MARKETING RESEARCH STUDY

FOR

CITY OF MEMPHIS ENVIRONMENTAL ENGINEERING

- Survey of Memphis Consumers' Opinions About Stormwater Pollution -

Prepared for:

City of Memphis Environmental Engineering

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Background and Objectives

The City of Memphis (City) is considering an advertising campaign designed to educate the public about the causes and prevention of stormwater pollution. In determining the messages that might be included in such a campaign, the City decided to measure residents' awareness and opinions about stormwater pollution and other environmental issues. The City's Environmental Engineering Department commissioned Research Dynamics, Inc. to conduct a marketing research survey of Memphis adults.

Specific questions to be answered by this study include:

•How concerned are respondents with various environmental issues facing Memphis?

•How do respondents define stormwater and the causes of stormwater pollution? Do they understand the correct definitions when read to them?

•Do respondents feel businesses or individuals are responsible for causing stormwater pollution? Whose responsibility do respondents feel it is to prevent stormwater pollution?

•How many respondents are aware of there being a problem with stormwater pollution in Memphis?

•Do respondents believe that stormwater goes through a cleaning process before reaching the Mississippi River?

•How interested are respondents in learning more about stormwater pollution?

•To which types of advertising media would respondents pay attention if an advertising campaign about stormwater pollution was initiated?

•What is respondents' opinion of various slogans that might be used as part of an advertising campaign to educate consumers about stormwater pollution?

•How do respondents dispose of items such as oil, fertilizers/pesticides/herbicides, leaves/grass clippings, household cleaning products, and paint?

•Do respondents clean up after their pets?

Methodology

•A total of 400 random telephone interviews were conducted with adults 18 years old or older who live in Memphis.

•Interviews were conducted between March 15 and April 5, 1999.

•The margin of error for results based on the total sample of 400 respondents is +/- 5 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 5 points in either direction from the results of the 400 respondents interviewed for this study.

•A copy of the questionnaire is appended.

Summary of Findings

1.**Importance Of Environmental Issues**

•Four environment-related issues facing Memphis were tested for their importance to survey respondents. **Running out of space for disposing trash** received the most mentions as a Major Concern, being named as such by 69% of those surveyed.

•Slightly over half of the survey's respondents consider the three other issues to be a Major Concern: **Poor air quality** (54%), **Stormwater pollution** (52%), and **Not enough people recycling** (52%).

2.**Definitions Of Stormwater And Stormwater Pollution**

Stormwater Definition

•Before being read a definition of stormwater, the leading categories of responses given by respondents when asked to define stormwater in their own words were **Rain water/Water from rain** (15%), **Heavy rain that causes backup** (12%), **Runoff** (12%), and **Water that goes into drains/gutters/sewer system** (11%).

•When subsequently provided with a definition of stormwater, nearly all of those interviewed -- 97% -- said the **Definition made sense**.

Stormwater Pollution Definition

•Ninety-five percent (95%) of the survey sample said the **Definition of stormwater pollution provided to them made sense**.

3.**Causes Of Stormwater Pollution**

•**Garbage/Trash/Debris** (35%) was identified as the greatest cause of stormwater pollution, followed by **Oil/Motor Oil** (25%), **Chemicals** (17%), and **Waste from businesses** (10%).

4.**Responsibility For Causing/Preventing Stormwater Pollution**

- As to the group most responsible for causing stormwater pollution, seven out of ten respondents consider **Business and Individuals to be Equally responsible** (69%). Among those with stronger opinions on the subject, more consider **Businesses** the cause of stormwater pollution than consider **Individuals** responsible (21% vs. 7%).
- Prevention of stormwater pollution was thought to be **Equally the responsibility of Businesses, Other people, and the Respondent himself or herself** by an overwhelming 85% of survey participants.

5.**Awareness Of Stormwater Pollution Problem In Memphis**

- Eighteen percent (18%) of those participating in this survey are **Aware of a problem with stormwater pollution in Memphis**, while 78% said they were not aware of such a problem in Memphis (the other 4% of respondents had no opinion).
- One-third of the respondents, 35%, **Don't Know if stormwater goes through a cleaning process before reaching the Mississippi River**. The remaining respondents were five times more likely to say that stormwater does **Not go through a cleaning process** than to say stormwater **Does go through a cleaning process** (54% vs. 11%).

6.**Interest In Learning More About Stormwater Pollution**

- The awareness and attention paid to the issue of stormwater pollution in other survey questions was confirmed by the fact that 86% of survey participants consider themselves either **Very Interested** (26%) or **Somewhat Interested** (60%) in learning more about the issue of stormwater pollution.
- None of the 400 respondents said they would **Not stop doing something that they learned could cause pollution of the river**, although 3% didn't know for sure if they would stop. The other 97% of those surveyed would stop any action they learned could cause pollution of the river.

7.**Advertising Media That Would Attract Attention If Used In Stormwater Pollution Campaign**

- In terms of being a media form through which respondents would likely pay attention to an educational advertisement about the issue of stormwater pollution, **Television advertising** was by far the leading choice of respondents (79%).
- Other mass media advertising vehicles such as **Radio** (57%) or **Billboard** (49%) would be much more likely to draw attention if used as part of an education campaign about stormwater pollution than would promotional efforts that would involve the respondent taking action to become exposed to material, such as **A flyer or brochure** (40%), **A mailing sent to the respondent's home** (38%), or **A booth at a community fair** (24%).

8.**Reaction To Potential Advertising Campaign Slogans**

- Seven slogans that could potentially be used in an advertising campaign designed to educate the public about stormwater pollution were tested for respondent reaction.
- The three slogans with the highest Very Favorable scores were **Protect children's future** (83%), **Protect your health** (80%), and **Preserving the environment** (69%).
- With a 47% Very Favorable score, the slogan **Reduce flooding** ranked last in terms of positive opinion on the part of survey respondents.

9.**How Automobile Oil Is Disposed**

- About eight in ten respondents do **Not change their own oil** (81%).
- By a wide margin, **Taking used oil to a Recycling center** is the most popular means respondents use to dispose of their used oil (68%).
- The largest segment of do-it-yourself oil changers purchase oil at a retail store **3 To 5 Times per year** (48%).

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

•Eighty percent (80%) of all respondents said they live in a house.

•Among those respondents who live in a house, nearly equal percentages **Use Fertilizers/Pesticides/Herbicides on their lawn** and **Don't use Fertilizers/ Pesticides/Herbicides** (45% and 50%, respectively).

•Respondents who use Fertilizers/Pesticides/Herbicides on their lawn most often dispose of any leftover product by **Storing it** (54%); three out of ten Fertilizer/Pesticide/Herbicide users said a **Service (such as a lawn maintenance service) disposes** any leftover product (29%).

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

•The 67% of respondents who live in a house who **Bag Leaves/Grass clippings for the city to pick up** was far higher than the 15% who **Compost Leaves/Grass clippings**, or the 11% who just **Leave these items in their yard**.

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

•Three-fourths of survey participants said they most often discard leftover Household cleaning products by either **Storing the leftover product** or **Putting the product in the trash** (41% and 32%, respectively).

13.**How Old Paint Is Disposed**

•Thirty-seven percent (37%) of all respondents don't have any old paint.

•**Storing for future use** (32%) is the most popular way respondents dispose of old paint, followed by **Putting it in the trash** (20%).

14.**Cleaning Up After Pets**

•Half of all respondents interviewed don't have a pet (50%); another 10% have pets they don't walk. Fairly equal segments of the remaining respondents **Do clean up after their pet** and do **Not clean up after their pet** (23% and 17%, respectively).

Conclusions

1)Attentiveness Of Respondents. As a general statement before looking at the implications of various specific survey results, we wanted to note our surprise at the interest level demonstrated by the 400 survey respondents in a subject -- stormwater pollution -- that is probably not foremost in the thought process of people on an everyday basis. There were very few refusals to participate in the survey once respondents learned the topic of the survey; after the survey process began, those interviewed were quite attentive and gave thoughtful responses. The interest level of respondents in the topic of stormwater pollution is evidenced by the depth of responses to the open-ended survey questions that asked respondents for a definition of stormwater and asked for examples of items that cause stormwater pollution.

Should the City of Memphis decide to proceed with an advertising campaign designed to further educate the public about stormwater pollution, it can do so armed with the knowledge that there already exists some degree of knowledge about stormwater pollution, as well as an interest in learning more about the issue.

The remainder of this section of conclusions will look at specific survey results, and how those results might impact future educational efforts relative to stormwater pollution.

2)The Issue Of Stormwater Pollution. Respondents' respect for the issue of Stormwater pollution was shown early in the survey. Compared to three other perhaps more high-profile environmental issues tested in the first survey question, Stormwater pollution certainly held its own in terms of the level of concern expressed by respondents. While Running out of space for disposing trash was named most often as a Major Concern of those surveyed, Stormwater pollution was considered a Major Concern by basically the same percentage of respondents as Poor air quality and Not enough people recycling.

In a moment, we will look more specifically at respondents' definitions of stormwater and their thoughts on what items cause stormwater pollution -- and how those responses demonstrated respondent knowledge about stormwater pollution -- but for now, as we take a look at respondents' general interest in the issue, it is worth noting 95% of all survey participants said the definitions of stormwater and stormwater pollution they were read made sense.

While the 18% of respondents who said they are aware of a problem with stormwater pollution in Memphis might seem low, this result -- combined with respondents' fairly high level of knowledge of stormwater pollution and its causes -- could indicate that respondents feel they, and their neighbors, are doing a fairly good job of preventing stormwater pollution so that there is not a problem to the extent there might be otherwise. The low percentage of respondents saying they believe there is a problem with stormwater pollution in Memphis could also be due to the fact that the issue of stormwater pollution is not one that has historically attracted a lot of media attention.

