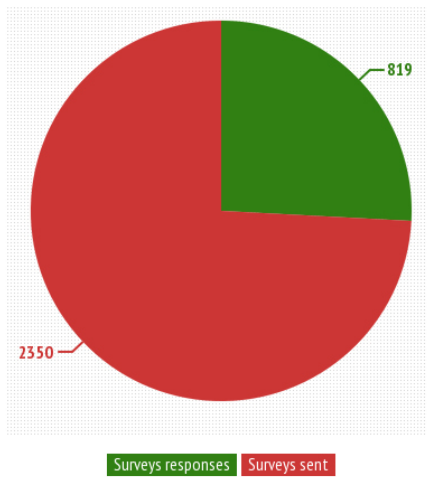


City of Ann Arbor 2013 FDD Survey Results - DRAFT

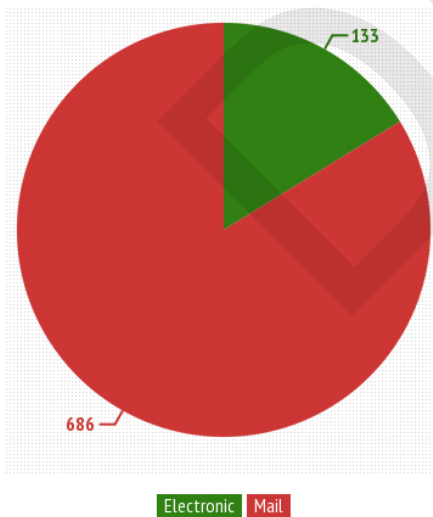
1. Total Surveys Completed



2350 surveys sent
819 responses

34.85% surveys returned

2. On-line Survey Responses vs. Mail Survey Responses



133 On-Line – 16%

686 Mail - 84%

3. Validity of Survey Results

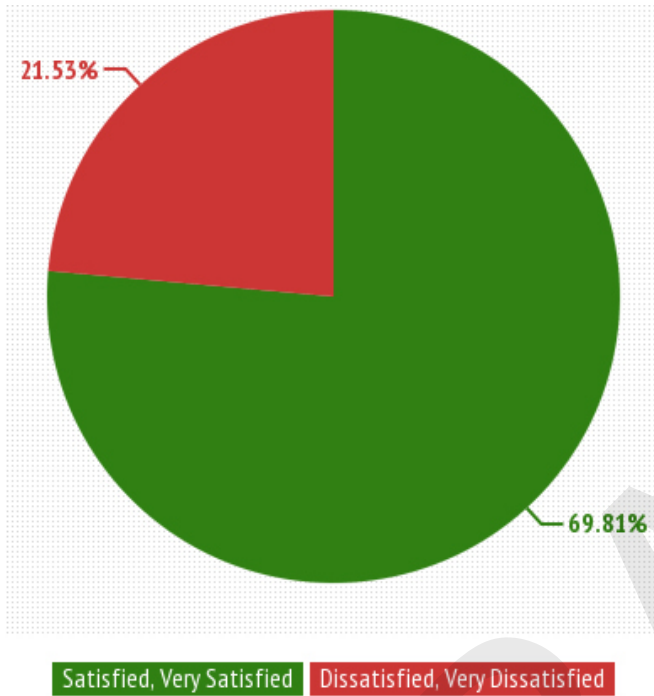
- Confidence level = 99%
- Margin of error = 3.6% +/-

4. Geographic Dispersion of Responses

TBD. Respondent addresses are being correlated for the five Target Areas and City at Large.

DRAFT

5. Satisfaction with Sump Pump Installation



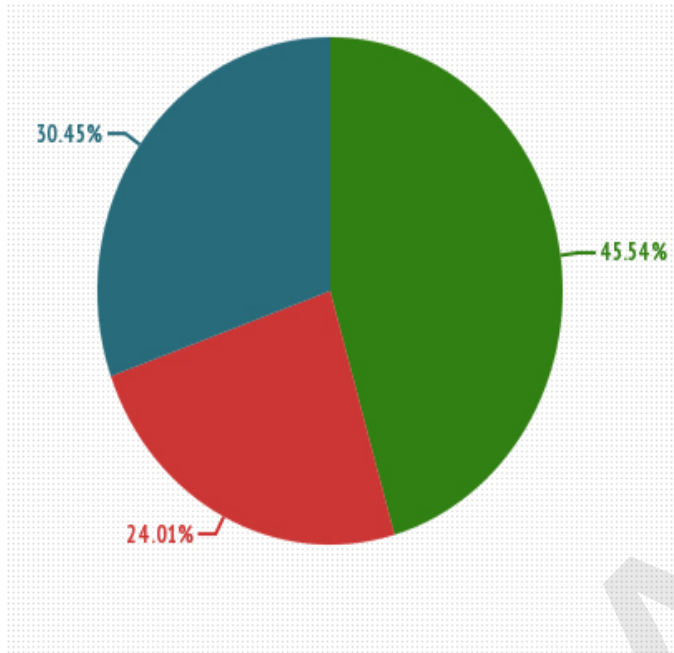
69.8%: Very satisfied + Satisfied:

