

**A Review of Repetitive Floodloss Data for Hoey's Basin,
Jefferson Parish, Louisiana**

**Submitted to
Jefferson Parish Councilmember Jennifer Sneed
on behalf of the Hoey's Basin Drainage Alliance**

**by the Center for Hazards Assessment, Response and Technology (CHART), The
University of New Orleans¹**



August, 2007

¹ CHART is an applied social science hazard research center housed in the Department of Sociology at the University of New Orleans. CHART's work on repetitive flood loss is funded by FEMA Region VI.

Hoey's Basin is a drainage basin located on the eastbank of Jefferson Parish, Louisiana. It is bound to the east by the Orleans-Jefferson Parish line (17th Street Canal), Metairie Road to the north, Causeway Boulevard to the west, and River Road to the south. It includes portions of the Old Metairie and Old Jefferson Neighborhoods. There are approximately 6,600 households in Hoey's Basin, housing about 15,000 people.

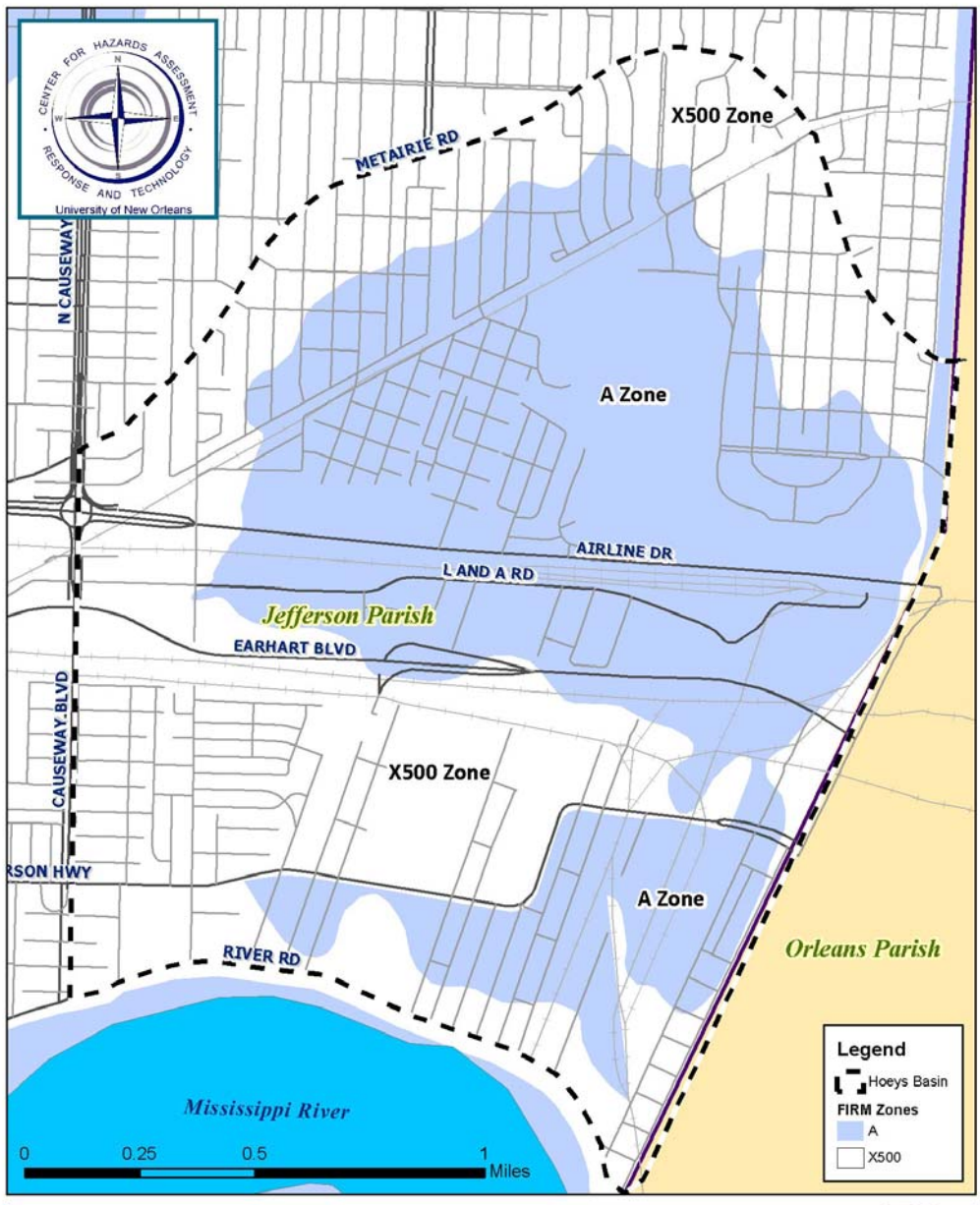
UNO-CHART has analyzed data relating to repetitive floodlosses within Hoey's Basin. Such data includes: summary NFIP repetitive loss claims data, rainfall data, and drainage data. A summary of those results are presented here.