Finally, we were quite impressed that 86% of those interviewed expressed an interest in learning more about stormwater pollution (either Very Interested or Somewhat Interested in learning more about the issue).

All of the above-mentioned survey results serve to confirm our general conclusion that respondents in this survey are both knowledgeable about stormwater pollution and its causes, and would be receptive to learning more about the issue, should an educational campaign by launched by the City. Next, we will focus on respondents' opinions about the specific items that get into stormwater, resulting in stormwater pollution.

3)Items That Cause Stormwater Pollution. Keep in mind that at the point in the survey when respondents were asked to name specific items that cause stormwater pollution, there had been no discussion of how respondents dispose of oil and household cleaning products, topics covered later in the survey; in other words, any answers to this survey question were definitely indicators of knowledge respondents already have about the causes of stormwater pollution.

Survey respondents most often named three broad classifications of items that cause stormwater pollution: Garbage, Oil/Automotive products, and Chemicals. Given the wide awareness that these three categories of items cause stormwater pollution, the City would be wise to highlight these causes in any future educational efforts; the thinking being that since these items are prominently known by those who are aware of causes of stormwater pollution, that they would most easily be understood by those who are first learning about stormwater pollution and its causes through the City's educational efforts.

Specifically regarding oil and other automotive products that respondents said caused stormwater pollution, the City might consider approaching AutoZone regarding sponsoring the educational campaign and highlighting the fact that its stores offer people a place where their oil and other automotive products can be properly disposed.

In addition to chemicals being mentioned as a cause of stormwater pollution, chemicals such as fertilizers, pesticides, and herbicides also were noted. In a later survey question, nearly half of the respondents who live in a house said fertilizers, pesticides, and herbicides are used on their lawns. Therefore, many people are using products that they acknowledge cause stormwater pollution. The educational campaign might therefore communicate the best ways for people to use chemicals on their lawn that minimize the chance of stormwater pollution, including informing the public about alternatives to traditional fertilizers, pesticides, and herbicides.

4)Disposal Of Items. The latter part of the survey asked respondents how they dispose of used Oil, Fertilizers/Pesticides/Herbicides, Leaves/Grass clippings, Household cleaning products, and old Paint, as well as whether or not they clean up after their pet.

Three of the five products referred to above -- Fertilizers/Pesticides/Herbicides, Household cleaning products, and old Paint -- are most often disposed of by simply using all of the product (i.e., storing it), until there is none left, at which point the empty container is presumably thrown in the trash.

Regarding the two other items, used Oil is most often disposed of by taking the oil to a recycling center, while Leaves/Grass clippings are most often bagged for the City to pick up.

Very few respondents dispose of any of these items by putting them in the street. However, there was a minority of those surveyed who place Oil, Fertilizer/Pesticide/ Herbicide, Household cleaning products, and old Paint in the trash, something that can ultimately lead to stormwater pollution should the trash in turn be improperly disposed.

Finally, among those survey participants who have a pet they walk, nearly as many said they don't clean up after their pet as said they do they clean up after their pet.

In addition, animal waste was identified by several respondents as a cause of stormwater pollution.

The bottom line of the results to the survey questions about how various items are disposed is that it does not appear a large number of people are improperly disposing of the items in the street or directly into gutters. However, as part of any educational campaign conducted by the City, it would be strongly suggested that the proper ways to dispose of these various items be communicated to the public, whether that be recycling, using all of the product until the container is empty, or whatever.

5)Educational Advertising Campaign. We have previously referred to various survey results that offer possible direction for an advertising campaign designed to educate the public about stormwater pollution, as well as noted the fact that there already appears to be a base level of awareness and knowledge about the issue that can only be enhanced by such a campaign. There were a couple of survey questions that sought to more directly gather information that might be used in such an educational effort.

First, respondents were read a list of eight advertising media and asked which media forms they felt would most likely attract their attention if used in an educational campaign designed to increase knowledge about stormwater pollution. Not surprisingly, Television advertising ranked a clear first as the advertising medium through which more respondents would pay attention to a message about stormwater pollution. While TV would seem to be an excellent forum to portray the visual imagery that could demonstrate the problem of stormwater pollution, should TV advertising not be deemed feasible for this particular campaign, results for the other advertising media show that other mass media, such as Radio, Billboard, and Newspaper advertising generated more interest than media that would involve the respondent having to take an action -- such as reading a Flyer/brochure, receiving and reading a Mailing sent to their home, and seeking out information from a Booth at a community fair.

6)Potential Campaign Slogans. In a second survey question specifically related to an educational campaign about stormwater pollution, survey respondents rated their opinion of various potential campaign slogans.

Both slogans that incorporated the word "protect" -- Protect children's future and Protect your health -- scored the most favorably with respondents. These two slogans also stood out from the others in that they referred to either the respondent personally or to children.

The word "health" and the idea of looking to the future used in the two slogans above also seemed to register with respondents.

Having a slogan used in an educational campaign directed at those exposed to the campaign, by using the word "you" or "your," as well as speaking to concepts such as children, the future, and health, would seem to be a good starting point in developing such a slogan. As the results for this specific survey question show (see page 28), slogans using these words generated much more interest than slogans that perhaps more directly refer to stormwater pollution.

7)Differences By Demographic Segment. In looking at various survey results based on demographic characteristics, such as respondents' age, gender, and race, a few patterns emerge that should be taken into consideration as the City decides the best way to educate the public about stormwater pollution.

Three survey questions that measured interest in learning more about stormwater pollution were the questions about media through which an educational campaign might be conducted, slogan reaction, and general interest in learning more about stormwater pollution. For all three of these survey questions, Older respondents (age 55 or older), Females, and Blacks demonstrated more interest than did Younger respondents (age 18-34), Males, and Whites. These differences were especially pronounced by age and race.

Therefore, should the City proceed with an advertising campaign designed to educate the public about stormwater pollution, it should keep in mind those demographic groups that are relatively interested, and relatively less interested, in the issue. For example, because Older people and Females specifically already appear motivated to learn more about stormwater pollution, special focus might be given to methods of communication (e.g., media forms, style of message, etc.) that will appeal to Younger people and Males.

DETAILED FINDINGS

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

- In the first survey question, respondents were asked how concerned they were with four environment-related issues facing Memphis.
- Of the four issues, **Running out of space for disposing trash** was identified as the issue of most concern, as evidenced by the 69% of those surveyed who rated this issue a Major Concern.
- There was basically no difference in the percentage of respondents who consider the three other issues a Major Concern: slightly over half the survey sample said **Poor air quality** (54%), **Not enough people recycling** (52%), and **Stormwater pollution** (52%) were of Major Concern to them.
- Only four percentage points separated the Not A Concern level for the four issues (from 9% for **Running out of space for disposing trash** to 13% for **Stormwater pollution**); given the relatively large sample size, this four-point difference should be considered insignificant.

Issues	Major Concern (400)	Minor Concern (400)	Not A Concern (400)
Running out of space for disposing trash	69%	22	9
Poor air quality	54%	35	11
Not enough people recycling	52%	38	10
Stormwater pollution	52%	35	13

Note: Percentages read across.

How Did Respondents Define Stormwater?

•Survey participants were next asked to provide a definition -- in their own words -- of "stormwater." Keep in mind that at this point in the survey, stormwater had not been defined for the respondent, which means words such as "runoff" and "polluted water" had not been introduced to respondents. The categories of definitions listed on the next page were mentioned by a minimum of 4% of respondents. In addition, the Appendix lists all definitions before being categorized for the table on the next page.

•About one-quarter of those surveyed, 27%, were not able to define stormwater.

•Another one-quarter respondent segment gave a definition of stormwater that did not evidence a great depth of knowledge of the subject -- 15% defined stormwater as **Rain water/Water from rain** and 8% defined stormwater as **Storm rain/Water from storms**. Most of those providing definitions that fit in these two categories seemed to simply be playing off the words "water" and "storm," without much additional thought.

•Definitions of stormwater such as **Runoff** (12%), **Water that goes into drains/gutters/ sewer system** (11%), and **Polluted water/Dirty water** (8%) -- which account for nearlyone-third of definitions -- demonstrated a deeper understanding of the topic.

•The remaining 16% of the survey sample associated stormwater with **Heavy rain that causes backup** (12%) or **Water that sits/stands/collects** (4%). Many of the respondents providing these definitions seemed to be taking their understanding of stormwater to an additional level by expressing their belief that stormwater results in an abnormal amount of water that is not able to be normally processed through the drainage system.

(please see table on the next page)

How Did Respondents Define Stormwater?
(continued)

Stormwater Definitions	Total (400)
Rain water/Water from rain	15%
Heavy rain that causes backup	12
Runoff (in general, including water)	12
Water that goes into drains/gutters/sewer system	11
Polluted water/Dirty water	8
Storm rain/Water from storms	8
Water that sits/stands/collects	4
Other	3
Don't Know	27

Note:The Appendix lists all of the specific definitions given by respondents.

How Many Respondents Said That The Definitions Of Stormwater And Stormwater Pollution Read To Them Made Sense?

- Respondents were next presented with the actual definitions of "stormwater" and "stormwater pollution," and asked whether those definitions made sense.
- An overwhelming majority of those interviewed said the **Definition of stormwater made sense** (97%) and that the **Definition of stormwater pollution made sense** (95%).
- The extremely high percentage of respondents who understand these two terms is certainly an indication that, should an informational advertising campaign be conducted, it would be expected that the public at large would be able to identify with the concepts.

What Items Did Respondents Say Get Into Stormwater To Cause Stormwater Pollution?