21.5%: Very Dissatisfied + Dissatisfied

Answer Choices—	Responses—
Very satisfied	28.20%
Satisfied	41.61%
Dissatisfied	13.17%
Very dissatisfied	7.83%

Summary: While the majority of survey respondents report satisfaction or neutral feelings (11%) regarding their sump pump installation, about 1/5 of respondents report feeling degrees of dissatisfaction.

6. Would Recommend a Sump Pump Installation to a Neighbor:



45.5%: Strongly Agree + Agree:

24.0%: Strongly Disagree + Disagree

30.5%: Neutral

Agree, Strongly Agree Disagree, Strongly Disagree Neutral

Answer Choices	Responses
Strongly Agree	21.04%
Agree	24.50%
Neutral	30.45%
Disagree	11.76%
Strongly Disagree	12.25%

Summary: Almost half of the respondents would recommend a sump pump installation to a neighbor. Nearly one third are neutral and nearly one quarter would not make this recommendation.

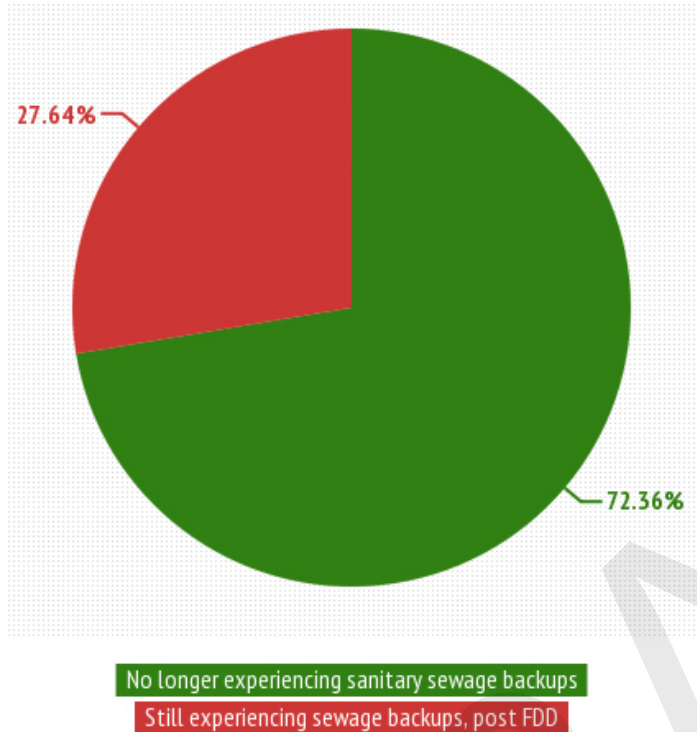
7. Total Restoration Costs re. Sanitary Sewage Backups

\$304,227

Potential Follow-up Activities:

- a. Speaking with residents who've reported the most frequent incidents and the highest costs to learn more about the backup incidents and causes.**
- b. Cross referencing dates of sanitary sewage backup issues with FDD installations dates and known extreme weather incidents.**
- c. Validating the cost estimates where possible to eliminate survey/respondent error.**
- d. Analyze addresses to find potential topography or system issues contributing to the backup incidents.**

8. Respondents that experienced sanitary backups prior to FDD, who are NOT experiencing them after.



72.3% of the respondents who had experienced sanitary sewage backups are NO LONGER experiencing them after having an FDD/sump pump installation.

27.6% of the respondents who had experienced sanitary sewage backups ARE still experiencing them AFTER having an FDD installation.