Summary NFIP Repetitive Loss Claims Data

Hoey's Basin falls in both 'A' and 'X500' flood zones according to the Flood Insurance Rate Map (FIRM). An 'A' flood zone is a Special Flood Hazard Area (SFHA). Properties located in the SFHA, or base/mapped floodplain, are at a high risk of flooding during a 100 year event. This means that residents who live in an 'A' zone have a 1 in 100 chance of flooding each year. An 'X500' flood zone is not in the SFHA. Properties in the 'X500' flood zone run the risk of the 500 year flood. This means that these properties have a 1 in 500 chance each year of flooding. The map on page 2 illustrates the location of the 'A' and 'X500' floodzones within Hoey's Basin.

There are 164 properties in Hoey's Basin that are on FEMA's repetitive loss list. According to FEMA a repetitive loss property is one that has flooded at least two times in any ten year time period, starting in 1978, and each flood claim totals at least \$1,000. There is also a more serious category called severe repetitive loss. Severe repetitive loss properties are those that have flooded at least four times, starting from 1978, and each flood claim totals at least \$5,000, or two combined claims that exceed the value of the property. Of the 164 repetitive loss properties in Hoey's Basin, 17 are severe repetitive loss properties. The NFIP has paid Hoey's Basin repetitive loss property owners just over \$30,000,000 in flood claims since 1978. Severe repetitive loss property owners have received \$5,412,614.29. The costliest floods were in May of 1983, the May Flood of 1995, and Hurricane Katrina in August of 2005. Appendix A details the flood claims history for Hoey's Basin repetitive loss properties beginning in 1978. Since 1995, Hoey's Basin property owners have received almost \$27.5 million in flood claims; \$4,640,539.17 has been paid to severe repetitive loss property owners since 1995. Appendix B shows only the detailed flood claims data for repetitive loss properties in Hoey's Basin beginning in 1995.²

² CHART provided analysis of flood claims data beginning in 1978 because that is the year FEMA began tracking flood claims. At the request of Councilmember Sneed, an analysis of flood claims data beginning in 1995 is also provided.