- After being given definitions of "stormwater" and "stormwater pollution," respondents were asked to name items that might get into stormwater, thereby causing stormwater pollution. The various categories of items mentioned by at least 2% of all survey participants are listed on page 19. In addition, the Appendix lists all the exact items mentioned by respondents, before the items were categorized for the table on page 19.
- Nine percent (9%) of respondents could not come up with examples of items that cause stormwater pollution. However, the average respondent mentioned two items that cause stormwater pollution, another indication of public knowledge about stormwater pollution.
- Although several categories of items are listed on the next page, among the major categories of items listed, three broad categories emerge: 1) Garbage; 2) Automotive fluids; 3) Chemicals.
- Roughly one-half of all respondents, 49%, mentioned **Garbage/Trash/Debris in general** (35%), or specifically cited garbage/trash items such as **Cans** (7%), **Paper/Bags** (5%), and **Bottles** (2%). Therefore, it could be said that these 49% of respondents consider garbage and trash of one kind or another to be a cause of stormwater pollution.
- Besides Garbage/Trash/Debris, another major category of causes of stormwater pollution related to automotive fluids. **Oil/Motor oil** was specifically mentioned as a cause of stormwater pollution by a large segment of respondents, 25%, while 6% consider **Anti-freeze/Other automotive fluids** a cause, and 5% mentioned **Gas**.
- Chemicals of one kind or another -- many of which are used in yards -- represented a third general category of stormwater pollution causes mentioned by survey participants. **Chemicals in general, including from yards** were noted as a cause of stormwater pollution by 17% of respondents, **Pesticides** were cited by 6% of respondents, and **Fertilizers** by 4%.

(continued)

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

- While not mentioned as often as Garbage, Automotive fluids, or Chemicals, 10% of respondents did specifically associate businesses with stormwater pollution -- **Waste from businesses, including chemicals**. In addition, it would certainly be expected that respondents had businesses in mind, as well as individuals, when mentioning some of the other items that cause stormwater pollution.
- Six percent (6%) of those surveyed attributed stormwater pollution to animals in one way or another: **Animal waste** (3%) and **Dead animals** (3%).

(please see table on the next page)

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

Items That Cause Stormwater Pollution		Total (400)
Garbage/Trash/Debris (in general)		35%
Oil/Motor oil		25
Chemicals (in general, including from yards)	17	
Waste from businesses (including chemicals)	10	
Cans (coke, beer, etc.)		7
Anti-freeze/Other automotive fluids		6
Pesticides		6
Gas	5	
Leaves		5
Paper/Bags		5
Dirt/Mud		4
Fertilizers		4
People dumping/throwing things away (especially improperly)		4
Sewage		4
Waste (in general)		4
Animal waste		3
Dead animals		3
Air pollution/Things in the air		2
Bottles		2
Grass		2
Human waste		2
Limbs/Fallen trees		2
Rain/snow/yard runoff		2
Toxins/Poisons		2
Other		15
Don't Know		9

Note:The 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%.

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

- In consecutive survey questions, respondents were asked who is responsible for causing stormwater pollution, and then who is responsible for preventing the problem.
- As the group most responsible for causing stormwater pollution, respondents were somewhat more likely to cite **Businesses** -- rather than **Individuals** -- as the cause (21% vs. 7%). However, over two-thirds of survey participants, 69%, said **Businesses and Individuals are Equally responsible**.
- Eighty-five percent (85%) of those surveyed believe it is the **Equal responsibility of They themselves, Other people, and Businesses** to prevent stormwater pollution, with just 8% saying Businesses were most responsible for preventing stormwater pollution, 2% naming They themselves as most responsible, and 2% saying Other people are most responsible.

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

- Only 18% of those surveyed are **Aware of a problem with stormwater pollution in Memphis**.
- By contrast, four times more respondents -- 78% -- are **Not aware of a problem with stormwater pollution in Memphis**. Because of their earlier-demonstrated knowledge of what causes stormwater pollution, this result would seem to indicate that many respondents know what causes stormwater pollution, but don't feel Memphis has a problem with stormwater pollution.
- The remaining 4% of respondents did not have a definite opinion when asked about the presence of a stormwater pollution problem in Memphis.

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

- Regarding whether or not stormwater goes through a cleaning process before reaching the Mississippi River, 11% of those interviewed were of the opinion that stormwater **Does go through a cleaning process before reaching the river**.
- A majority of respondents, however, said that as far as they know stormwater does **Not go through a cleaning process** (54%).
- More than a third of the survey's respondents, 35%, **Don't Know if stormwater goes through a cleaning process before reaching the Mississippi River**.
- Several respondents took the opportunity of this survey question to comment on the excellent reputation of Memphis' drinking water and to ask how stormwater might relate to the city's drinking water.

How Many Respondents Would Stop Doing Something They Learned Was Causing Pollution Of The River?

- In a result that should not be considered entirely surprising, 390 of the 400 respondents, or 97%, **Would stop doing something that caused pollution of the river** if they learned something they were doing was causing such pollution.
- None of the other 10 respondents said they would not stop an action that was causing pollution of the river, but a few were unsure if they would stop or not.

How Interested Are Respondents In Learning More About Stormwater Pollution?

- We have previously referred to the fact that survey respondents seemed both knowledgeable about, and interested in, the issue of stormwater pollution. These qualities are demonstrated by the fact that 86% of those surveyed are either **Very Interested** (26%) or **Somewhat Interested** (60%) in learning more about stormwater pollution.
- Ordinarily we would comment that the 26% Very Interested score should be higher relative to the 60% Somewhat Interested score; however, given that stormwater pollution is not an issue that is often prominently considered by people, we were actually impressed that the Very Interested percentage was as high as it was.
- Just 14% of those surveyed are **Not Interested** in learning more about stormwater pollution.

To Which Types Of Advertising Would Respondents Most Likely Pay Attention If An Advertising Campaign Was Undertaken To Educate People About Stormwater Pollution?

- Following questions about their general awareness of -- and interest in -- the subject of stormwater pollution, respondents were read a list of media forms through which an advertising campaign designed to educate people about stormwater pollution might be conducted; survey participants were then asked which media would most likely attract their attention if used in such a stormwater pollution educational campaign. Results are shown in the table on the next page.
- By a substantial 22-point margin, the highest percentage of respondents said they would likely pay attention to a **Television advertisement** about stormwater pollution (79%).
- **Radio advertising** (57%) ranked second as an advertising medium through which respondents would pay attention to a campaign about stormwater pollution.
- The communication methods that would involve respondents taking more action on their own were clearly less popular than mass media such as TV and Radio. **A flyer or brochure** (40%), **A mailing sent to the respondent's home** (38%), and **A booth at a community fair** (24%) all would necessitate someone engaging in a proactive action, as opposed to simply passively looking at a TV or Billboard ad, or listening to a Radio ad. A mailing sent to the respondent's home was singled out for special critique because it would be seen as too similar to "junk mail" that people often receive.
- Unlike other mass media forms, **Magazine advertising** (32%) did not score well because many respondents questioned whether the ad would be in a publication they read.

(please see table on the next page)

To Which Types Of Advertising Would Respondents Most Likely Pay Attention If An Advertising Campaign Was Undertaken To Educate People About Stormwater Pollution? (continued)

	Total
	(400)
Advertising Media	
Television advertisement	79%
Radio advertisement	57
Billboard advertisement	49
Newspaper advertisement	44
A flyer or brochure	40
A mailing sent to you at home	38
Magazine advertisement	32
A booth at a community fair	24

What Is Respondents' Opinion Of Potential Slogans That Might Be Used In An Advertising Campaign Undertaken To Educate People About Stormwater Pollution?

- After being asked which advertising media would attract their attention if an advertising campaign designed to educate people about stormwater pollution was conducted, respondents were read a list of seven slogans that might be used in such a campaign designed to motivate the public to become more concerned about stormwater pollution. Each potential slogan was rated as either Very Favorable, Somewhat Favorable, or Unfavorable. Results are shown in the table on the next page.
- In looking at the Very Favorable score for each slogan, it certainly appears that the concepts of "children" and "health" resonated with survey respondents: the slogans **Protect children's future** (83%) and **Protect your health** (80%) received a noticeably higher percentage of Very Favorable mentions than did the other slogans. Only a handful of respondents had an Unfavorable reaction to these two slogans (3% and 5%, respectively). These two slogans were also the only ones that specifically referred to the respondent, or referred to children; thus it could be important for an advertising slogan to refer to the people being exposed to the campaign (using words such as "you" and "yours") and their children, rather than just the public in general (or stormwater pollution in general).
- The words "protect" and "preserve" were included in three of the seven slogans tested -- **Protect children's future**, **Protect your health**, and **Preserving the environment**. Perhaps not insignificantly, these three slogans had the highest Very Favorable percentages, indicating that an advertising campaign designed to educate the public about stormwater pollution would be well-advised to include words such as "protect" and "preserve."
- Of the seven slogans, the two that were rated least favorably (combining a low Very Favorable score with a high Unfavorable score) were **Pretty landscape** and **Reduce flooding**, both of which seemed to sound rather nondescript to many respondents.

(please see table on the next page)

What Is Respondents' Opinion Of Potential Slogans That Might Be Used In An Advertising Campaign Undertaken To Educate People About Stormwater Pollution? (continued)

Potential Slogans	Very Favorable (400)	Somewhat Favorable (400)	Unfavorable (400)
Protect children's future	83%	14	3
Protect your health	80%	15	5
Preserving the environment	69%	27	4
Clean river	60%	32	8
Being a good neighbor	57%	32	11
Pretty landscape	52%	29	19
Reduce flooding	47%	36	17

Note: Percentages read across.

How Many Respondents Change The Oil In Their Automobile Themselves?

- 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. About one in five of those surveyed, 19%, **Change their own oil**, while most do **Not change their own oil** (81%).