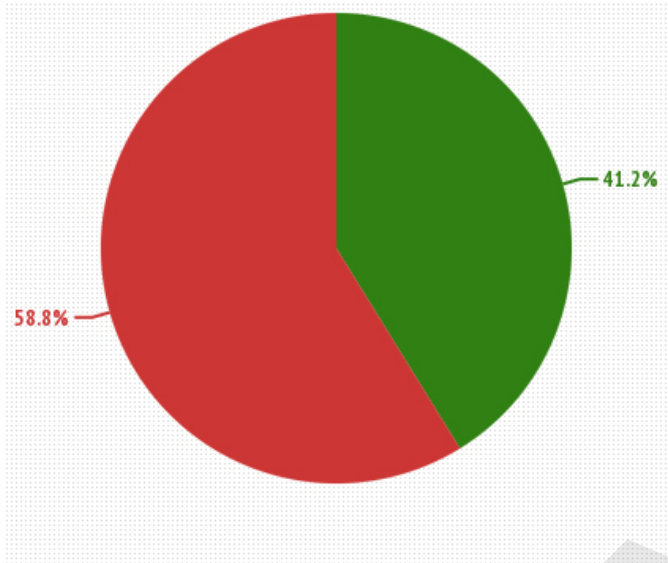
Data Breakdown:

123 of the 819 respondents (15%) reported experiencing sanitary sewage backups PRIOR to FDD/sump pump installation.

89 of the 819 respondents (11%) had sanitary sewage backups prior to FDD/sump pump installation and have not had one after the FDD.

34 of the 819 respondents (4.1%) of respondents continue to have sanitary sewage backups after FDD/sump pump installation

9. Respondents that experienced water flooding/seepage/dampness prior to FDD and are NOT experiencing it after.



41.2% of respondents who had experienced water flooding/seepage/dampness before FDD are NOT experiencing them after having FDD.

BUT, 58.8% of respondents who had experienced water issues before FDD are still experiencing them AFTER FDD.

No Longer experiencing wetness/flooding/seepage, post FDD
Continue to experience wetness/flooding/seepage, post FDD

Answer Choices –	Responses –
Water flooding	38.56% 145
Seepage	58.78% 221
Dampness	51.60% 194

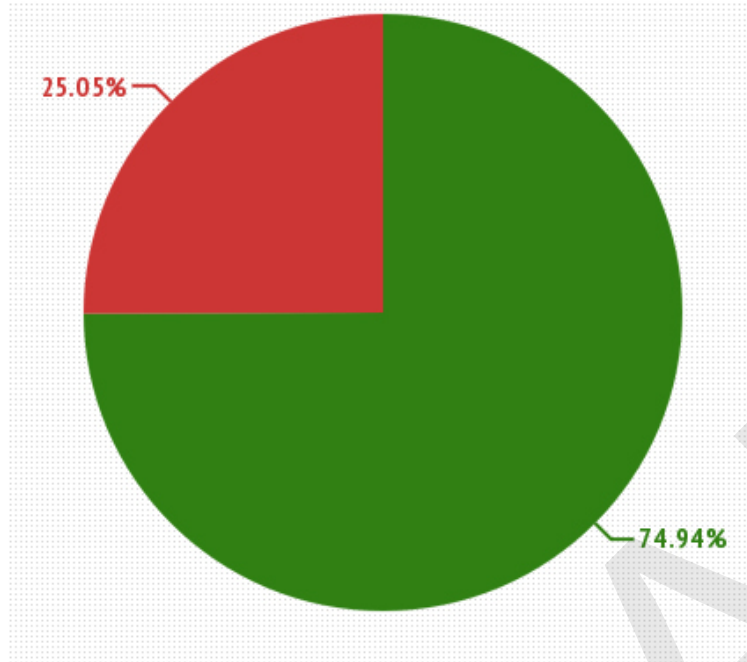
Data Breakdown:

407 = Total Number of Respondents (50% of the sample) Reporting Water Issues PRIOR to FDD

168 = Total Number of Respondents with Prior Water Issues Who Are NOT Experiencing Them AFTER FDD

Summary: While it appears that the FDD and sump pump installation solved water issues for over 40% of residents experiencing them, a larger number – 239 - continue to have water issues.

10. Respondents that experienced NO water flooding/seepage/dampness prior to FDD and ARE experiencing them after.



410 = number of respondents who reported NO experience with water flooding, seepage, or dampness prior to FDD.

75% = the 307 respondents who continued to have NO water issues after FDD.

25% = the 103 respondents who reported water issues AFTER FDD.