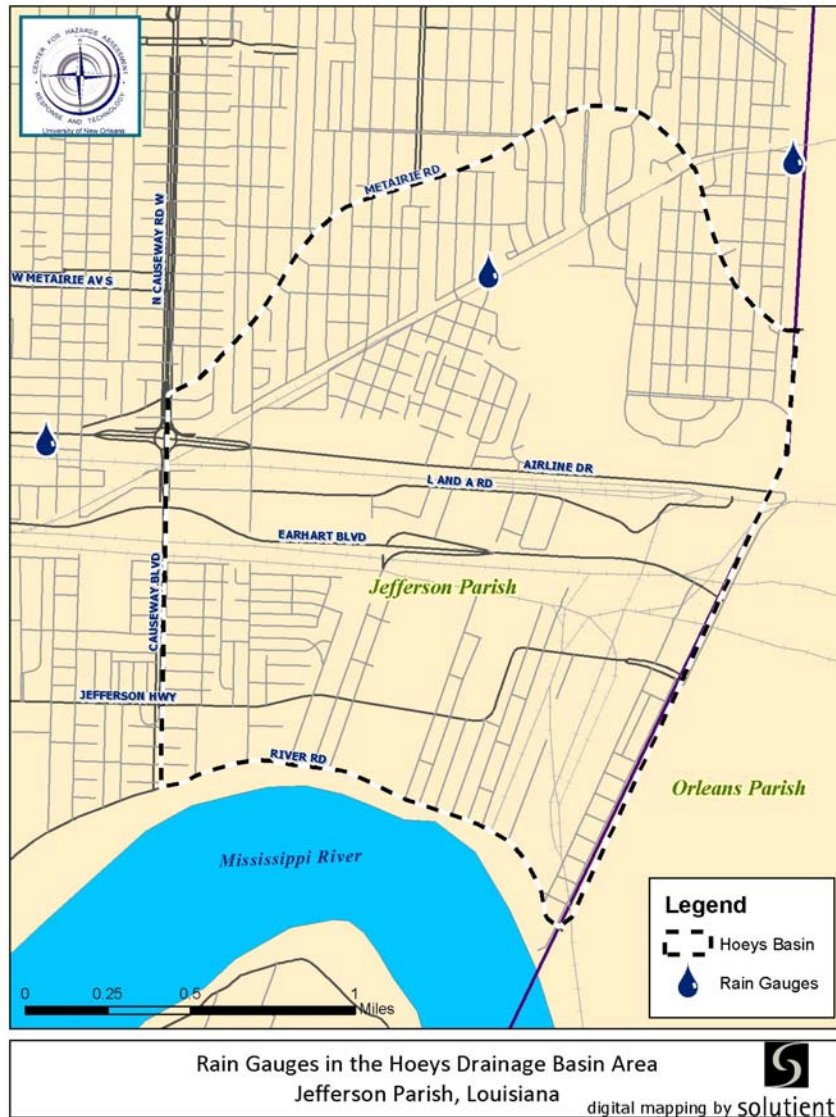


Flood Zones in the Hoey's Drainage Basin
Jefferson Parish, Louisiana

digital mapping by **solutient**

Rainfall Data

UNO-CHART was able to analyze rainfall data for Hoey's Basin beginning in 1997 through 2004³. The tables and charts below describe this data. There are three rainfall gauges in or near Hoey's Basin located at Pumping Station #6, Ridgewood Dr. at Fairmont Dr, and North Arnoult. The map below shows the locations of these gauges.



These three rain gauges, at times, provide quite different readings for the same dates. Therefore, an average of the three gauge readings was taken and used for this analysis. For example, on September 26, 2002 the gauge at Ridgewood Dr. and Fairmont Dr. recorded 8.82 inches of rain, Pumping Station #6 had 4.83 inches of rain, and North

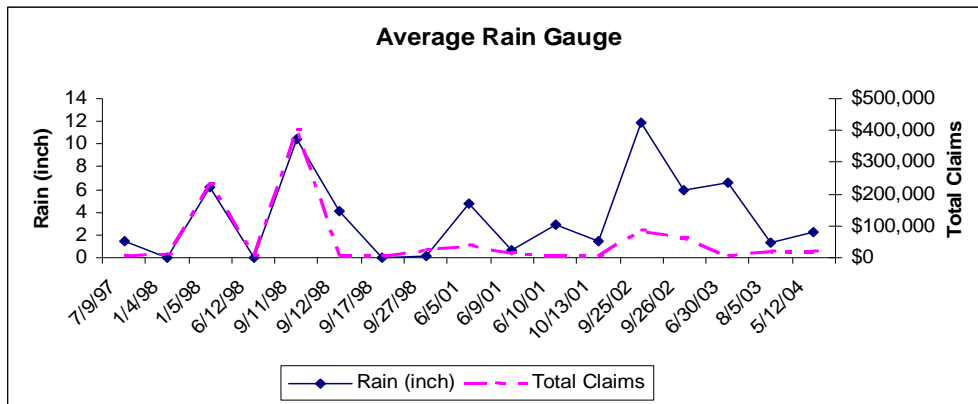
³Jefferson Parish SCADA data available to CHART for analysis spanned 1997 – 2004.

Arnoult had 4.1 inches of rain on record. The average of 5.91 inches of rain was used. The table to the right shows the date of the flood loss, the claims total for the repetitive loss properties, and the rainfall amount at each of the three gauges as well as the average.

Rainfall amounts at the Ridgewood and Fairmont Drives gauge are not available until the September 11, 1998 flood event. Therefore the average data prior to that date represent the two known gauge readings for those dates.