How Do Respondents Dispose Of Their Used Automobile Oil?

•Those 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.

•**Taking used oil to a Recycling center** (68%) was by far the most popular way that respondents who change their own oil dispose of their used oil.
•Other than Taking their used oil to a Recycling center, only two other means of disposal were chosen by more than 1% of those asked this survey question: **Store it** (15%) and **Put it in the trash** (11%).

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

- 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.
- Just 17% of the respondents who change their own oil reported purchasing oil or other automotive fluids only **1 To 2 times per year**.
- The majority of do-it-yourself oil changers purchase oil/automotive fluids **3 To 5 Times per year** (48%).
- On the upper end, **More than 10 purchases** of oil or other automotive fluids are made per year by 16% of those who change their own oil.

How Many Respondents Said Fertilizers/Pesticides/Herbicides Are Used On Their Lawn?

•Although not shown in a separate graph, 80% of all respondents said they live in a home.

•Those respondents identified as home dwellers were asked if they use Fertilizers, Pesticides, or Herbicides on their lawn. There was a fairly even split between the 45% of respondents who reported that they do **Use Fertilizers/Pesticides/Herbicides on their lawn** and the 50% who **Don't use Fertilizers/Pesticides/Herbicides**.

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

- Those respondents who use Fertilizers/Pesticides/Herbicides on their lawn most often **Store** any leftover product (54%).
- Although not provided as one of the choices on the questionnaire, 29% of the respondents who use Fertilizers/Pesticides/Herbicides on their lawn could not say what happens with the leftover product because a **Service (such as a lawn maintenance service) disposes** the leftover.
- Smaller percentages of Fertilizer/Pesticide/Herbicide users either **Put the leftover product in the trash** (10%) or **Take leftover product to a Recycling center** (4%).

What Do Respondents Do With Their Leaves/Grass Clippings?

- By a wide margin, the 319 respondents who live in a house primarily **Bag their Leaves/ Grass clippings for the city to pick up** (67%).
- The **Composting** (15%) of Leaves/Grass clippings ranked a distant second as the preferred method of dealing with these items, while 11% simply **Leave Leaves/Grass clippings in their yard**.

What Do Respondents Do With Their Leftover Household Cleaning Products?

- Forty-one percent (41%) of those surveyed dispose of their leftover Household cleaning products by **Storing** the leftover product. Many of these respondents said they use their cleaning products until there is none left.
- Leftover Household cleaning products are **Put in the trash** by 32% of the survey sample; however, we do feel this percentage is slightly overstated since some respondents answered this question thinking about what they do with an empty container of Household cleaning product (despite interviewer insistence that we meant situations in which there was still some product remaining in the container).
- About one in ten survey participants, 11%, **Take leftover Household cleaning products to a Recycling center**.

What Do Respondents Do With Their Old Paint?

- The final item for which survey respondents described their usual means of disposal was old paint.
- **Storing** old paint was the preferred means of disposing the product, chosen by 32% of respondents.
- Old paint is **Put in the trash** by 20% of respondents, while 9% **Take old Paint to a Recycling** center.
- A sizeable percentage of those surveyed **Don't have any paint** (37%).

Summary Of How Respondents Dispose Of Various Items

- The table below summarizes how respondents dispose of Oil, Fertilizers/Pesticides/ Herbicides, Household cleaning products, and Paint.
- For all four items listed across in the table below, there were three common ways in which the items are most often disposed by respondents: Taken to a recycling center, Stored, or Put in the trash.
- For the disposal of used Oil and leftover Fertilizers/Pesticides/Herbicides, there was a clearly dominant choice of disposal method -- a Recycling center for Oil (68%) and Storing it for Fertilizers/Pesticides/Herbicides (54%). (Twenty-nine percent of respondents said a Service disposes their Fertilizers/Pesticides/Herbicides, but this disposal choice was primarily applicable only to Fertilizers/Pesticides/Herbicides.)
- Relatively equal portions of respondents dispose of Household cleaning products and old Paint by either Storing it or Putting it in the trash (41% and 32%, and 32% and 20%, respectively).
- Across all items, Storing product for future use, until the product is all used, was the leading way respondents said they prefer to dispose of the item.

	Disposed Items			
How Dispose	Oil	Fertilizers/ Pesticides Herbicides	Household Cleaning Products	Paint
Take to recycling center	68%	4	11	9
Store it	15%	54	41	32
Put in trash	11%	10	32	20
Put in street	1%	1	1	1
Pour down drain	1%	1	5	N/A

Note: Percentages read across.

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.

How Many Respondents Clean Up After Their Pet?

- In the final survey question before the concluding demographic questions, respondents were asked if they clean up after their pet when they walk their pet.
- Among those respondents who gave definitive answers to this survey question, slightly more **Do clean up after their pet** than do **Not clean up after their pet** (23% vs. 17%).
- Half of all respondents **Don't have a pet** (50%).
- The 10% "No Answer" responses were made up of respondents who have pets they don't walk (such as a cat), or who said their pet does not leave the respondent's property.

Sample Demographic Profile

•The table on the next page profiles the demographic characteristics of the 400 respondents participating in this survey.

Age

•The median age of the survey's respondents is **41 years old**. (Note: The median is the middle value when all values are arrayed from the lowest value to the highest value.)

Race/Ethnicity

•This survey's sample was equally comprised of **Whites** (50%) and **Blacks** (46%), with the remaining 4% of respondents being of other races/ethnicities.

Geographic Location

•Respondents were evenly distributed throughout Memphis, with 24% of those surveyed living in **Midtown Memphis**, 22% in **South Memphis**, 17% in **Southeast Memphis** and **North Memphis**, and 15% in **East Memphis**.

Gender

•Sixty-three percent (63%) of survey participants were **Female**, 37% **Male**.

(please see table on the next page)

Sample Demographic Profile
(continued)

	Total (400)
Age	
18-24	14%
25-34	21
35-44	21
45-54	18
55-64	9
65-74	11
75 or older	6
Median	41
Race/Ethnicity	
White	50%
Black	46
Hispanic	1
Asian	1
Other	2
Geographic Location (Component Zip Codes In Parenthesis)	
Midtown (38104/38111)	24%
South (38106/38109/38114/38116)	22
Southeast (38115/38118/38125)	17
North (38105/38107/38108/38112/38127/38128)	17
East (38117/38119/38122)	15
Northeast (38133/38134/38135)	4
Downtown (38103)	1
Gender	
Female	63%
Male	37

ADDITIONAL ANALYSIS

•In addition to analyzing survey results for the 400 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 42-45)
•Respondents' gender (pages 46-49)
•Respondents' race (pages 50-54)
•Respondents' geographic location (pages 55-56)

•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 tables on the following pages, keep in mind that some survey questions
-- such as Question #16 concerning how respondents dispose of their used oil -- were not asked of the full sample of respondents.

(continued)

Additional Analysis -- Respondents' Age

•The tables beginning on page 43 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.
•Of the three age segments, responses of respondents in the youngest age segment, age 18-34, differed from those in the two older age groups on the following survey responses:
•They are **Not aware of a problem with stormwater pollution in Memphis** (84%).
•In terms of Very Favorable ratings, expressed the least interest in all but one of the various slogans that might be used in an advertising campaign designed to educate people about stormwater pollution.

•Dispose of used oil by **Putting it in the trash** (18%).

•Less likely to use **Fertilizers/Pesticides/Herbicides on their lawn** (38%).

•Regarding what they do with **Leaves/Grass clippings,** the most likely to **Just leave Leaves/Grass clippings in the yard** (17%), and the least likely to **Compost** (5%).

•Survey participants age 55 or older differed from those age 18-34 or 35-54 on the following survey questions:

•Slightly more often were of the opinion that **Businesses are most responsible for causing stormwater pollution** (26%).

•Said they **Don't Know if stormwater goes through a cleaning process before reaching the Mississippi River** (45%).

•Are **Very Interested in learning more about stormwater pollution** (32%).

•Were generally the age segment most likely to say they would pay attention to various media through which a campaign about stormwater pollution might be conducted, especially a **Newspaper advertisement** (60%), **A flyer or brochure** (58%), and **A mailing sent to their home** (53%).

•Although not by a wide margin, were the most likely to rate five of the seven potential stormwater pollution advertising slogans Very Favorable.

•**Don't change their own oil** (96%).

•Are the most likely to say they **Bag Leaves/Grass clippings for the city to pick up** (75%).

(please see tables on the next three pages)

Additional Analysis -- Respondents' Age
(continued)

	Age			
	Total	18-34	35-54	55+
	(400)	(140)	(156)	(101)
Responsibility For Causing Stormwater Pollution? (Question #7)				
Businesses	21%	19%	20%	26%
Individuals	7	9	6	6
Both equally	69	69	71	64
Don't Know	3	3	3	4
Aware Of Problem With Stormwater Pollution In Memphis? (Question #9)				
Yes, Aware of problem	18%	15%	19%	19%
Not aware of problem	78	84	76	74
Don't Know	4	1	5	7
Does Stormwater Go Through A Cleaning Process? (Question #10)				
Yes, Is cleaned	11%	9%	13%	10%
Not cleaned	54	57	56	45
Don't Know	35	34	31	45
Interest In Learning More About Stormwater Pollution (Question #12)				
Very Interested	26%	20%	26%	32%
Somewhat Interested	60	64	62	55
Not Interested	14	16	12	13

(continued)

Additional Analysis -- Respondents' Age
(continued)

	Age			
	Total	18-34	35-54	55+
	(400)	(140)	(156)	(101)
Types Of Advertising To Which Would Pay Attention (Question #13)				
Television advertisement	79%	80%	78%	81%
Radio advertisement	57	62	56	52
Billboard advertisement	49	47	50	48
Newspaper advertisement	44	36	41	60
A flyer or brochure	40	30	37	58
A mailing sent to you at home	38	30	34	53
Magazine advertisement	32	36	31	31
A booth at a community fair	24	24	21	28
Very Favorable Advertising Slogans (Question #14)				
Protect children's future	83%	84%	81%	83%
Protect your health	80	77	81	83
Preserving the environment	69	65	73	70
Clean river	60	46	67	72
Being a good neighbor	57	46	60	69
Pretty landscape	52	44	57	60
Reduce flooding	47	43	48	56
Change Own Oil? (Question #15)				
Yes, Change own oil	19%	24%	24%	4%
Don't change own oil	81	76	76	96
How Dispose Of Oil?* (Question #16)				
Take to a recycling center	68%	70%	66%	50%
Store it	15	6	18	50
Put it in the trash	11	18	5	-
Put it in the street	1	-	3	-
Pour it down the drain	1	3	-	-

* Only 4 respondents in the 55+ age segment for this survey question.