No new wetness/flooding/seepage after FDD

No wetness/flooding/seepage before FDD, now experiencing after FDD

Distribution of Post-FDD Water Issues for 103 Respondents

	Total
Water flooding	66
Seepage	50
Dampness	44
Total Issues	160

11. Total Restoration Costs:

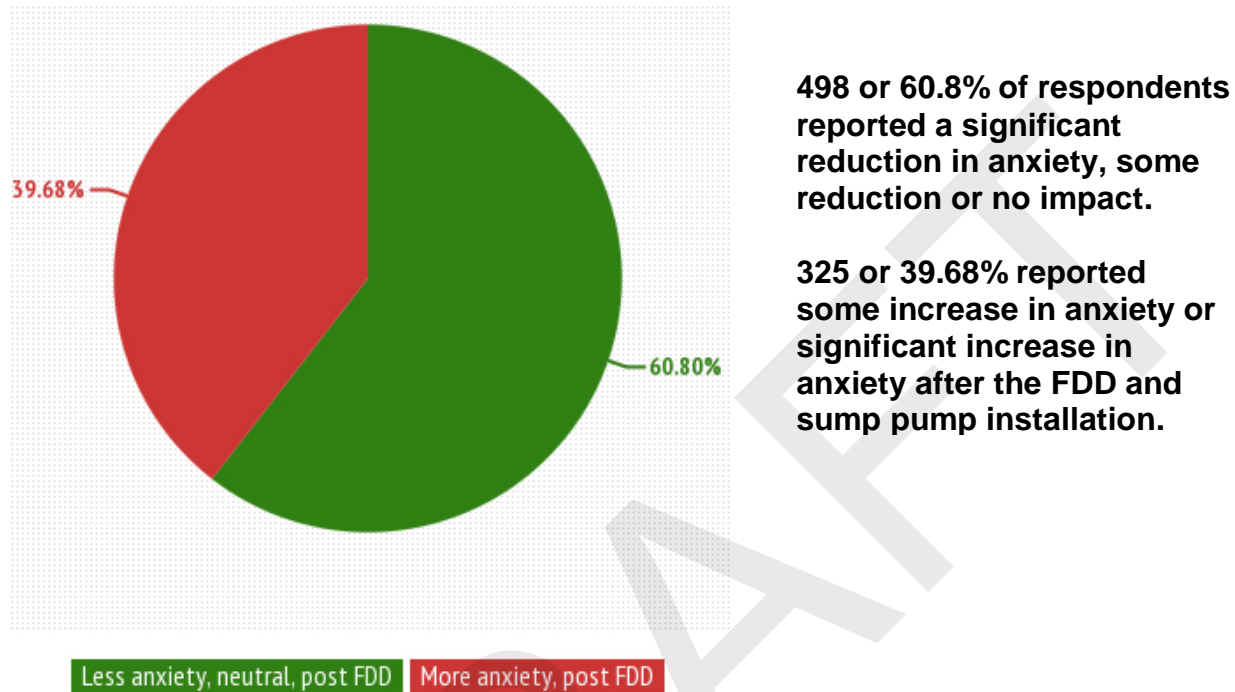
Respondents reported \$460,170 in costs for correcting water issues after FDD installation, including wetness, flooding and seepage, and post FDD/sump pump equipment installation.

We recommend that these results be investigated further, including:

- **Speaking with residents who've reported the highest frequency and costs to learn more about the wetness incidents.**
- **Validating the cost estimates where possible to eliminate survey/respondent error.**
- **Cross referencing dates of wetness issues with FDD installations dates and known extreme weather incidents.**
- **Analyzing addresses to find potential topography or system issues contributing to the wetness incidents.**

12. Peace of Mind Results

How has the installation of a sump pump affected your peace of mind?