Date of Loss	Claims Total	Ridgewood & Fairmont	N Arnoult	PS #6	Average
7/9/97	\$6,314.43	NA	3.02	0	3.02
1/4/98	\$7,996.65	NA	0	0	0
1/5/98	\$231,076.88	NA	6.44	5.86	6.15
6/12/98	\$3,528.14	NA	NA	0	0
9/11/98	\$403,022.22	8.47	7.73	15.14	10.44667
9/12/98	\$5,641.08	3.4	2.81	6.1	4.103333
9/17/98	\$2,852.55	0	0	0	0
9/27/98	\$25,847.10	0.16	0.02	0.36	0.18
6/5/01	\$36,441.88	5.15	3.96	5.3	4.803333
6/9/01	\$12,539.05	0.66	0.72	0.7	0.693333
6/10/01	\$5,878.32	NA	2.85	3.02	2.935
10/13/01	\$6,331.45	2.35	2.16	0	1.503333
9/25/02	\$82,945.29	6.58	9.94	19.01	11.84333
9/26/02	\$61,885.62	8.82	4.1	4.83	5.916667
6/30/03	\$3,064.00	5.06	4.54	10.2	6.6
8/5/03	\$18,556.82	1.8	0.78	1.5	1.36
5/12/04	\$17,219.31	2.21	2.37	2.28	2.286667

The graph below represents the average rainfall data from the three gauges as it relates to the total dollar amount received in flood claims. The dates on the graph are the dates that flood insurance claims were made by repetitive loss property owners. Graphs representing this same data for each of the gauges along with a table presenting the data can be found in Appendix C.



The graph shows that the total dollar amount in paid flood claims has declined since 1998, even when the rainfall totals are similar. Prior to 1998, higher rain readings produced higher flood claims totals. The most expensive flood event after 1998 occurred on September 25, 2002 and totaled \$82,945.29 with 11.8 inches of rain. However, four years earlier, on September 11, 1998 the total claims amount for a rain event of 10.4

inches reached a staggering \$403,022.22. Additionally, a rain event on January 5, 1998 of 6.15 inches of rain produced \$231,076.88 in flood claims. A similar rainfall total of 6.6 inches on June 30, 2003 produced merely \$3,064.29 in paid flood claims.

Drainage Data

Upon review of the 1992 Southeast Louisiana Urban Flood Control Project (SELA) Reconnaissance Study it has been determined by CHART staff that drainage improvements to Hoey's Basin were not recommended based upon benefit-cost ratios. Hydraulic analyses in both Jefferson and Orleans Parishes conducted for this reconnaissance report were completed separately, even though the two parishes both pump water into the same canal. The models were not connected and as a result, the analyses neglected the impact of water flowing from one parish to the other. It is unknown if connecting the two models would change the results of the analyses. Once Digital Flood Insurance Rate Maps (D-FIRMS) are released and reviewed, any impact might be determinable.

Several local drainage projects have been completed or are awaiting funding that affect Hoey's Basin. Specifically, canal bank improvements were made to Hoey's Canal in 1989, and steel sheeting was installed in the mid 1990s. This project increased the speed of the flow of water into the 17th Street Canal. Hoey's Cut, which feeds into the 17th Street Canal, was completed in 1998. According to the Jefferson Parish Drainage Department, this project also increased the speed at which stormwater reached the 17th Street Canal.

Findings and Conclusions

- Approximately \$27.5 million of the \$30 million total paid to repetitive loss homeowners since 1978 was done so between 1995 and present.
- Approximately \$20 million was due to Hurricane Katrina.
- Since 1998 the overall claims totals have dropped, with the exception of Hurricane Katrina in 2005, regardless of the rainfall amounts.
- The SELA project seems to have had no impact on Hoey's Basin.
- The local drainage projects, especially Hoey's Cut completed in 1998, seem to have made an impact on the number and amount of flood claims made to the NFIP.

The May flood of 1995 caused high flood claim totals in Hoey's Basin. This was not a tropical event, but a very heavy rain event. However, since 1998, major flooding occurred solely as a result of tropical events. Therefore, it would seem that future tropical events will continue to cause significant flooding. This is inferred exclusively on flood insurance and rainfall data, and SELA and local drainage project information and does not include environmental factors. Given that tropical events are the major threat to Hoey's Basin, it is important to mitigate appropriately and efficiently. House by house solutions are effective but are not always the most efficient. A drainage project solution, such as Pump to the River, could be a much more efficient method to address the stormwater flooding threat to Hoey's Basin.