(continued)

Additional Analysis -- Respondents' Age
(continued)

	Age			
	Total	18-34	35-54	55+
	(400)	(140)	(156)	(101)
Use Fertilizers/Pesticides/ Herbicides On Lawn? (Question #19)				
Yes, Use these products	45%	38%	49%	48%
Don't use these products	50	54	48	46
Don't Know	5	8	3	6
What Do With Leaves/Grass Clippings? (Question #21)				
Bag for the city to pick up	67%	67%	62%	75%
Compost	15	5	22	14
Just leave in the yard	11	17	10	7
Put it in the street	2	4	-	1

Additional Analysis -- Respondents' Gender

•Differences on survey questions between Male and Female survey participants are shown in the tables on the next three pages.
•Compared to Females, Males were more likely to give the following survey responses. More Males:
•Were **Aware of a problem with stormwater pollution in Memphis** (23% of Males, vs. 15% of Females.
•Believe that stormwater does **Not go through a cleaning process before reaching the Mississippi River** (60% vs. 51%).
•Are **Not Interested in learning more about stormwater pollution** (17% vs. 12%).
•**Change their own oil** (35% vs. 9%).
•Dispose of **Oil** either by **Storing it** (17% vs. 9%) or **Putting it in the trash** (15% vs. 0%).
•**Compost Leaves/Grass clippings** (21% vs. 12%).
•Females differed from Males on several survey questions:
•Although none of the differences were large, Females considered all four issues facing the city of Memphis to be more of a Major concern than did Males.
•Were more likely to pay attention to all eight advertising media types through which a campaign about stormwater pollution might be conducted, and more often rated all seven slogans that might be used in the advertisement Very Favorable. However, for both of these survey questions, there was not a sizeable difference between Males and Females.
•Eighty-three percent (83%) **Take used oil to a Recycling center**, vs. 60% of Males.
•More often **Bag Leaves/Grass clippings for the city to pick up** (71% vs. 60%).

(please see tables on the next three pages)

Additional Analysis -- Respondents' Gender
(continued)

	Total	Gender	
		Male	Female
	(400)	(149)	(251)
Issues That Are A Major Concern (Question #2)			
Running out of space for disposing trash	69%	62%	71%
Poor air quality	54	50	58
Stormwater pollution	52	48	52
Not enough people recycling	52	47	54
Aware Of Problem With Stormwater Pollution In Memphis? (Question #9)			
Yes, Aware of problem	18%	23%	15%
Not aware of problem	78	72	81
Don't Know	4	5	4
Does Stormwater Go Through A Cleaning Process? (Question #10)			
Yes, Is cleaned	11%	12%	10%
Not cleaned	54	60	51
Don't Know	35	28	39
Interest In Learning More About Stormwater Pollution (Question #12)			
Very Interested	26%	23%	28%
Somewhat Interested	60	60	60
Not Interested	14	17	12

(continued)

Additional Analysis -- Respondents' Gender
(continued)

	Total	Gender	
		Male	Female
	(400)	(149)	(251)
Types Of Advertising To Which Would Pay Attention (Question #13)			
Television advertisement	79%	76%	81%
Radio advertisement	57	56	57
Billboard advertisement	49	47	49
Newspaper advertisement	44	39	47
A flyer or brochure	40	34	44
A mailing sent to you at home	38	34	40
Magazine advertisement	32	31	33
A booth at a community fair	24	22	24
Very Favorable Advertising Slogans (Question #14)			
Protect children's future	83%	80%	84%
Protect your health	80	71	86
Preserving the environment	69	66	72
Clean river	60	58	61
Being a good neighbor	57	53	60
Pretty landscape	52	45	56
Reduce flooding	47	46	48
Change Own Oil? (Question #15)			
Yes, Change own oil	19%	35%	9%
Don't change own oil	81	65	91
How Dispose Of Oil? (Question #16)			
Take to a recycling center	68%	60%	83%
Store it	15	17	9
Put it in the trash	11	15	-
Put it in the street	1	2	-
Pour it down the drain	1	2	-

(continued)

Additional Analysis -- Respondents' Gender
(continued)

		Gender	
	Total	Male	Female
	(400)	(149)	(251)
What Do With Leaves/Grass Clippings? (Question #21)			
Bag for the city to pick up	67%	60%	71%
Compost	15	21	12
Just leave in the yard	11	15	9
Put it in the street	2	2	2

Additional Analysis -- Respondents' Race

•Tables on pages 52-54 report survey questions on which there was a difference between the responses of White respondents and Black respondents.
•White respondents were somewhat more likely than Black respondents to exhibit the following characteristics:
•Consider **Businesses most responsible for causing stormwater pollution** (25% of White respondents, vs. 17% of Black respondents).

•Are **Aware of a problem with stormwater pollution in Memphis** (22% vs. 14%).

•To be of the opinion that stormwater does **Not go through a cleaning process before reaching the Mississippi River** (62% vs. 47%).

•Are more likely to **Take used oil to a Recycling center** (81% vs. 45%).

•More often use **Fertilizers/Pesticides/Herbicides on their lawn** (49% vs. 41%).

•**Compost Leaves/Grass clippings** (24% vs. 5%).

•Compared to White survey participants, Black respondents were more likely to give the following survey responses:
•Clearly more often consider **Running out of space for disposing trash** (74% of Blacks, vs. 60% of Whites), **Poor air quality** (61% vs. 48%), and **Stormwater pollution** (63% vs. 38%) to be Major concerns facing the city of Memphis.

•More likely to be **Very Interested in learning more about stormwater pollution** (30% vs. 22%).

•A higher percentage would respond to <u>all</u> eight advertising media through which a campaign about stormwater might be conducted; however, there was only one advertising medium in which there was more than a 10-point difference in likelihood of responding:
A flyer or brochure (46% of Blacks would respond, 35% of Whites).

•More often rated <u>all</u> seven potential advertising slogans Very Favorable. For several of the slogans, Black respondents were considerably more likely to rate their opinion as Very Favorable: **Protect children's future** (92% vs. 72%), **Protect your health** (90% vs. 69%), **Pretty landscape** (62% vs. 43%), **Being a good neighbor** (70% vs. 46%), and **Reduce flooding** (57% vs. 38%).

(continued)

Additional Analysis -- Respondents' Race
(continued)

•Compared to White survey participants, Black respondents were more likely to give the following survey responses: (continued)
  •**Store used oil** or **Put used oil in the trash** (23% vs. 9% and 23% vs. 2%, respectively).

•More likely to **Bag Leaves/Grass clippings for the city to pick up** (82% vs. 53%).

(please see tables on the next three pages)

Additional Analysis -- Respondents' Race
(continued)

	Total	Race	
		White	Black
	(400)	(205)	(186)
Issues That Are A Major Concern (Question #2)			
Running out of space for disposing trash	69%	60%	74%
Poor air quality	54	48	61
Not enough people recycling	52	53	51
Stormwater pollution	52	38	63
Responsibility For Causing Stormwater Pollution? (Question #7)			
Businesses	21%	25%	17%
Individuals	7	8	7
Both equally	69	65	72
Don't Know	3	2	4
Aware Of Problem With Stormwater Pollution In Memphis? (Question #9)			
Yes, Aware of problem	18%	22%	14%
Not aware of problem	78	73	83
Don't Know	4	5	3
Does Stormwater Go Through A Cleaning Process? (Question #10)			
Yes, Is cleaned	11%	9%	12%
Not cleaned	54	62	47
Don't Know	35	29	41

(continued)

Additional Analysis -- Respondents' Race
(continued)

	Total	Race	
		White	Black
	(400)	(205)	(186)
Interest In Learning More About Stormwater Pollution (Question #12)			
Very Interested	26%	22%	30%
Somewhat Interested	60	62	59
Not Interested	14	16	11
Types Of Advertising To Which Would Pay Attention (Question #13)			
Television advertisement	79%	77%	81%
Radio advertisement	57	56	58
Billboard advertisement	49	47	51
Newspaper advertisement	44	43	46
A flyer or brochure	40	35	46
A mailing sent to you at home	38	35	41
Magazine advertisement	32	30	36
A booth at a community fair	24	20	27
Very Favorable Advertising Slogans (Question #14)			
Protect children's future	83%	72%	92%
Protect your health	80	69	90
Preserving the environment	69	62	77
Clean river	60	59	61
Being a good neighbor	57	46	70
Pretty landscape	52	43	62
Reduce flooding	47	38	57

(continued)

Additional Analysis -- Respondents' Race
(continued)

		Race	
	Total	White	Black
	(400)	(205)	(186)
How Dispose Of Oil? (Question #16)			
Take to a recycling center	68%	81%	45%
Store it	15	9	23
Put it in the trash	11	2	23
Put it in the street	1	-	3
Pour it down the drain	1	-	3
Use Fertilizers/Pesticides/ Herbicides On Lawn? (Question #19)			
Yes, Use these products	45%	49%	41%
Don't use these products	50	47	51
Don't Know	5	4	8
What Do With Leaves/Grass Clippings? (Question #21)			
Bag for the city to pick up	67%	53%	82%
Compost	15	24	5
Just leave in the yard	11	15	8
Put it in the street	2	2	1

Additional Analysis -- Respondents' Geographic Location

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

Major Issues (Question #2)

•In general, respondents living in South Memphis were more likely to consider the various issues facing the city of Memphis to be Major issues. More South Memphians than those in any other area of the city said that **Running out of space for disposing trash** (72%) and **Stormwater pollution** (64%) were Major Concerns; in fact, South Memphis respondents were considerably more likely than respondents in all other areas to say that Stormwater pollution is a Major issue.

