....3 -> GO TO QUESTION #21

18. ONLY ASK IF "YES" CIRCLED IN QUESTION #17: Which of the following best describes the use of fertilizers, pesticides, or herbicides on your yard or garden? (CIRCLE ONE ONLY.)

You yourself apply these.....1 -> GO TO QUESTION #19a.
An outside service applies these.....2 -> GO TO QUESTION #19b.
No one applies these.....3 -> GO TO QUESTION #20

19a. ONLY ASK IF "YOU YOURSELF" CIRCLED IN QUESTION #18: How do you usually dispose of fertilizers, pesticides, or herbicides when you have some leftover? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Store it and use it later.....2
Take it to a recycling center.....3
Put it in the trash.....4
Pour it down the drain.....5

Other

19b. ONLY ASK IF "AN OUTSIDE SERVICE" CIRCLED IN QUESTION #18: Which of the following do you believe your service does with fertilizers, pesticides, or herbicides when it has some leftover? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Store it and use it later.....2
Take it to a recycling center.....3
Put it in the trash.....4
Pour it down the drain.....5

Other

20. **ONLY ASK IF "YES" CIRCLED IN QUESTION #17: What do you usually do with your leaves and grass clippings? (READ LIST. CIRCLE ONE ONLY.)**

Put it in the street.....1
Bag it for the city to pick up.....2
Compost it yourself at your home.....3
Just leave it in your yard.....4

Don't have any leaves/ grass clippings (DON'T READ).....5

Other

21. **RESUME ASKING ALL RESPONDENTS: What do you usually do with household cleaning products when you have some leftover? (READ LIST. CIRCLE ONE ONLY.)**

Put it in the street.....1
Store it and use it later.....2
Take it to a recycling center.....3
Put it in the trash.....4
Pour it down the drain.....5

Don't have any household cleaning products (DON'T READ).....6

Other

22. **What do you usually do with your old paint when you have some leftover? (READ LIST. CIRCLE ONE ONLY.)**

Put it in the street.....1
Store it and use it later.....2
Take it to a recycling center.....3
Put it in the trash.....4

Don't have any paint (DON'T READ).....5

Other

23. **If you have a pet, do you usually clean up after your pet when you are walking your pet? (CIRCLE ONE ONLY.)**

Yes.....1
No.....2

Don't have a pet (DON'T READ).....3

24. **Would you be willing to pay $4 per month for a new program that would pay for projects to reduce neighborhood flooding and reduce pollution and trash in our rivers and lakes? (CIRCLE ONE ONLY.)**

Yes.....1
No.....2

25. One final question: May I ask your age, please? (WRITE AGE IN BLANK.)

26. INTERVIEWER NOTE RACE IF OBVIOUS. IF RACE IS NOT OBVIOUS: Please stop me when I read your correct ethnic background:

White.....1
Black.....2
Hispanic.....3
Asian.....4
Other.....5

This completes our interview. Thank you for your cooperation.

27. INTERVIEWER DO NOT ASK. PLEASE WRITE IN ZIP CODE FROM DATABASE OF PHONE NUMBERS:

28. INTERVIEWER DO NOT ASK. PLEASE CIRCLE:

Male.....1
Female.....2