Appendix A

Flood Claims History for Repetitive Loss Properties in Hoey's Basin 1978 - Present

Claim Date	Claim Count	Building Claim Payment	Contents Claim Payment	Total Claim Payment
5/3/1978	48	\$176,726.94	\$123,252.01	\$299,978.95
5/6/1978	1	\$18,579.17	\$20,000.00	\$38,579.17
4/22/1979	1	\$2,018.00	\$667.00	\$2,685.00
3/28/1980	1	\$7,837.43	\$43.06	\$7,880.49
3/29/1980	5	\$9,051.85	\$2,104.06	\$11,155.91
4/2/1980	1	\$0.00	\$1,176.31	\$1,176.31
4/3/1980	1	\$2,927.20	\$5,134.00	\$8,061.20
4/13/1980	34	\$174,814.55	\$60,519.53	\$235,334.08
2/11/1981	2	\$0.00	\$6,086.48	\$6,086.48
6/10/1981	4	\$9,401.87	\$6,637.65	\$16,039.52
8/19/1981	2	\$3,880.17	\$5,130.74	\$9,010.91
4/24/1982	1	\$2,560.30	\$0.00	\$2,560.30
4/25/1982	4	\$6,631.07	\$9,473.14	\$16,104.21
7/22/1982	1	\$1,315.90	\$0.00	\$1,315.90
10/7/1982	1	\$851.00	\$3,839.82	\$4,690.82
12/4/1982	6	\$37,707.03	\$13,053.68	\$50,760.71
4/6/1983	74	\$547,713.92	\$354,663.53	\$902,377.45
4/7/1983	1	\$1,547.00	\$410.00	\$1,957.00
12/28/1983	4	\$4,587.40	\$13,376.75	\$17,964.15
10/27/1985	1	\$13,613.00	\$5,900.00	\$19,513.00
10/29/1985	1	\$1,048.60	\$0.00	\$1,048.60
3/31/1988	2	\$7,639.99	\$2,447.02	\$10,087.01
4/1/1988	2	\$3,301.99	\$631.00	\$3,932.99
4/2/1988	14	\$44,393.04	\$10,169.78	\$54,562.82
8/5/1988	2	\$24,506.79	\$15,634.14	\$40,140.93
8/22/1988	1	\$0.00	\$7,013.26	\$7,013.26
11/6/1989	1	\$3,549.70	\$0.00	\$3,549.70
11/7/1989	16	\$66,453.42	\$39,656.80	\$106,110.22
5/13/1990	3	\$4,522.84	\$1,068.16	\$5,591.00
6/10/1991	73	\$413,989.92	\$240,245.74	\$654,235.66
6/11/1991	2	\$38,152.33	\$14,777.35	\$52,929.68
6/17/1991	1	\$211.36	\$1,903.50	\$2,114.86
8/26/1992	3	\$5,643.21	\$1,224.21	\$6,867.42
7/20/1993	1	\$2,844.96	\$0.00	\$2,844.96
8/20/1994	7	\$32,860.30	\$65,166.28	\$98,026.58