•Survey participants from North Memphis were noticeably less likely to be of the opinion that **Not enough people recycling** was a Major Issue facing the city of Memphis (39%).

Interest In Learning More (Question #12)

•Perhaps underscoring the concern mentioned above that they have for various environmental issues in Memphis, respondents living in South Memphis were by far the most likely to be **Very Interested in learning more about stormwater pollution** (39%, vs. no more than 25% in any other area of the city).

Use Of Fertilizers/Pesticides/Herbicides (Question #19)

•Only 28% of respondents in Midtown Memphis **Use Fertilizers/Pesticides/Herbicides** on their lawn; this is substantially lower than the 45%-55% of those in all other areas of Memphis who use such products on their lawn.

(please see table on the next page)

Additional Analysis -- Respondents' Geographic Location (continued)

		Area Of Memphis*				
	Total (400)	Mid-town (99)	South (89)	South-east (66)	East (59)	North (69)
Issues That Are A Major Concern (Question #2)						
Running out of space for disposing trash	69%	68%	72%	61%	61%	70%
Poor air quality	54	51	58	52	51	61
Not enough people recycling	52	57	52	47	59	39
Stormwater pollution	52	42	64	44	46	54
Interest In Learning More About Stormwater Pollution (Question #12)						
Very Interested	26%	25%	39%	18%	25%	20%
Somewhat Interested	60	62	52	67	58	65
Not Interested	14	13	9	15	17	15
Use Fertilizers/Pesticides/ Herbicides On Lawn? (Question #19)						
Yes, Use these products	45%	28%	46%	55%	54%	45%
Don't use these products	50	67	51	41	44	42
Don't Know	5	5	3	4	2	13

*Zip codes: 38104/38111 (Midtown); 38106/38109/38114/38116 (South); 38115/38118/38125 (Southeast); 38117/38119/38122 (East); 38105/38107/38108/38112/38127/38128 (North).

Appendix

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 1 of 8)

•Water sitting in a well.
•Water that runs off.
•Polluted water.
•Water runoff.
•Water that stands and does not runoff; it breeds mosquitoes.

•When it rains, builds up, won't go into gutter.
•Drain off when a lot of rain accumulates, then settles.
•Thunderstorm water that overflows, causing a drainage problem.
•Water from storms.
•Water from when there are storms.

•Water backing up in creekbeds and rivers.
•Water that comes down from rain.
•Water collecting in the river after rain.
•Overflow of water after storms.
•Water drainage.

•Water from flash flood runoff.
•Runoff from rain and snow storms.
•Rain water.
•Water after storms.
•Drainage and runoff water in low areas.

•Water goes down drains and pipes from storms.
•Rain runoff.
•Rain runoff.
•When it storms.
•Water from rain.

•Runoff that has stuff from the earth and the air.
•Water from when it rains.
•Rain water that falls off that goes into the city's water aquifer (the water that Memphis uses).
•Water from flash floods and disasters.
•Stuff that goes through drains after it rains.

•Rain that comes down during storms.
•Water that runs through the storm drain system.
•Water from rain.
•Water from rains that fill up drains.
•Water and fluid from rain.

•Rain contaminated.

•Clear water.
•Rain.
•Pollution.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 2 of 8)

•Backed up water after rain.
•Water set aside (if there is no water service) in case of a tornado or storm.
•Water backup in water supply.
•Water that backs up in lakes, rivers, etc.
•Water running along ditches.

•Water that comes after a storm.
•From rain.
•Drains stop up.
•Backed up water.
•Water left after storm.

•Contaminated water, polluted.
•Flood water.
•Excess water.
•Water that collects after rain storm.
•Nasty water.

•Overflow.
•Water from storms that is backed up.
•Excess runoff left standing.
•Nasty, polluted water.
•Rain water polluting fresh water. Rain running into the ground.

•Water pollution from rain in the drains.
•Water from storms.
•Accumulation of water.
•Water runoff from rain storms.
•Runoff of water from storms.

•Water runoff that gets into the street and the sewer line.
•When it rains hard and the runoff gets into the drains.
•Overflow during a storm that puts polluted water where it is not supposed to be.
•Runoff in the street during a rain.
•Rain water.

•Water that is stored.
•Pollution from cars and plants that forms acid rain.
•Water collects after storm.
•Debris into rivers and sewage system, and then into the drinking water.
•Water runoff from the highlands when it rains, carries pesticides.

•Water from thunderstorms and rain.

•Water from rain.
•Water that goes into drains.
•Runoff from rain.
•Water that backs up.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 3 of 8)

•Back up of water from rain.
•Surface water.
•Rain settles.
•Run off of rain.
•Run off.

•Water from rain.
•Water from rain.
•Water from a storm.
•Water that comes from storms.
•Water after a big rain.

•Rain water that goes into sewers.
•Water that runs off after rain.
•Rain water.
•Pollution from business chemicals.
•Falling rain during a storm.

•Water from rainstorm.
•Water that flows after rain.
•Water from storm.
•Water from storm.
•Water from Mississippi River backed up in creeks and streams.

•Rain water in gutters that goes into drains.
•Run off in street of rain.
•Rain that doesn't run off.
•Excess rain water.
•Rain water that goes into sewers.

•Polluted water from things in the atmosphere.
•Water from rain during storm.
•Water that comes back up out of sewer.
•Water that runs off roads.
•Rain water.

•Overflow from rain.
•Rain and flooding.
•Water from rain.
•Rain water. Acid rain.
•Water down drainage pipes.

•Anything that comes from rain.

•Water that comes from flooding.
•Water leftover from a storm.
•The drainage.
•When it storms, the water that sits.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 4 of 8)

•The water in the gutter.
•If there was a flood, and the water got contaminated.
•Drainage water.
•The water from rain.
•Water in the storm drains after it rains.

•A lot of rainfall.
•Acid rain.
•Left around accumulating mosquito-infected water that gets into the sewer system.
•Water that comes from rain.
•Water from storms that goes into drainage ditches.

•Water that runs down the street.
•Rain water.
•When it rains, the water that collects.
•Runoff after a big rain.
•Rain.

•Rain water.
•Polluted water.
•Water that runs into ditches.
•The water drain after a storm.
•Acid rain.

•Rain runoff.
•Backup of water after a rain storm that enters the water system.
•Runoff water from the rains or stuff from Nonconnah.
•Water that runs into the storm drains.
•Water after it rains that runs off.

•Water draining from the storm.
•Rain water.
•Runoff.
•People don't have plumbing and proper sewage.
•Stormwater that goes into the drains.

•Water that drips off the house down into the sewage system.
•Water that comes from the storm.
•Rain water.
•After rain, it is the rain that is moved off the street, or other things moved off the street.
•When stuff seeps over into the water system.

•Rain water.

•Rain.
•Runoff/Drain off.
•Hard water.
•Runoff water from the streets and sewers.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 5 of 8)

•Runoff of rain that gets into sewers.
•Water that results from heavy rains.
•Runoff from when it rains.
•Runoff from falling storms.
•The rain that runs off houses.

•Runoff of rain water.
•Water from storm.
•Runoff from rain.
•Water from storm.
•Acid rain.

•Water that runs off from storms.
•The excess water from floods and rains.
•Just rain from nature.
•Any overflow of rain that is not absorbed into the ground that flows into the drainage system.
•Runoff of water that goes into drains and into the lakes.

•Water that accumulates from when it rains.
•Runoff from rivers after a big rain.
•When it rains, the build up that runs off into drains.
•Build up when it rains; the drains are not adequate for the excess.
•Having a lot of rain that collects and overflows the rivers.

•Water that comes because of a major storm.
•Rain.
•Rain water that runs off into the drains.
•Runoff water that doesn't collect in a free drainage system.
•Acid rain.

•Runoff.
•Residual runoff after a major storm.
•Rain and water runoff.
•Nasty water.
•Water that runs off.

•Rust water.
•Where bad water runs into good.
•Water left over after storm.
•Polluted water. Water from the sky.
•Drainage of rain water.

•Water that comes from rain that you can collect in a container.
•Excess rain water.

•Water from when it storms.
•Whenever it floods or rains, the water that goes into the storm drain.
•Drainage water that collects and overflows.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 6 of 8)

•Rain runoff.
•Water that comes from rain and storms, and gets in drains.
•Runoff from excess rain.
•Water that runs off from hard rain.
•Water that is left from a storm.

•The polluted water from stuff left over that comes out of factories.
•After a storm, the over flood that gets into the sewer system.
•Water reserved for drinking.
•Drainage from rain running into river.
•Rain and storm.

•Rain water.
•Things that are in the street when it rains.
•Rain water.
•Water used after a storm.
•Water that collects after a storm that goes into sewers.

•Runoff from rain and erosion of landscape.
•Runoff from rain water and other water.
•Water from rain.
•Runoff from thunderstorms.
•Water that comes from the weather.