13. Distribution of Concerns about Sump Pumps

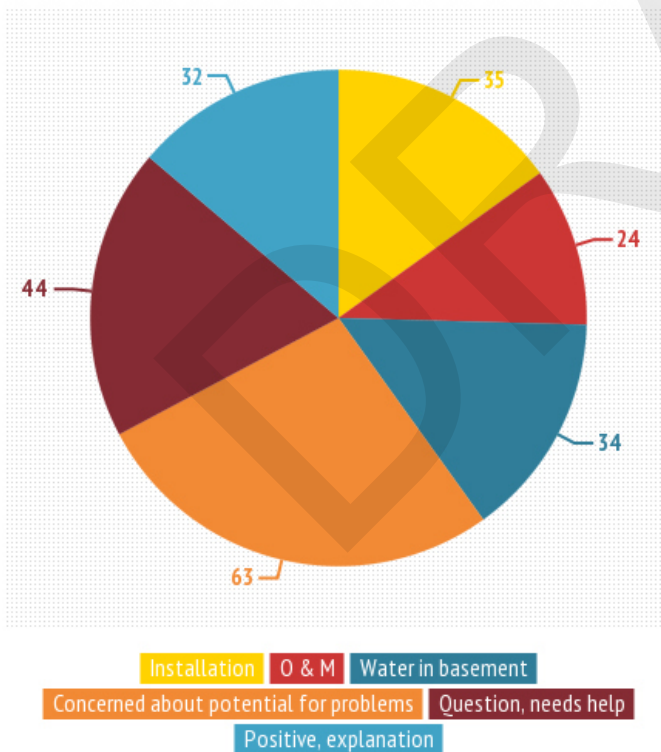
Please indicate your concerns, if any, about the sump pump in your residence.

Answer Options	Not concerned	Concerned	Very concerned
Sump pump malfunction.	220	313	188
Lack of a backup system.	311	219	127
Replacing sump pump.	279	286	124
Water flooding from sump pump hole.	353	210	112
Disrupted my basement design/style.	485	107	87
Reduction in property value due to sump pump.	448	146	74
Going up and down stairs to check on sump pump.	483	120	59
Noise from the pump.	503	130	58

14. Distribution of Survey Comments:

Survey respondents were invited to provide comments, which 320 did. **To date, we have categorized 252 comments as follows:**

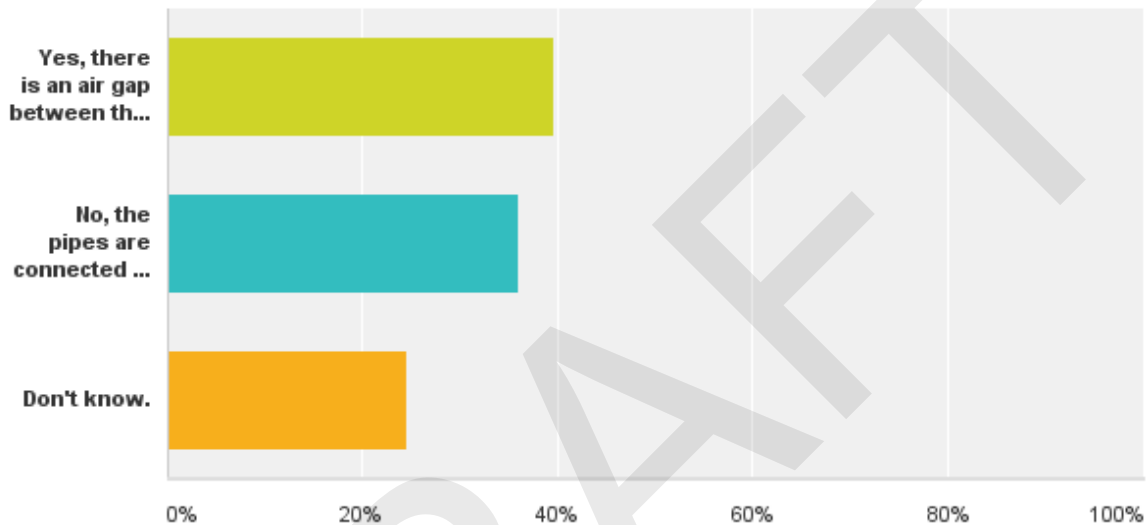
1. Installation related = 35
2. Operation and maintenance related = 34
3. Water after FDD = 24
4. Concerns/Questions/Positives
 - a. Concern about potential for problems = 63
 - b. Need help, has a question, comment about project = 44
 - c. Positive comment, explanation of a survey response = 52



15. Air Gap

Q20 Please look at the discharge pipe that exits your home. Is it connected directly to the pipe coming up from the ground or is there an air gap between the two pipes?

Answered: 785 Skipped: 34



Answer Choices	Responses
Yes, there is an air gap between the two pipes.	39.49% 310
No, the pipes are connected to each other without an air gap.	35.92% 282
Don't know.	24.59% 193
Total	785

In addition to these results, there are seven mentions of an “air gap” in the 320+ comments, with the majority of those stating that they are not sure whether their home has one and would like someone to check their connection.