Table is continued on the next page

Claim Date	Claim Count	Building Claim Payment	Contents Claim Payment	Total Claim Payment
5/8/1995	114	\$3,102,994.95	\$1,665,106.87	\$4,768,101.82
5/9/1995	11	\$559,180.86	\$309,879.81	\$869,060.67
5/10/1995	1	\$20,455.94	\$8,380.00	\$28,835.94
7/9/1997	1	\$6,314.43	\$0.00	\$6,314.43
1/4/1998	2	\$5,629.25	\$2,367.40	\$7,996.65
1/5/1998	30	\$163,136.54	\$67,940.34	\$231,076.88
6/12/1998	1	\$3,528.14	\$0.00	\$3,528.14
9/11/1998	43	\$325,291.10	\$77,731.12	\$403,022.22
9/12/1998	2	\$4,425.78	\$1,215.30	\$5,641.08
9/17/1998	1	\$0.00	\$2,852.55	\$2,852.55
9/27/1998	1	\$847.10	\$25,000.00	\$25,847.10
6/5/2001	2	\$21,016.54	\$15,425.34	\$36,441.88
6/9/2001	1	\$7,094.09	\$5,444.96	\$12,539.05
6/10/2001	2	\$5,878.32	\$0.00	\$5,878.32
10/13/2001	1	\$5,994.45	\$337.00	\$6,331.45
9/25/2002	13	\$74,461.05	\$8,484.24	\$82,945.29
9/26/2002	8	\$57,543.75	\$4,341.87	\$61,885.62
6/30/2003	1	\$3,064.00	\$0.00	\$3,064.00
8/5/2003	1	\$18,556.82	\$0.00	\$18,556.82
5/12/2004	1	\$17,219.31	\$0.00	\$17,219.31
8/28/2005	5	\$686,435.73	\$140,100.00	\$826,535.73
8/29/2005	108	\$14,198,868.59	\$5,554,268.33	\$19,753,136.92
8/30/2005	3	\$230,518.18	\$67,500.00	\$298,018.18
TOTAL	675	\$21,189,337.17	\$8,987,780.13	\$30,177,117.30

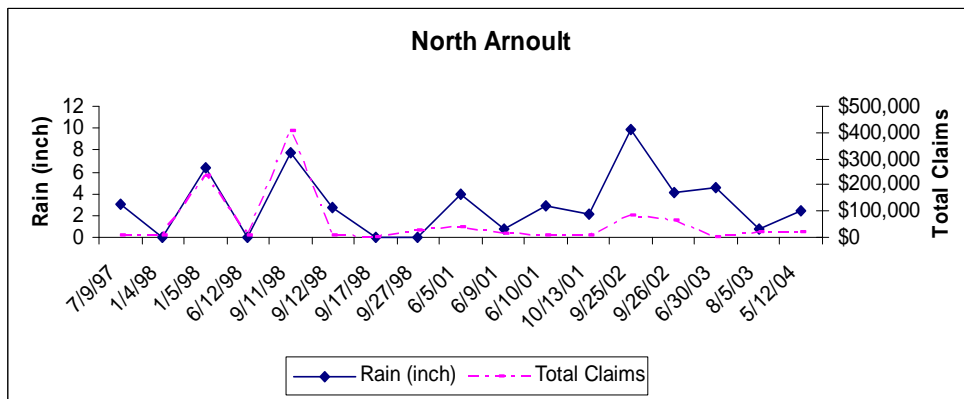
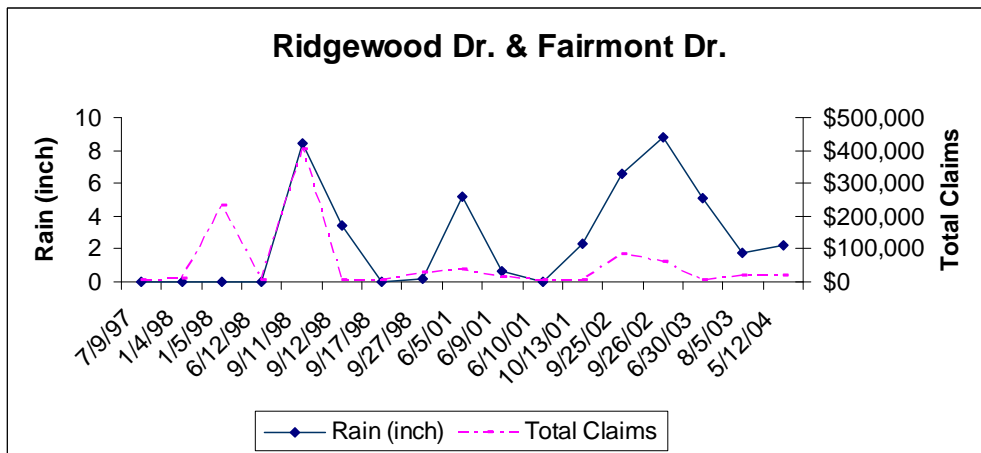
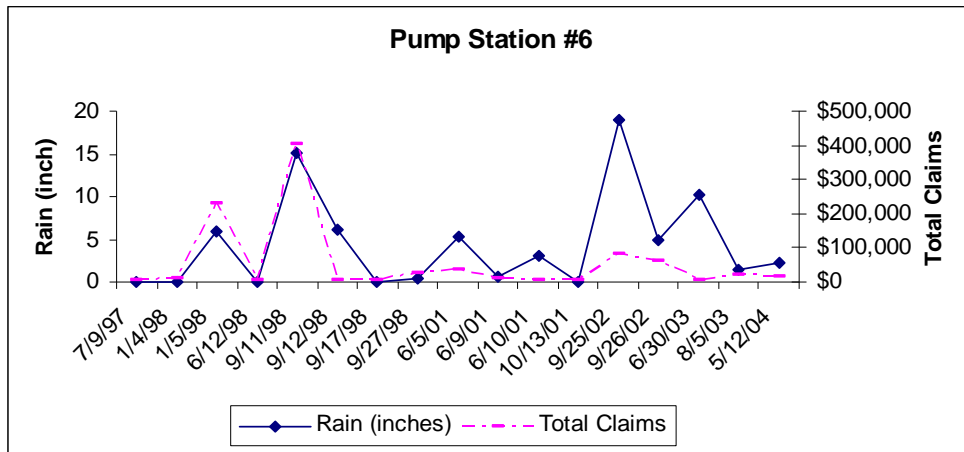
Appendix B