•Runoff from rain.
•Runoff from street and drains.
•Water from storms.
•Water from rain.
•Sewage drain.

•Where the water is when it rains and it stands in the yard.
•Acid rain from the air. Also fertilizers from lawns that go into the drain.
•Water that is standing that hasn't seeped into the ground.
•It rains, then goes into the storm drains.
•The water that you have after rain.

•The water when it rains.
•Drains.
•Rain runoff of water.
•Runoff water.
•Rain water that runs off.

•The runoff that goes down into the storm drains and to the river.

•Runoff from land.
•Extra water the city holds for the community.
•Runoff of water into drains.
•Water that is out of control.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 7 of 8)

•Water created by a storm.
•Rain.
•Water that builds up when there is a big rain storm faster than it can runoff.
•Pollutants from the air mixing with water.
•Runoff of acid water.

•Rain water.
•Rain.
•Rain collected into storm drains.
•When storms and floods happen.
•Water that washes out from storm.

•Drains off of ground.
•Runoff from rain.
•Overflow water from storms.
•Runoff after rains that goes through drains.
•Runoff from rain.

•Rain water.
•Runoff from rain.
•Rain in the gutters that goes into the drainage system.
•Excess rain water that goes into the waste system.
•Rain water.

•From rain storm.
•Some type of water.
•Water in drainage ditches.
•Water that is not clean.
•Standing water.

•Water runoff from storm.
•Sudden downpour of rain in a short time.
•Rain water.
•Water collected after a storm.
•Flooding.

•Bottled water for emergencies like storms.
•Rain water.
•Water that comes from storms.
•Rain back up.
•Water from rain.

•Water in city drainage.

•Runoff from rain.
•Runoff from storm.
•Rain.
•Water from rain.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 8 of 8)

•Water after storm and floods.
•Water from a storm.
•Water damage to houses.
•Water that runs into lakes and rivers.
•Rain runoff.

•Water after a rain that has no place to go.
•Water after rain.
•Water from rain.
•Water from a storm.
•Water running in drains.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 1 of 10)

•Pesticides. Chemical waste.
•Unclean surfaces where water blows from.
•Anything that runs off.
•Oil. Gas.
•Fertilizers.

•Paint. Motor oil.
•Disposal from factories, like chemicals.
•People throwing things in it.
•Garbage.
•Trash.

•Beer cans. Coke cans. Cigarettes.
•Dead animals. Garbage.
•Stuff from factories. Pesticides.
•Paper cups. Aluminum cans.
•Trash in the street that gets into drains.

•Trash.
•Poisonous things.
•Motor oil. Gasoline. Chemicals from plants.
•Petroleum.
•Chemicals.

•Trash.
•Garbage. Raked leaves left in the street that run down into the drains.
•Sewage. Items from garbage disposals and sinks that gets into the water system.
•Gas. Trash.
•Chemical waste.

•Oil. Fertilizers.
•Anything spilled on streets.
•Dead animals. Trash.
•Pesticides. Beer cans.
•Trash.

•Cans.
•Herbicides. Pesticides. Automobile oil.
•Oil spills. Debris. Leaves. Chemicals.
•Chemicals used to treat lawn.
•Chemicals from washing car.

•Chemicals.

•Chemicals.
•Cans. Fast-food bags.
•Chemicals. Trash.
•Garbage. Sewage.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 2 of 10)

•Oil. Chemicals. Paint.
•Garbage. Paper. Dirt.
•Garbage. Trash.
•Chemicals.
•Trash. Rubbish.

•Disposing of items improperly.
•Debris.
•Gas. Oil. Bacteria.
•Bottles. Paper. Sewage.
•Trash. Oil.

•Oils and chemicals from yards.
•Leaves. Cans. Trash.
•Trash. Garbage.
•Oil. Pesticides from lawns.
•Trash. Bottles. Cans. Paper.

•Papers. Bottles. Trash.
•Leaves. Limbs.
•Leaves. Cans. Dirt.
•Litter discarded in street. Leaves.
•Leaves.

•Trash. Oil. Waste.
•Fertilizer. Pesticides. Sewage.
•Leaves. Grass. Cans.
•Oil. Leaves.
•Trash.

•Chemicals from lawns. Chemicals from factories.
•Melted snow. River overflows.
•Oil. Chemicals.
•People throwing trash into the streets.
•Chemicals.

•Everyday trash.
•Trash on streets.
•Coke cans.
•Pesticides. Fertilizers.
•Car oil.

•Pesticides.

•Runoff from yards. Oil from cars.
•Beer bottle.
•Trash.
•Leftover oil from cars that runs into drains.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 3 of 10)

•Smoke stacks.
•Trash along the streets, like old shoes, gets washed down the sewer.
•Anything in the street.
•Yard spray.
•Garbage.

•Chemicals.
•Chemicals on lawns. Animal droppings on lawns.
•Boxes. Cans.
•Chemicals. Oil.
•Plastic. Discarded dead animals.

•Grass. Leaves.
•Trash. Chemicals from industrial plants.
•Oil. Pet waste.
•Animal waste. Cigarettes.
•Fertilizer.

•Chemicals from lawns, pesticides. Disposing oil and grease improperly.
•Grass. Leaves.
•Trash. Paper. Cans.
•Trash. Waste products.
•Animal droppings. Garbage.

•Trash. Leaves.
•Oil. Anti-freeze. Trash.
•Oil. Chemicals from lawn. Chemicals from business.
•Broken sewage lines.
•Chemicals from business. Chemicals put in drains by individuals.

•Sewage. Leaves. Paper.
•Paper. Cans. Trash.
•Garbage. Chemicals.
•Garbage. Cans.
•Toxic waste. Trash.

•Chemicals from plants. Trash.
•Oil. Anti-freeze. Paint.
•Oil. Gas. Chemicals. Pesticides. Fertilizers.
•Chemicals for lawns. Industrial waste. Human waste.
•Leak of gas and oil.

•Debris from yards. Chemicals from businesses.

•Chemicals from businesses. Trash.
•Cans. Paper.
•Fertilizers. Weed killers. Water coming up out of manholes (sewage).
•Oil. Chemicals. Grass.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 4 of 10)

•Garbage. Dead animals.
•Chemicals from lawns.
•Trash.
•Acid rain.
•Lead paint.

•Oil on the ground.
•Trash.
•Chemicals.
•Chemicals. Oil from cars. Industrial spills. Pesticides.
•Fuel. Gas. Oil.

•Gasoline. Pesticides.
•Cigarette butts. Mud. Paper. Trash.
•Plants that have chemicals.
•Bad chemicals. Oil.
•Oil.

•Dirt.
•Trash.
•Oil.
•Trash.
•Dead animals. Trash. Things that create a smell.

•Trash. Automotive fluids.
•Chemicals. Gas from air.
•Trash.
•Trash. Oil.
•Sewage. Chemicals.

•Leaves.
•Limbs and grass clippings. Leaves. Beer and soda cans.
•Traffic. Lawn services.
•Trash. Dirt.
•Improper disposing of oil.

•Leaves. Oil. Chemicals.
•Pollution in air.
•Oil. Trash.
•Oil.
•Trash.

•Fertilizers. Insecticides.

•Metals. Things we throw away.
•Excess fertilizer. Oil disposal when people bury barrels in the ground.
•The dumps where our garbage comes from. Our sewer system gets old and leaks, and cracks appear in the system.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 5 of 10)

•Oil. Gas. Chemicals.
•Stuff in the atmosphere.
•Litter.
•Oil changes. Stuff from factories.
•Trash. Chemicals.

•Fertilizers and chemicals from yards.
•Garbage.
•Trash.
•Anything dumped in the street.
•Chemicals from businesses.

•Trash.
•Oil. Fuel. Trash.
•Chemicals. Toxic waste. Household cleaning products.
•Pollution.
•Trash. Human waste. Dead animals.

•People washing cars in the street. Gasoline spills at gas stations that get washed into the drains.
•Chemicals from businesses.
•Chemicals from factories. Oil.
•Waste. Anything that gets into pipes. Trash.
•Dirty mud.

•From newspaper. Old clothes. Shoes. Everyday trash.
•Oil from consumers. Industrial waste. Inappropriate things dumped where they shouldn't be dumped.
•Oil. People dumping trash.
•Grass. Waste. Trash.
•Chemicals. Gasoline. Acid rain. Particles that fall from the sky.

•Garbage. Nasty people. Animal filth from dead animals.
•Acid. Smoke.
•Oil. Trash.
•Transmission fluid and oil. Urine. Spit. Beer and liquor bottles. Dog and cat waste. Chemicals.
•Leaves. Dirt. Oil. Stuff people put in the sewer.

•Dirt. Germs. Trash.
•Anti-freeze. Motor oil.
•Decaying bodies. Organic matter. Pesticides. Herbicides.
•Fertilizers on yards. Chemicals. Overflow of gasoline.
•Leaves. Dead animals. Animal matter.
•Anti-freeze. Oil. Chemicals from plants.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 6 of 10)

•Insecticides. Garbage and trash. Waste.
•Human waste. Pesticides.
•Trash.
•Sticks.
•Trash. Dirt.

•Pesticides, oil dumped illegally by people.
•Trash. Oil.
•Trash. Chemicals. Oil.
•Trash.
•Toxins. Illegal dumping (like my neighbor pouring paint down the drains).

•Junk. Grease. Emissions. Animal waste.
•Detergents. Chemicals. Fertilizers.
•Dust. Oil. Anti-freeze.
•Chemicals from plants.
•Fertilizers. Petroleum products.

•Chemicals from plants -- waste or accidental spills. Crude oil and petroleum products from cars.
•Motor oil. Gasoline.
•Chemicals from plants. Overflows. Cement.
•Used motor oil. Chemicals from lawns.
•Anti-freeze. Oil. Grease. Anything people put in their cars.