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5/9/1995	11	\$559,180.86	\$309,879.81	\$869,060.67
5/10/1995	1	\$20,455.94	\$8,380.00	\$28,835.94
7/9/1997	1	\$6,314.43	\$0.00	\$6,314.43
1/4/1998	2	\$5,629.25	\$2,367.40	\$7,996.65
1/5/1998	30	\$163,136.54	\$67,940.34	\$231,076.88
6/12/1998	1	\$3,528.14	\$0.00	\$3,528.14
9/11/1998	43	\$325,291.10	\$77,731.12	\$403,022.22
9/12/1998	2	\$4,425.78	\$1,215.30	\$5,641.08
9/17/1998	1	\$0.00	\$2,852.55	\$2,852.55
9/27/1998	1	\$847.10	\$25,000.00	\$25,847.10
6/5/2001	2	\$21,016.54	\$15,425.34	\$36,441.88
6/9/2001	1	\$7,094.09	\$5,444.96	\$12,539.05
6/10/2001	2	\$5,878.32	\$0.00	\$5,878.32
10/13/2001	1	\$5,994.45	\$337.00	\$6,331.45
9/25/2002	13	\$74,461.05	\$8,484.24	\$82,945.29
9/26/2002	8	\$57,543.75	\$4,341.87	\$61,885.62
6/30/2003	1	\$3,064.00	\$0.00	\$3,064.00
8/5/2003	1	\$18,556.82	\$0.00	\$18,556.82
5/12/2004	1	\$17,219.31	\$0.00	\$17,219.31
8/28/2005	5	\$686,435.73	\$140,100.00	\$826,535.73
8/29/2005	108	\$14,198,868.59	\$5,554,268.33	\$19,753,136.92
8/30/2005	3	\$230,518.18	\$67,500.00	\$298,018.18
TOTAL	353	\$19,518,454.92	\$7,956,375.13	\$27,474,830.05

Appendix C

Rainfall Amounts and Flood Claims Totals for Hoey's Basin Rainfall Gauges



Date	Total Claim Payments	Rain Gauge (inches)			
		Ridgewood Dr. & Fairmont Dr.	North Arnoult	Pump Station #6	Average
7/9/97	\$6,314.43	NA	3.02	0	1.51
1/4/98	\$7,996.65	NA	0	0	0
1/5/98	\$231,076.88	NA	6.44	5.86	6.15
6/12/98	\$3,528.14	NA	NA	0	0
9/11/98	\$403,022.22	8.47	7.73	15.14	10.44667
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References:

Jefferson and Orleans Parishes, Louisiana Urban Flood Control and Water Quality Management Reconnaissance Study. Volume 1. Main Report. July 1992.

Jefferson Parish Drainage Projects Status Report, July 23, 2007

Pumping Station #6 rainfall data from the New Orleans Sewerage and Water Board

Ridgewood Dr. at Fairmont Dr., and N. Arnoult rainfall data from Jefferson Parish Drainage Department

Repetitive loss data provided by FEMA Region VI

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