•Exhaust fumes from cars. Smoke from plants and dump trucks. Fumes from oil refineries.
•Trash.
•Chemicals. Oil. Trash.
•Chemicals. Debris.
•Runoff from chemical plants.

•Trash. Leaves. Tree branches.
•Poisons like pesticides from farms and lawns.
•Oil. Anti-freeze. Chlorine.
•Chemicals that are not disposed.
•Dirt.

•Petroleum products.
•Chemicals. Oil. Garbage.
•Litter. Pesticides. Salt from roads.
•Oil. Animals.
•Leaves. Dirt. Sap.

•Trash.

•Snow. Particles from the air.
•Fertilizers. Animal waste. Fuel and oil from gas stations and industries. Pesticides. Herbicides.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 7 of 10)

•Plastics. Chemicals.
•Burst water pipes. People littering.
•Trash. Dirt.
•Chemicals from companies.
•Different debris. Tree limbs. Trash.

•Cans. Cartons. Papers. Diapers.
•Anything in the air. Improper disposal of oil and chemicals.
•Insecticides. Animal pollution. Sewage.
•Trash and snow that has things in it, when it melts and gets into the river.
•Debris.

•Paper. Cigarette butts.
•Leaves.
•Chemicals from companies. Trash people throw away.
•Dead animals and mosquitoes. Waste products from factories downtown.
•Any industrial product that gets into the water.

•Chemicals from plants.
•Chemical waste.
•Trash. Soot. Leaves.
•Oil.
•Car oil.

•Motor oil. Pesticides.
•Chemicals from runoff of agriculture and yards.
•Industrial waste. People throwing trash in the sewer.
•Toxic material.
•Chemicals. Motor oil.

•Bird waste.
•Items people throw in the sewers.
•Things from upstream: Logs, Cans, Debris.
•Sewer or waste material.
•Trash. Plastics. When people throw cups and garbage in lakes when fishing.

•Oil. Trash. Radiator fluid. Runoff from street.
•Trash.
•Oil. Pesticides.
•Debris. Rodents. Carbon monoxide.
•Bacteria. Pumping station.

•Trash.

•Debris from homes.
•Chemicals.
•Trash.
•Filthy water.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 8 of 10)

•Trash.
•Pollution that is collected from the air.
•Trash left on the street. Air pollution.
•Chemicals.
•Industry disposal. Different things people throw away.

•Oil. Drugs.
•Trash. Chemicals.
•Oil.
•Salt if ice on the road. Oil. Solid trash.
•Industrial waste.

•Oil.
•Oil. Improper dumping. Anti-freeze.
•Trash. Oil from the street.
•Acid rain. People throwing trash anywhere.
•Pesticides.

•Chemicals.
•Fertilizer. Chemicals. Oil from cars.
•Human waste.
•Beer bottles. Old dishes. Chemicals. Dead fish. (All of these seen in the Mississippi River.)
•Trash; people put trash in streets near drains and in lakes.

•Trash on lakes and river. Barges and boats not being up to code.
•Cans. Trash. Paper.
•Fuel. Oil. Pesticides. Runoff from lawns.
•Things that people dump.
•Oil refineries. Car emissions.

•Pesticides.
•Poison. Chemicals.
•Pesticides. Herbicides when people fertilize their lawns. Poorly kept vehicle fluids and gas that runs into drains.
•Toxic fertilizer. Animal waste.
•Anything burned.

•Motor oil.
•Chemicals used in yards.
•Wrappers.
•Car anti-freeze or gas overflows.
•Oil.

•Trash.
•Car carbon dioxide over requirement. People don't dispose of oil when changing their oil.
•Building materials. Chemicals.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 9 of 10)

•Chemicals from plants that don't control pollution.
•Things dumped into drainage ditches.
•Changing oil.
•Plastics. Cans. Bottles.
•Insects.

•Sewage.
•People dumping oil into the ground.
•Petroleum products. Improper disposal of oil.
•Trash.
•People pouring oil into drains. People putting animals into drains.

•Car oil. Grease.
•Toilets being flushed.
•Anything from Buckeye Cellulose.
•Dead dogs in ditches.
•Waste.

•Trash thrown out of windows.
•Petroleum products.
•Toxins. Oil. Batteries. Sewage.
•Fertilizers. Chemicals from homes. Oil.
•Trash. Paper.

•Oil. Cans. Papers. Dirt.
•Cans. Paper. Trash.
•Trash. Oil.
•Paper. Trash.
•Chemicals. Business waste.

•Chemicals. Waste matter.
•Trash. Leaves. Chemicals.
•Oil. Mud. Trash.
•Sewage. Gas. Oil. Trash.
•Garbage. Fallen trees.

•Chemicals from business. Trash.
•Leaves. Paper. Trash.
•Trash. Waste.
•Waste. Leaves. Trash.
•Oil. Trash. Anti-freeze.

•Trash.

•Trash. Waste. Oil.
•Chemicals. Silt. Petroleum products.
•Gas. Oil. Trash. Paper. Plastic bags.
•Trash. Cans. Mud. Leaves.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 10 of 10)

•Trash. Waste. Wood.
•Trash. Sewage. Garbage.
•Trash. Leaves.
•Waste. Cans. Debris. Garbage.
•Chemicals. Tissue paper.
•Oil. Toxic waste.

•Trash. Sewage.
•Oil. Chemicals from lawns.
•Waste. Broken limbs. Trash.
•Bottles. Cans. Trash. Garbage.
•Garbage. Trash. Bird droppings.
•Dead animals. Gas. Cans. Chemicals.

Questions #16, #20, #21, #23 -- Other Ways In Which Items Are Disposed
(Each Item Mentioned By One Respondent -- Page 1 of 1)

Question #16 -- Disposal Of Used Oil

•Pour in the grass, along a fence.
•Put it in the back yard.
•Someone picks it up.

Question #20 -- What Do With Leftover Fertilizers/Pesticides/Herbicides

•Give it to neighbors.
•Yard man takes away.

Question #21 -- What Do With Leaves/Grass Clippings

•Give it to a neighbor for mulch.
•Put scraps in garden.
•Recycle.
•Use to fertilize garden.
•Yard man takes away.

Question #23 -- What Do With Old Paint

•Give it to someone else.

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
Stormwater pollution	1	2	3
Not enough people recycling	1	2	3
Running out of space for disposing trash	1	2	3

3.As far as you know, what is stormwater? (WRITE RESPONSE IN BLANK.)

4.Stormwater is the runoff from rain and snow melt that flows into the city's storm drain system, and then into the Mississippi River. Does this definition make sense to you? (CIRCLE ONE ONLY.)

Yes_____1

No_____2

Don't know (DON'T READ)_____3

5.Stormwater pollution occurs when items get into the stormwater, whether accidentally or on purpose. Does this definition make sense to you? (CIRCLE ONE ONLY.)

Yes_____1

No_____2

Don't know (DON'T READ)_____3

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

7.Based on the definition of stormwater pollution I read earlier, who do you feel is responsible for causing stormwater 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 stormwater 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.Are you aware of there being a problem with stormwater pollution in Memphis?
[CIRCLE ONE ONLY.]

Yes_____1
No_____2

Don't know (DON'T READ)_____3

10.As far as you know, does stormwater 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 stormwater 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

13.If an advertising campaign was to be conducted in order to educate people about stormwater pollution, to which of the following types of advertising would you most likely pay attention? [READ LIST BEGINNING WITH ITEM MARKED. CIRCLE ALL THAT APPLY.]

0 Billboard advertisement_____1
0 A mailing sent to you at home___2
0 Newspaper advertisement_____3

- A booth at a community fair____4
- Radio advertisement_____5
- A flyer or brochure_____6
- Television advertisement_____7
- Magazine advertisement_____8

14.Please rate the following slogans as Very favorable, Somewhat favorable, or Unfavorable in terms of motivating you to become more concerned about stormwater pollution? (READ LIST BEGINNING WITH ITEM MARKED. CIRCLE ONE ONLY.)

	Very Favorable	Somewhat Favorable	Un-Favorable (DON'T READ)	No Opinion
O Clean river	1	2	3	4
O Pretty landscape	1	2	3	4
O Protect children's future	1	2	3	4
O Being a good neighbor	1	2	3	4
O Reduce flooding	1	2	3	4
O Protect your health	1	2	3	4
O Preserving the environment	1	2	3	4

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

Yes_____1 -> CONTINUE
No_____2 -> GO TO QUESTION #18

Don't know (DON'T READ)_____3 -> GO TO QUESTION #18

16.ONLY ASK IF "YES" CIRCLED IN QUESTION #15: 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

17.ONLY ASK IF "YES" CIRCLED IN QUESTION #15: 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.)

18.Do you live in a house? (CIRCLE ONE ONLY.)

Yes_____1 -> CONTINUE
No_____2 -> GO TO QUESTION #22

Don't know (DON'T READ)_____3 -> GO TO QUESTION #22

19.ONLY ASK IF "YES" CIRCLED IN QUESTION #18: Are fertilizers, pesticides, or herbicides used on your lawn? (CIRCLE ONE ONLY.)

Yes_____1 -> CONTINUE
No_____2 -> GO TO QUESTION #21

Don't know (DON'T READ)_____3 -> GO TO QUESTION #21

20.ONLY ASK IF "YES" CIRCLED IN QUESTION #19: And what do you usually do with your leftover fertilizers, pesticides, or herbicides? (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

21.ONLY ASK IF "YES" CIRCLED IN QUESTION #18: 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

22.RESUME ASKING ALL RESPONDENTS: What do you usually do with your leftover household cleaning products? (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

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

Other

23.What do you usually do with your old paint? (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

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

Other

24.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

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